The Role of Normative Views and the Moral Self-Concept in Moral Development

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Abstract

Human morality has fascinated philosophers and psychologists throughout history. The question about when children conceive of behavior as moral and which factors guide morally relevant behavior remains prevalent in developmental psychological research up to today. A classical line of theories highlights the role of normative views and reasoning for moral behavior (e.g., Kohlberg, 1976; Turiel, 2003). Empirical studies have addressed their relation across development. Yet, the relation between moral judgment and behavior remains intensely debated (e.g., Blake, 2018; Blasi, 1983; Killen & Dahl, 2018). Empirical evidence remains inconclusive and calls for a differentiated examination particularly in childhood. An alternative line of theories emphasizes the role of the self-concept for engaging in morally relevant actions (e.g., Hardy & Carlo, 2011; Krettenauer, 2013; Lapsley & Narvaez, 2004b). In particular, as the empirical evidence for a relation between moral judgment and behavior was found to be insufficient, theories suggested the moral self-concept to close a gap between moral judgment and behavior. These theories stimulated a body of research in adolescence and adulthood, which supported the relevance of self-related cognitions for moral behavior. Yet, the role of the moral self-concept early in development remains barely tested. In addition, empirical evidence on functional mechanisms that might link the moral self-concept to behavior is pending. Finally, although both normative views and the moral self-concept are considered as key factors for moral development, they have so far mostly been investigated separately. The current thesis aimed to test theoretical claims on the emergence of normative views, and on the relation of normative views and the moral self-concept with actual morally relevant behavior across development. For that purpose, seven studies were conducted, focusing on different age groups from preschool years to adulthood.

The first study examined the emergence of a normative stance toward other-oriented behavior in early childhood. In particular, it aimed to test the theoretical claim that empathy-based comforting becomes normatively represented in preschool years. For that purpose, 3- and 5-year-olds observed agents who reacted differently to a puppet in emotional need (comforting, ignoring, laughing). Three-year-olds expressed a normative stance against the antisocial reaction by spontaneously protesting. Only 5-year-olds expressed a normative

stance toward the comforting reaction by spontaneously affirming it. The study thus supports the notion that a normative concern about others' well-being emerges in preschool years.

The second study investigated the emergence of normative views and the handling of conflicting normative views in a resource distribution context in preschool years. In particular, the study contrasted a norm of equality and a norm of partiality resulting from friendship. Across two experiments, 4- to 6-year-olds observed puppets who either followed a norm of partiality by allocating more resources to a friend than to a non-friend, who behaved in the opposite way, or who distributed resources equally. While preschoolers expressed a normative notion toward partiality, they more strongly enforced of a norm of equality. The study sheds light on normative demands that result from close relationships, but at the same time confirms the dominance of a norm of equal distribution in preschool years.

The third study served to directly test the relation between preschooler's normative view and own behavior in the context of resource distribution, when contrasting fairness considerations and the inclination to favor friends. To this end, 4- to 6-year-olds' normative stance and own resource distribution behavior when being faced with a rich friend and a poor non-friend were assessed. On the group level, preschoolers expressed a normative stance toward rectifying inequalities but they favored a rich friend when distributing resources themselves. On the individual level, preschooler's normative view and actual behavior correlated. The study thus supports both theories that suggest dissociation or coherence between normative views and behavior, and integrates evidence for both.

The fourth study examined the role of the moral self-concept early in development. In particular, it bridged the examination of normative views and the moral self-concept, and investigated the relative contribution of both for sharing behavior. Beyond that, the study shed light on the inherent structure of different normative expressions in preschool years. For that purpose, 4- to 6-year-olds' normative stance toward sharing, their moral self-concept, and own sharing behavior was assessed. Normative expressions in preschool years seem to rest on two distinct factors. Yet, only the moral self-concept related to sharing behavior. The study thus supports the notion that the moral self-concept is behaviorally relevant already in preschool years. In addition, person-based analyses suggested that the relation between normative views and behavior differs between groups of individuals.

The fifth study examined the nature of the relation between the moral self-concept and sharing behavior in middle childhood in more detail. In particular, it tested the role of consequential and anticipated emotions regarding prosocial behavior across two

experiments. To this end, 5- to 9-year-olds' moral self-concept, own sharing behavior, and consequential or anticipated emotions regarding sharing were assessed. Children's moral self-concept correlated with their sharing behavior. The anticipation of negative feelings when not-sharing seems to be one factor that links the moral self-concept to behavior. In addition, an increasing understanding of the affective consequences of (not-)sharing explained an increase in sharing behavior with age. The study thus corroborates both the relevance of the moral self-concept and emotions for morally relevant behavior and supports the notion that other-oriented behavior becomes increasingly perceived as personally obligatory across middle childhood.

The sixth study shed light on the nature of the relation between the moral self-concept and sharing behavior in adults. Across two experiments, the study tested the role of consequential and anticipated emotions, and of preference for consistency. Adults' moral self-concept correlated with their sharing behavior. The relation between the moral self-concept and behavior was mediated through anticipated and consequential emotions regarding not-sharing. Preference for consistency, on the contrary, had no impact on the relation. The study demonstrates the interplay of the moral self-concept and emotional processes for prosocial behavior. Moreover, it challenges the theoretical notion that striving for self-consistency links the moral self-concept to behavior.

The seventh study contrasted the relevance of self-focused and other-focused factors for a currently relevant other-oriented behavior, that is, social distancing during the COVID-19 pandemic. In an online study, adults' moral self-concept, moral judgment regarding social distancing, and their adherence to social distancing was assessed, among others. The moral self-concept correlated with social distancing. When considering all factors, moral judgment and empathy for loved ones were found to be most relevant for social distancing. The study thus supports the relevance of normative views and interpersonal considerations. In addition, it suggests that moral judgment and the moral self-concept complement each other in guiding behavior.

Overall, this thesis demonstrates the relevance of both normative views and the moral self-concept from early on. In preschool years, children start to regard behavior that pertains to other's welfare and fairness as normatively required (Study 1-2). In the context of resource distribution, these normative views seem to be related to behavior on the level of individuals (Study 3). Situational factors or own desires might shift normative views and behavior on the group level, though. The relation between normative views and behavior also seems to differ between groups of individuals (Study 4). The findings thus indicate how theoretical

notions that suggest discrepancy or coherence between normative views and behavior could be integrated in preschool years. Beyond normative views, the thesis provides great evidence for the relevance of the moral self-concept from preschool years on (Study 4-7). Particularly if normative obligations conflict with own desires, the moral self-concept but not normative views seem to be related to behavior in preschool years. In middle childhood and adulthood, the relation between self-concept and behavior seems to be partly explained by emotions that are anticipated from the respective behavior (Study 5-6). An increasing understanding of emotions associated with prosocial behavior also seems to explain a developmental increase in prosocial behavior (Study 5). The notion that striving for self-consistency links the moral self-concept to behavior becomes challenged, though (Study 6). In conclusion, this thesis demonstrates that normative views and the moral self-concept become relevant in preschool years and conjointly guide morally relevant behavior throughout development.

Zusammenfassung (Deutsch)

Die Frage, wann Kinder ein Verhalten als moralisch verpflichtend ansehen und welche Faktoren moralisch konnotiertes Verhalten erklären, ist bis heute eine der zentralen Fragen der entwicklungspsychologischen Forschung. Klassischen Theorien zufolge spielen normative Einstellungen und moralisches Urteilsvermögen eine wichtige Rolle für moralisches Verhalten (z.B. Kohlberg, 1976; Turiel, 2003). Empirische Studien untersuchten den Zusammenhang der beiden Aspekte über die Entwicklungsspanne hinweg. Jedoch bleibt der Zusammenhang zwischen moralischem Urteil und Verhalten umstritten (z.B. Blake, 2018; Blasi, 1983; Killen & Dahl, 2018). Die empirische Befundlage bleibt uneindeutig und erfordert insbesondere in der Kindheit eine differenzierte Untersuchung. Eine weitere Reihe von Theorien betont die Bedeutung des Selbstkonzepts für moralisch relevantes Verhalten (z.B. Hardy & Carlo, 2011; Krettenauer, 2013; Lapsley & Narvaez, 2004). Insbesondere aufgrund von unzureichender empirischer Evidenz für den Zusammenhang von moralischem Urteil und Verhalten schlagen diese Theorien das moralische Selbstkonzept als Brücke zwischen moralischem Urteil und Verhalten vor. Diese Theorien regten eine Reihe von Forschung an Jugendlichen und Erwachsenen an, welche die Relevanz des Selbstkonzepts für moralisches Verhalten verdeutlichte. Die Rolle des moralischen Selbstkonzepts in der frühen Entwicklung wurde allerdings kaum getestet. Des Weiteren wurden normative Einstellungen und das moralische Selbstkonzept bisher hauptsächlich getrennt voneinander untersucht, obwohl beide als zentrale Faktoren der Moralentwicklung angesehen werden. Die vorliegende Arbeit hatte zum Ziel, Theorien zur Entwicklung normativer Einstellungen sowie zum Zusammenhang der normativen Einstellungen und des moralischen Selbstkonzepts mit tatsächlichem moralisch relevantem Verhalten im Entwicklungsverlauf zu testen. Zu diesem Zweck wurden sieben Studien durchgeführt, welche verschiedene Altersgruppen vom Vorschulalter bis zum Erwachsenenalter untersuchten.

Die erste Studie untersuchte wann Kinder die normative Überzeugung entwickeln, dass Verhalten, welches sich auf das Wohlergehen anderer bezieht, als verpflichtend angesehen wird. Die Studie testete insbesondere die theoretische Annahme, dass Empathie-

basiertes Trösten im Laufe des Vorschulalters normativ repräsentiert wird. Dazu beobachteten 3- und 5-jährige Kinder Agenten, die verschiedene Reaktionen auf eine Puppe in einer emotionalen Notlage zeigten (trösten, ignorieren, auslachen). Dreijährige zeigten eine normative Einstellung gegen die antisoziale Reaktion, indem sie spontan dagegen protestierten. Nur Fünfjährige zeigten eine normative Überzeugung, dass Trösten geboten ist, indem sie diese Reaktion spontan bekräftigten. Damit unterstützt die Studie die Auffassung, dass sich ein normatives Interesse am Wohlergehen anderer im Vorschulalter entwickelt.

Die zweite Studie untersuchte die Entstehung normativer Einstellungen und den Umgang mit konfligierenden normativen Überzeugungen im Kontext der Ressourcenverteilung im Vorschulalter. Dazu kontrastierte die Studie eine Norm der Gleichverteilung mit einer Norm der Parteilichkeit, die aus einer Freundschaft hervorgeht. In zwei Experimenten beobachteten 4- bis 6-jährige Kinder Puppen, die entweder einer Parteilichkeitsnorm folgten (indem sie einem Freund mehr Ressourcen gaben als einem Nicht-Freund), die sich entgegengesetzt parteilich verhielten, oder die Ressourcen gleichverteilten. Die Vorschüler brachten zwar eine normative Auffassung gegenüber parteilichem Verhalten zum Ausdruck, bekräftigten die Gleichverteilungsnorm aber mit mehr Nachdruck. Die Studie beleuchtet damit normative Verpflichtungen, die aus engen Beziehungen hervorgehen, bestätigt aber gleichzeitig, dass eine Norm der Gleichverteilung im Vorschulalter überwiegt.

Die dritte Studie diente dazu, den Zusammenhang von normativen Einstellungen und eigenem Verhalten im Kontext der Ressourcenverteilung direkt zu testen. Hierbei wurden Fairness-Überlegungen der Tendenz, Freunde zu bevorzugen, gegenübergestellt. Bei 4- bis 6-jährigen Kindern wurden die normative Überzeugung und das eigene Verteilen von Ressourcen zwischen einem reichen Freund und einem armen Nicht-Freund erfasst. Auf der Ebene der Stichprobe zeigte sich, dass die Vorschüler das Beheben der Ungleichheit als normativ erforderlich ansahen, aber den reichen Freund bei ihrer eigenen Verteilung bevorzugten. Auf der Ebene der Individuen zeigte sich, dass die normative Einstellung mit dem tatsächlichen Verhalten korrelierte. Damit unterstützt die Studie sowohl Theorien, die eine Dissoziation zwischen normativer Einstellung und Verhalten nahelegen, als auch Theorien, die auf Kohärenz hindeuten, und integriert Evidenz für beide Ansichten.

Die vierte Studie untersuchte die Bedeutung des moralischen Selbstkonzepts in der frühen Entwicklung. Die Studie verband insbesondere die Untersuchung normativer Einstellungen und des moralischen Selbstkonzepts, und untersuchte den relativen Beitrag

dieser beiden Faktoren für Teilverhalten. Darüber hinaus beleuchtete diese Studie die inhärente Struktur verschiedener normativer Ausdrucksformen im Vorschulalter. Zu diesem Zweck wurde die normative Einstellung in Bezug auf Teilen, das moralische Selbstkonzept und eigenes Teilverhalten von 4- bis 6-jährigen Kindern erfasst. Normative Ausdrucksformen scheinen im Vorschulalter auf zwei distinkten Faktoren zu beruhen. Jedoch hing nur das moralische Selbstkonzept mit dem Teilverhalten zusammen. Damit unterstützt die Studie die Annahme, dass das moralische Selbstkonzept bereits im Vorschulalter verhaltensrelevant ist. Darüber hinaus legten personenbezogene Analysen nahe, dass sich der Zusammenhang zwischen normativen Einstellungen und Verhalten zwischen Gruppen von Individuen unterscheidet.

Die fünfte Studie untersuchte die Art des Zusammenhangs zwischen moralischem Selbstkonzept und Teilverhalten in der mittleren Kindheit noch detaillierter. Insbesondere testete die Studie in zwei Experimenten die Rolle von Emotionen, die auf prosoziales Verhalten folgen, und Emotionen, die in Bezug auf prosoziales Verhalten antizipiert werden. Dazu wurde das moralische Selbstkonzept, eigenes Teilverhalten und mit Teilen einhergehende Emotionen bei 5- bis 9-Jährigen erfasst. Das moralische Selbstkonzept der Kinder korrelierte mit ihrem Teilverhalten. Die Antizipation negativer Emotionen, wenn nicht geteilt wird, scheint ein Faktor zu sein, welcher das moralische Selbstkonzept mit dem Verhalten verbindet. Darüber hinaus erklärte das zunehmende Verständnis der emotionalen Konsequenzen von (Nicht-) Teilen ein zunehmendes Teilverhalten mit dem Alter. Damit unterstützt die Studie sowohl die Bedeutung des moralischen Selbstkonzepts als auch der Emotionen für moralisch relevantes Verhalten. Darüber hinaus untermauert sie die Ansicht, dass Verhalten, welches an dem Wohlergehen anderer orientiert ist, im Laufe der mittleren Kindheit zunehmend als persönlich verpflichtend angesehen wird.

Die sechste Studie beleuchtete die Art des Zusammenhangs zwischen moralischem Selbstkonzept und Teilverhalten im Erwachsenenalter. In zwei Experimenten testete die Studie die Rolle von antizipierten Emotionen, auf Teilverhalten folgende Emotionen, sowie die Rolle einer Präferenz für Konsistenz. Das moralische Selbstkonzept der Erwachsenen korrelierte mit dem Teilverhalten. Der Zusammenhang zwischen moralischem Selbstkonzept und Teilverhalten wurde durch die Emotionen in Bezug auf das Unterlassen von Teilen mediiert. Präferenz für Konsistenz zeigte hingegen keinen Einfluss auf den Zusammenhang zwischen Selbstkonzept und Verhalten. Die Studie weist ein Zusammenspiel des moralischen Selbstkonzepts und emotionaler Prozesse im Kontext von prosozialem Verhalten nach. Darüber hinaus hinterfragt sie die theoretische Auffassung,

dass das Streben nach Selbstkonsistenz das moralische Selbstkonzept mit Verhalten verbindet.

Die siebte Studie untersuchte die relative Bedeutung von Faktoren, die selbst-fokussiert oder auf andere fokussiert sind, für ein aktuell relevantes Verhalten gegenüber anderen, nämlich Social Distancing während der COVID-19 Pandemie. In einer Online-Studie wurden Erwachsene unter anderem zu ihrem moralischen Selbstkonzept, ihrem moralischen Urteil in Bezug auf Social Distancing sowie ihrem Einhalten von Social Distancing befragt. Das moralische Selbstkonzept korrelierte mit dem Einhalten von Social Distancing. Bei Betrachtung aller Faktoren erwiesen sich das moralische Urteil und Empathie für Nahestehende als die relevantesten Faktoren für Social Distancing. Die Studie unterstützt damit die Bedeutung normativer Einstellungen und zwischenmenschlicher Erwägungen. Darüber hinaus legt sie nahe, dass sich moralisches Urteil und moralisches Selbstkonzept in ihrer Verhaltensrelevanz gegenseitig ergänzen.

Zusammenfassend unterstreicht diese Arbeit sowohl die Bedeutung normativer Einstellungen als auch des moralischen Selbstkonzepts bereits von früh an. Im Vorschulalter beginnen Kinder Verhalten, welches das Wohlergehen anderer oder Fairness betrifft, als normativ verpflichtend anzusehen (Studie 1-2). Im Kontext der Ressourcenverteilung scheinen diese normativen Einstellungen auf dem Level der Individuen mit dem Verhalten zusammenzuhängen (Studie 3). Situationelle Bedingungen oder eigene Bedürfnisse können jedoch normative Einstellungen und Verhalten auf der Gruppenebene verschieben. Der Zusammenhang zwischen normativen Einstellungen und Verhalten scheint sich auch zwischen Gruppen von Individuen zu unterscheiden (Studie 4). Die Arbeit zeigt damit, wie theoretische Auffassungen über Diskrepanz oder Kohärenz zwischen normativen Einstellungen und Verhalten im Vorschulalter integriert werden könnten. Neben der Bedeutung normativer Einstellungen liefert diese Arbeit einen Nachweis für die Relevanz des moralischen Selbstkonzepts ab dem Vorschulalter (Studie 4-7). Insbesondere wenn normative Verpflichtungen im Konflikt mit eigenen Wünschen stehen, scheint das moralische Selbstkonzept, aber nicht normative Überzeugungen, mit dem Verhalten im Vorschulalter zusammenzuhängen. In der mittleren Kindheit und im Erwachsenenalter scheint der Zusammenhang zwischen Selbstkonzept und Verhalten zum Teil durch Emotionen, die in Bezug auf das jeweilige Verhalten antizipiert werden, erklärt zu werden (Studie 5-6). Die Auffassung, dass das Streben nach Selbstkonsistenz den Zusammenhang von moralischem Selbstkonzept und Verhalten erklärt, wird jedoch hinterfragt (Studie 6). Zusammenfassend zeigt diese Arbeit auf, dass sowohl normative Einstellungen als auch das

moralische Selbstkonzept im Vorschulalter bedeutsam werden und gemeinsam, über die Entwicklung hinweg, moralisch relevantes Verhalten lenken.

1 General Introduction

How can we make the world a kinder place? The Sustainable Development Goals of the United Nations define 17 goals that aim for global prosperity and peace and that call for action on the level of countries, such as *reducing inequality* and *promoting inclusive societies* (UN General Assembly, 2015). Many people would likely agree that engaging in actions that aim at these goals are good and required to increase overall welfare, and they would be familiar with means how to contribute to these goals on the level of the individual. Yet, is knowing about what one ought to do key to commitment to the required action? Does knowing about good behaviors, about what is morally required, imply that one behaves accordingly? Or is it more important for behavior that following these goals becomes a personal goal of an individual, a way to express oneself? Do the answers to these questions differ across development?

These questions follow from longstanding considerations about human morality and moral development. They trace back to Socrates' and Plato's (trans. 2008) assumption that doing what is good follows from knowing what is good, to Aristotle's (trans. 2009) criticism thereof, and to Aristotle's view that virtuous conduct grounds on habits and a person's very being (Nucci, 2004). Following a long history of theorizing, these questions remain still vividly debated in recent psychological research (e.g., Gibbs, 2019; Lapsley & Narvaez, 2004b; Turiel, 2003). The current thesis aims to shed light on these questions by examining the role of normative views and the moral self-concept for moral development. In particular, the thesis investigates the emergence of normative views in childhood and examines the relevance of normative views and the moral self-concept for morally relevant behavior, that is, behavior that pertains to issues of welfare and fairness (cf. Smetana, 2013). To understand morally relevant behavior is a crucial challenge, as it may advance our understanding of processes that contribute to a society's functioning and constitute groundbreaking work for developing interventions to promote such behavior from early on, thereby possibly making the world a kinder place in the long run.

Within the scope of morality, two types of moral rules can be distinguished, these are negative duties and positive duties (Lichtenberg, 2013; Singer, 1965). Negative duties refer to what one ought not to do, such as not harming others, while positive duties refer to what one ought to do, such as helping others. A wide field of research concentrated on the emergence, early understanding, and emotion attribution regarding negative duties (Kohlberg, 1976; Krettenauer et al., 2008; Nucci & Turiel, 1978; Smetana, 1981). Yet, examining the normative view and behavioral relevance of positive duties is highly interesting given the increasing evidence of prosocial behavior already in childhood (for reviews see Eisenberg et al., 2015; Paulus & Moore, 2012). An increasing line of theories focuses on the development of prosocial behavior, that is, behavior that benefits others, and a normative stance regarding positive duties (Dahl & Paulus, 2019; Dunfield, 2014; Hamlin, 2013; Tomasello & Vaish, 2013). The current thesis mostly contributes to research on positive duties by examining normative views and the moral self-concept regarding positive duties and their relevance for morally relevant behavior.

1.1 Moral Judgment and Moral Behavior

1.1.1 Psychoanalytical Approach

According to psychoanalytical theory (Freud, 1933/1991), children internalize parental rules and values during the oedipal phase. These ideals are represented in the superego. Conscience plays a central role in regulating children's innate need for gratification in the face of these internalized standards. Particularly the avoidance of guilt is suggested as a mechanism for regulating conduct, once the superego has developed. From a psychoanalytical perspective, moral judgment can thus be regarded as reflected in the superego. Moral conduct is suggested to depend on the regulation of the tension between moral judgment and children's egoistic impulses.

1.1.2 Piaget's Theory of Moral Development

Piaget's (1932/1997) work had a great impact on moral developmental theorizing and is still addressed in more recent accounts (Carpendale, 2000; Hammond, 2014; Sokol & Hammond, 2009). He proposed moral development to progress towards increasing autonomy and mutual agreement. In particular, he differentiated between the phase of heteronomous morality, up to around 8 years, and autonomous morality thereafter. In the phase of *heteronomous morality*, norms are considered to be imposed and enforced by authorities. Punishment is expected to follow a norm transgression. In the phase of *autonomous morality*,

norms are considered to be based on general agreement between rational agents who decide themselves what is considered right. Cooperative relationships that allow and encourage to take other's perspectives are suggested as a basis for autonomous morality. Centrally for his view, Piaget considers moral development to be rooted in activity. He proposes the child as an active agent, constructing social knowledge based on interactive experiences, rather than passively internalizing external rules (for recent constructivist account see Carpendale et al., 2013). Reflecting about rules and inferring general moral principles is thus proposed to follow practical action. As reviewed by Kohlberg and Candee (1984), hypothetical moral judgment and actual behavior are not considered to be necessarily related according to Piaget (1932/1997). Instead, a moral structure may exist at the level of action but not yet at the level of conscious reflection. In that case, the theoretical moral judgment may be inconsistent with actual behavior.

Piaget (1932/1997) makes some suggestions how children adopt rules in their own behavior. First, ritualized schemata characterize infants' behavior. These behavioral regularities are without any sense of duty and they lack a uniform orientation. Second, in a phase of egocentrism, children are suggested to imitate others' and adopt the regularities they perceive in their own behavior because they want to play like the others. Yet, they play on their own. The behavioral rituals stem from the individual and lack a submission to higher-order processes, which are characteristic for rule following. Finally, children are suggested to develop a need for mutual agreement. They aim to cooperatively agree on joint rules and they become increasingly interested in the rules' structure. Piaget's (1932/1997) account thus suggests that behavior is first characterized by individual, spontaneous rituals based on the imitation of others' behavior. Later, it becomes subject to cooperative interactions and this submission of individual tendencies might be a basis for deliberate rule following.

Piaget's later work also allows for some considerations about moral motivation. According to Piaget (1954/1981), children's behavior is first characterized by spontaneous impulses. Around seven or eight years, a "conservation of values" (p. 60) becomes more important. That means, the will to engage in an action requires to subordinate a situation to "a permanent scale of values" (p. 65). This consideration suggests that in a given situation with different conflicting desires, the behavioral decision depends on how these desires become weighed regarding a scale of values. As pointed out by Krettenauer and colleagues (2008), Piaget's account suggests that mastering a particular situation involves to link it with former situations and to anticipate future situations. Hence, examining the role of anticipated

experiences for weighing conflicting desires, such as egoistic impulses and normative demands, presents an interesting approach.

1.1.3 Kohlberg's Stages of Moral Development

Building on Piaget's work on moral development, Kohlberg (1976) proposed a cognitive-developmental theory on moral development that rests on a stage-wise framework. While Piaget focused on practical interactions, which he suggests as the origin of theoretical morality, Kohlberg's work centered on moral reasoning, which he suggests as a source of moral behavior. Kohlberg (1976) proposed six moral stages, grouped into three levels. At the *preconventional level* (stage 1 + 2), rules are followed to avoid punishment and to follow own interests. Rules and expectations of a society are not yet really understood and considered to be separate from one's self. At the *conventional level* (stage 3 + 4), rules are followed to keep a society going. Rules and expectations of others are considered to be internalized. At the *postconventional level* (stage 5 + 6), rule acceptance is based on a sense of commitment to general moral principles that underlie society's rules. The self is considered to be constituted based on self-chosen values, separate from external rules. Individuals are proposed to pass the stages sequentially, although not all individuals will reach the highest stage. Kohlberg suggests that most children up to around 9 years are at the preconventional level, most adults are at the conventional level, and only few adults reach the postconventional level. Reaching a next stage is considered to be intertwined with other stages of development, namely stages of logical reasoning and social perception. In particular, increasing social perception or role-taking abilities, that is, the ability to perceiving other's thoughts and feelings, are required to attain a particular moral stage. Situations of social interaction that involve taking other's perspective and stimulate to think about other's thoughts and feelings, for example with parents, peers, or other social groups, are thus argued as central to stimulate progress. Overall, Kohlberg's model rests on qualitatively different stages of moral reasoning, which are characterized by expanding social perspective taking and a shift from punishment orientation to appreciation of universal moral principles.

What can we learn from Kohlberg about the relation between moral judgment and moral action? In his initial work, he argued that a high moral reasoning stage is required for moral behavior (Kohlberg, 1976). However, high moral reasoning is considered not sufficient for moral action. One might not follow one's principles in a particular situation due to different factors. Later, Kohlberg and Candee (1984) outlined a more nuanced model

to provide a theoretical underpinning of the relation between moral judgment and action. For that purpose, they introduced deontic judgments, that is, judgments about what is considered morally right, and judgments of responsibility, that is, the commitment to act in line with that judgment. They proposed that moral reasoning relates to moral behavior in two ways: First, the higher the moral reasoning stage, the more likely individuals make a deontic judgment in line with moral principles. Second, the higher the moral reasoning stage, the higher judgments of responsibility. That means, the more advanced moral reasoning, the more consistent individuals should act with their deontic judgment. Kohlberg and Candee argued that judgments of responsibility might not always be preceded by deontic judgments. For example, when making judgments that involve family or friends, that is, with special obligatory character, judgments of responsibility might come to play without previously judging about justice. Judgments of responsibility might particularly explain the relation between moral stage and action in situations of general agreement about the deontic judgment. After having passed the judgment of responsibility, nonmoral cognitive skills such as attention or delay of gratification might additionally influence the link to moral action. According to Kohlberg and Candee, moral judgment and behavior might be reciprocally related. Moral judgment emerges as a result of moral behavior and can in turn guide behavior, which in turn might result in constructing a new moral reasoning stage. Following Kohlberg's cognitive-developmental model, moral reasoning is thus considered a key determinant of moral behavior.

1.1.4 Damon's Theory on Justice

Damon is well-known for his examination of distributive justice principles in childhood. He proposed that children's justice conceptions develop along the following sequence between the age of four to ten years (Damon, 1977): First (0-A, 0-B), fairness is confounded with own desires. Observable characteristics such as size of a person are increasingly used to justify egoistic decisions. Next (1-A, 1-B), equality is considered central for fairness. An appreciation of merit becomes increasingly incorporated. Finally (2-A, 2-B), special needs of individuals such as poverty or weakness become appreciated and conflicting claims are sought to compromise. In the last phase, fairness incorporates specific situational circumstances.

Damon incorporated his research on fairness principles in a wider approach on cognitive, affective, and behavioral indices of morality. Regarding the relation between moral judgment and moral conduct, Gerson and Damon (1978) held a critical view. They

argued that "… many different types of moral and nonmoral knowledge interact in a manner that shapes *both* the individual's moral judgment and his or her social conduct" (p. 42). Every morally relevant situation demands children to consider the particular social context and evaluate what is fair given these circumstances. The interaction of a variety of moral components is suggested to finally guide moral conduct.

In his later work, Damon (1996) addressed the development of moral goals, that is, behavioral orientations that stem from principles based on moral concerns. Damon proposes that moral goals are constructed jointly in negotiations between people. The development of moral goals thus builds on the interplay of personal engagement and social influence. This process is proposed to build a commitment towards concerns of justice and benevolence. Particularly when moral goals and personal goals become reconciled, a commitment to moral behavior is to be expected. These assumptions base on Colby and Damon's (1992) work on moral exemplars, which substantially advanced theorizing on moral identity. More details on this aspect are introduced in Section 1.2 on the moral self-concept. Overall, while Damon considered it not relevant to investigate consistency between moral reasoning and conduct (Gerson and Damon, 1978), his work highlighted the role of personal commitment for moral behavior (Colby & Damon, 1992).

1.1.5 Social Domain Theory

Drawing on cognitive-developmental theories of moral development, Turiel (1983) embedded morality within the wider field of social knowledge and rules (for reviews see Smetana, 2013; Turiel, 2002). Social domain theory differentiates three domains of social knowledge: the moral, conventional, and personal domain. According to social domain theory, concepts of morality are organized and develop separately from social conventional and personal concepts. Morality "pertains to concepts of justice, welfare, and rights" (Smetana, 2013, p. 833), the conventional domain refers to social conventional norms based on authority and sanctions, and the personal domain refers to issues of privacy and bodily integrity. Additional criteria are proposed to distinguish moral from conventional or personal issues (Turiel, 1983): Moral concepts are defined as being obligatory, universally valid, and impersonal. Their validity is considered to result from intrinsic features rather than agreements or conventions. In addition, morality is considered "normatively binding". According to social domain theory, the moral domain thus refers to prescriptive norms about how individuals ought to treat each other.

The differentiation between domains is proposed to emerge early in ontogeny. Explorations of the social world in infancy are suggested to provide a basis for the development of concepts in different domains. The distinct domains are considered to be constructed from children's experiences of regularities in their social world (Dahl & Killen, 2018b; Turiel, 2002). Both interactions with siblings or peers and interactions with parents are suggested to contribute uniquely to the development of moral judgment. In considering separately formed and developing domains from early on, social domain theory differs from earlier structural developmental models of moral development that proposed stages with a gradual development of moral judgments (Kohlberg, 1976; Piaget, 1997). In addition, young children's moral judgments are not considered to be based on authorities and punishment avoidance. Instead, already young children are proposed to make moral judgments based on considerations about others' welfare and fairness.

How are moral judgments applied in everyday social life? According to social domain theory, different considerations are weighted in a concrete situation (Killen & Dahl, 2018; Turiel, 2015). This coordination of considerations can differ between contexts and development. If moral concerns are given priority, moral judgments are proposed to be applied in social life. Indeed, considering a behavior as moral instead of conventional or personal preference can explain behavioral tendencies (Rhee et al., 2019; Smetana, 1982). However, prosocial actions might involve conflicting values. Given the presence of multiple considerations, moral concerns are not always given priority, leading to the application of competing concerns. The behavioral decision is thus considered as the result from coordinating different considerations, including different aspects of morality and considerations from other domains, within a given situation.

1.1.6 Developmental Model of Human Altruism

Dahl and Paulus (2019) suggest a normative stance toward a behavior as central for the development of human altruism. While already infants engage in prosocial behavior (for review see Eisenberg et al., 2015), Dahl and Paulus (2019) argue that these early acts reflect no altruistic motivation. Instead, they propose that altruistic acts are characterized by the accompanying normative evaluation of the act as good. In detail, the model of the gradual development of altruism consists of four phases. In the first two phases, children are proposed to help others based on a preference for social interaction (1) and a preference for action completion (2). These two phases count as prealtruistic. In the third phase, around the end of the second year, children are suggested to help others based on empathic concern for

others' well-being. In the last phase, beginning around preschool years, children develop a normative stance toward actions, that is, they perceive these actions as obligatory. Both acts motivated by empathic concern and acts accompanied by normative evaluations count as altruistic acts. But the emergence of agent-neutral normative stances in childhood is suggested to mark the last phase of the development of altruism. It is thus highly interesting to examine when prosocial behavior is seen as obligatory, represented in normative terms.

Recent studies revealed that children start to develop normative stances regarding topics of harm and fairness across preschool years (e.g., Rakoczy et al., 2016; Vaish et al., 2011; Wörle & Paulus, 2018). But given the differentiation of prosocial behaviors and different developmental trajectories (Dunfield, 2014; Paulus, 2018), the normative stance regarding different types of prosocial behavior might also emerge at different times. In addition, norms regarding positive and negative duties might differ in their onset as they seem to differ with regard to their degree of obligation (Kahn, 1992). It remains therefore interesting to examine the emergence of normative stances towards different morally relevant behaviors.

While this model does not directly speak to the relation between normative stances and behavior, it allows for some considerations. Dahl and Paulus (2019) consider altruistic acts – as evident in the last phase – as accompanied by the normative stance towards the act. In order for an action to be deemed as altruistic, it thus seems to be required that the action is aligned with a normative stance towards it. If a normative stance and actual behavior diverge on the level of an individual, with children engaging in prosocial behavior but lacking a normative stance towards it, their behavior seems to be not considered as altruistic.

1.1.7 Empirical Evidence on the Relation Between Moral Judgment and Behavior

Early studies by Hartshorne and May (1928-1930) evidenced little consistency of moral behavior across situations and of verbal report and actual moral behavior. These findings left little room for the assumption of stable, interindividual differences in behavioral tendencies and stimulated social psychological theories that center on situational conditions (Schroeder et al., 1995). In response to that pure focus on moral behavior, theories on moral development aimed to take a broader perspective and include morally relevant cognitive and affective processes. Given the rise of cognitive-developmental theory on moral development, moral judgment or reasoning became of interest. Empirically, the relation between moral judgment or moral reasoning and behavior was repeatedly established, although rather weak and inconsistent (for reviews see Blasi, 1980; Villegas de Posada &

Vargas-Trujillo, 2015). More recent research on the relation between moral judgment and behavior continues to evidence a gap (Blake et al., 2014; Kogut, 2012; Smith et al., 2013), however, mostly investigated on a group level. Only few recent studies addressed the relation on an individual level, whereof some revealed a relation (Malti et al., 2010; Paulus et al., 2018) while others suggest a gap between a normative expression and behavior (Tan et al., 2020). Evidence on the behavioral relevance of moral judgment remains thus mixed and calls for a more comprehensive framework to explain morally relevant behavior.

In order to close the judgment-behavior gap, Blasi (1983) introduced the concept of moral identity. He thereby inspired a great field of scientific advancement that went beyond cognitivist explanations for morally relevant behavior but focused on the integration of morality into the self (Hardy & Carlo, 2011; Lapsley & Narvaez, 2004b; Walker, 2004). While moral identity in adulthood is addressed by different theoretical lines (Aquino & Reed, 2002; Colby & Damon, 1992; Lapsley & Narvaez, 2004a), theories taking a developmental perspective are just in the beginning (Kingsford et al., 2018; Kochanska, 2002; Krettenauer, 2013; Krettenauer & Hertz, 2015). Most importantly, empirical evidence of an early moral self-concept is scarce. It remains thus an important avenue to examine the ontogeny of the moral self-concept and address the interplay of the moral self-concept and normative stances regarding morally relevant behavior. Existing theoretical approaches on the moral self-concept or moral identity will be introduced in greater detail in the next section.

1.1.8 Conceptual Clarification

When considering moral knowledge, judgment, or reasoning as predictor of behavior, previous theories and empirical approaches differed in their conception of this morally relevant cognitive capacity. Kohlberg (1976) focused on stages of moral reasoning, that is, different structures of reasoning that underlie a moral judgment. As criticized by Blasi (1983), these rather abstract principles might lead to different actions depending on the specific situation and the meaning of the situation for the individual. Damon (1977) examined moral reasoning more closely to concrete actions by investigating hypothetical action choices rather than general moral reasoning. According to him, consistency with actual behavior is not to be expected due to the complex interaction of social knowledge and situational context. Social domain theory (Killen & Dahl, 2018; Turiel, 2003) suggests a moral judgment to be behaviorally motivating, if a situation is interpreted as a moral issue rather than conventional or personal. The judgment about whether a situation is considered

morally relevant is thus considered important for an action decision. Recent approaches on the gap between moral judgment and behavior (Blake, 2018) address moral judgment as the judgment about how one should behave in a given situation. Hypothetical action choices and judgments about concrete actions are content-wise more close to concrete actions compared to general moral reasoning structures. Yet, a moral judgment might differ between individuals regarding its relevance to the self (Blasi, 1980). The degree of ego involvement might be critical for the decision to behave accordingly. This thought paves the way for the role of the moral self-concept, which will be central in the following part of the thesis.

1.2 Moral Self-Concept

For a long time, moral development was approached from a cognitive perspective, focusing on the role of moral judgments and reasoning. But scholars increasingly pointed to the integration of morality and the self to achieve a detailed picture of morally-relevant behavior (Edelstein & Nunner-Winkler, 1993; Hardy & Carlo, 2011; Lapsley & Narvaez, 2004b). An influential theory that built on the insufficient empirical evidence for a relation between moral judgment and behavior was introduced by Blasi (1980, 1983). The central proposition by Blasi is that moral judgments are processed through judgments of responsibility before leading to moral action. These judgments of responsibility differ between individuals, depending on the importance of morality for the definition of their self (see 1.2.1 for more details). While these theoretical considerations remained largely untested, later empirical research focused on the investigation of moral exemplars to shed light on motivating factors of moral behavior (Colby & Damon, 1992; Hart & Fegley, 1995; Oliner & Oliner, 1992; Walker & Frimer, 2007). A theoretical claim emerging from these investigations was that morality and the self seem to be fused in moral exemplars, such that moral action becomes a spontaneous and undoubted way of self-expression (Colby & Damon, 1992). In a similar vein, Frimer and Walker (2009) proposed that a motivation of agency, centered on self-interested considerations, and a motivation of communion, centered on other-oriented considerations, become reconciled in people who extraordinarily engage in moral behavior. Building on dual-process theories that distinguish automatic or implicit and more controlled or explicit processes, Lapsley and Narvaez (2004a) proposed that the accessibility of moral schemas differs between individuals. These moral schemas are considered to influence information processing and behavior. The moral self is accordingly considered as the accessibility of moral schemas.

In general, theories on the moral self-concept reflect two different perspectives: Trait-based perspectives and social-cognitive perspectives. From trait-based perspectives, moral identity bases on the importance of moral values and traits to a person's identity (Blasi, 1983; Colby & Damon, 1992; Frimer & Walker, 2009). When having a strong moral self-concept, behaving morally is supposed to follow from behaving self-consistent, while behaving immorally would be considered a form of self-betrayal. The moral self-concept is thus considered a trait-like phenomena that results in behaving consistent with this trait. Theories along this line that focus not only on behavioral traits but on the motivation and underlying personality description have also been introduced as personological approach (Walker, 2014). From social-cognitive perspectives, moral identity bases on moral schemas (Aquino & Reed, 2002; Lapsley & Narvaez, 2004a). Moral schemas include both prototypes about what constitutes a moral person and scripts about what constitutes morally-relevant actions. These mental representations are proposed to be more or less easily activated. The moral self-concept is thus considered as a set of moral schemas that influence information processing and behavior.

Most recently, Krettenauer (2020) introduced a new conceptualization of moral identity based on Self-Determination Theory. He proposed moral identity "as a goal of moral action" (p. 1). Moral behavior accordingly results from the goal to maintain one's moral identity. This conceptualization of moral identity highlights the role of moral identity motivation, which ranges from more external to internal depending on whether a moral identity is uphold to demonstrate it to others or oneself. Different forms of moral identity motivation are proposed to differently link moral identity and behavior. The relation between externally motivated moral identity and moral behavior might depend on whether the behavior impacts other's view of oneself. The relation between internally motivated moral identity and moral behavior might be based on the urge to fulfill one's ideal self. This differentiation is also reflected in the framework by Aquino and Reed (2002), which was employed in this thesis, who distinguish *Internalization*, that is, the centrality of moral traits for the self, and *Symbolization*, that is, the degree to which moral traits are demonstrated to others. When considering the maintenance of a moral identity as a goal of moral behavior, different underlying motivations thus become of interest.

In the following, I will first outline Blasi's Self Model as this model was a basis for later theories and particular aspects of this theory were tested in the current thesis. Next, I will introduce approaches on the development of the moral self-concept.

1.2.1 Self Model by Blasi

Blasi (1983) acknowledges that moral cognition is highly important for moral functioning, but he considers a focus on personal consistency, which has been neglected in previous cognitive-developmental theories, as key to advance the understanding of the relation between moral judgment and behavior. For that purpose, Blasi integrates self-related processes as explaining moral motivation by providing a sense responsibility and striving for self-consistency. Behaving morally becomes thereby a question of personal integrity. Concretely, he proposes that before leading to behavior, moral judgments are evaluated regarding criteria of responsibility. These are supposed to relate the judgment to the self by determining to which degree one sees oneself responsible for acting accordingly to the moral judgment. Responsibility judgments depend on the importance of morality for the self and thus differ between individuals. Acting accordingly to a moral judgment is hence supposed to be perceived as obligatory depending on one's self-definition. Likewise, external factors such as social norms are only considered to be perceived as obligatory if these are central to one's self-definition. Responsibility judgments are not considered necessary for every decision, but particularly when being faced with conflicting motivations.

The judgments of responsibility are proposed to cause behavior through the tendency to be self-consistent. Self-consistency is conceived as the internal organization of the self. Yet, the tendency towards self-consistency is suggested to differ between individuals, for example, based on the sensitivity to inconsistency. As pointed out by Blasi (1983), Kohlberg (1969) already considered self-consistency in his theory. Yet, it did not serve to link moral judgment to behavior because Kohlberg did not assume behavior to result from judgments regarding the self. Only in later work, as reviewed above, Kohlberg and Candee (1984) incorporated 'judgments of responsibility' in reference to Blasi, which reflect the self's responsibility to engage in the right action.

Behaving inconsistent with one's self as expressed in the judgments of responsibility is proposed to lead to the experience of guilt, which serves to signalize and restore the coherent self. Blasi (1999) thus addressed the question whether moral emotions, such as empathy and guilt, can motivate moral behavior. He points out that the moral content of emotions relies on preexisting moral concerns (see also Montada, 1993). While emotions are considered to produce behavior rather automatically, they cannot produce moral actions that, in order to count as moral, need to originate from conscious moral considerations. Instead, preexisting moral considerations are suggested as both underlying moral emotions and

behavior. Emotions are thus seen as an essential component of moral functioning, although not necessarily as origin of moral behavior.

The Self Model introduced self-related processes as key for the relation between moral cognition and action, thereby advanced cognitive-developmental theories on moral development and inspired a great field of theories and research on the moral self-concept (Hardy & Carlo, 2011; Lapsley & Narvaez, 2004b). A field of empirical research substantiated the claim that self-related processes, in particular moral identity, relate to moral behavior (for review see Hertz & Krettenauer, 2016). Yet, the role of self-consistency, considered an integral part in Blasi's model, lacks empirical investigation so far. It remains thus an important endeavor to shed light on the role of individual's preference for self-consistency in the context of moral identity and moral action.

1.2.2 Development of the Moral Self-Concept

What do theories on the moral self-concept suggest about its emergence and development? Blasi's Self Model raises some empirical questions about the development of the moral self-concept, but its aim was not to make clear predictions about the emergence or development. In his later work, Blasi (2005) outlines the developmental model of moral will. According to this model, the ability for second-order desires, that is, desires that refer to desires (Frankfurt, 1971), marks the emergence of a moral will. For example, a second-order desire in the context of morally-relevant behavior could be a desire to desire sharing resources with others instead of keeping everything. In the next steps, the moral will is proposed to extend and focus on more abstract rather than concrete desires. The last step of his model is marked by an integration of morality into the self. This last step is comparable to other views on moral identity. According to Colby and Damon (1992), self and morality are considered to become aligned not before adolescence. Likewise, in Frimer and Walker's (2009) reconciliation model, the two motivational systems of agency and communion are considered separate in childhood and becoming more or less aligned in adolescence. In Lapsley and Narvaez's (2004a) model, development can be considered as development of information processing, with schemas becoming more or less easily activated with time, based on experience and routines. Taken together, moral identity has been classically assumed to be formed around adolescence. To account for early instances of prosocial behavior, an increasing line of research addresses the early moral self-concept (e.g., Kingsford et al., 2018; Kochanska et al., 2010; Krettenauer, 2013). In the following,

particularly developmental approaches will be provided because this thesis investigates the moral self-concept and its relation to behavior across different age groups.

Before turning to the models in detail, some clarifications on the terminology are need. Literature on the moral self-concept across age groups differs in the use of terms, such as moral self, moral self-concept, or moral identity (for an overview see Kingsford et al., 2018). While *moral self* is mostly employed when referring to self-regulative procedural knowledge in infancy or representations of moral behavioral tendencies in preschool years (Emde et al., 1991; Emde & Buchsbaum, 1990; Kochanska, 2002; Kochanska et al., 2010), *moral identity* is mostly employed when referring to the importance of being a moral person to the self in adolescents and adults, either in its implicit (M. E. Johnston et al., 2013) or explicit representation (Aquino & Reed, 2002; Barriga et al., 2001; Hardy & Carlo, 2005; Krettenauer & Mosleh, 2013; Pohling et al., 2018). *Moral self-concept* has been used both in the context of children (Sengsavang & Krettenauer, 2015) and adults (Aquino et al., 2009; Young et al., 2012), and both referring to implicit (Perugini & Leone, 2009) and explicit representations (Aquino et al., 2009; Pletti et al., 2019). While some scholars suggest conceptual differences between the moral self and moral identity (Krettenauer, 2013; Thompson, 2012), the term moral self-concept is mostly used synonymously for both (Aquino et al., 2009; Krettenauer, 2013; Pletti et al., 2019; Walker, 2004). As the current thesis focuses on the moral self-concept or moral identity at different time points of its ontogeny, the terms will be used synonymously here. Given the inclusion of different age groups and of explicit and implicit measures of the moral self-concept in Study 4-6, the term moral self-concept was used for these studies. Given the sole focus on adults and the explicit representation of the moral self-concept in Study 7, the term moral identity was used for the purpose of this study to conform with most previous literature.

1.2.2.1 First Developmental Approaches to the Moral Self-Concept

Emde et al. (1991) first introduced the concept of a moral self as a regulatory system that is based on affective processes. They proposed a moral self to emerge around the age of 3 years, when children have internalized rules about what is right and wrong. Their view on morality is very broad as it includes any attitudes about what to do or not to do. These might be based on social obligations and independent of considerations about others' welfare. Their conceptualization of a moral self is thus broader than what is considered as a *moral* self for the purpose of this thesis.

Some research on prosocial behavior in middle childhood highlighted the attribution of prosocial behavior to the self and prosocial self-schemas for engaging in prosocial

behavior (Froming et al., 1998; Grusec & Redler, 1980). These studies built on theoretical frameworks of general self-schemas and attribution processes and they provided some evidence for the relevance of the self for prosocial behavior in childhood. Yet, a comprehensive theoretical framework on particularly moral or prosocial self-related processes was lacking.

A line of research by Nunner-Winkler and colleagues (Nunner-Winkler, 1997, 2007; Nunner-Winkler et al., 2007) focused on the development of moral motivation across childhood. Moral motivation was assessed by means of emotion attributions to transgressors (Nunner-Winkler & Sodian, 1988) based on the notion that emotions reflect judgments about the importance or personal relevance of a situation. According to Nunner-Winkler (1997), moral motivation "… requires a commitment to the moral domain, making morality an important personal concern, a 'personal project', a core element of the identity" (p. 602). Attributing importance to morality and considering it relevant to the self are thus important ingredients of moral motivation. A first study by Nunner-Winkler and Sodian (1988) evidenced that younger children, up to around 6 years, attribute mostly positive emotions to a wrongdoer although they know about the rule validity. This finding, widely replicated as the so-called 'happy victimizer phenomenon' (for reviews see Arsenio et al., 2006; Krettenauer et al., 2008), suggests that children first know about moral rules without perceiving them as personally binding.

Overall, Nunner-Winkler's work provides an emotion-based approach to moral motivation and stimulated a great amount of research on moral emotions. Yet, this line of research has been addressed by criticism and leaves questions open for investigation. The relation between emotion attributions and pro- and antisocial behavior (for review see Malti & Krettenauer, 2013) suggests that emotion attributions constitute an indicator of self-relevance, which gives rise to a motivational force. Following this notion, a relation between emotion attributions and an emerging moral self has been suggested (Krettenauer et al., 2008; Malti & Krettenauer, 2013). A first study addressing this question reported a weak relation at the age of 5, becoming stronger across childhood, suggesting that the moral self and moral emotions become coordinated in middle childhood (Krettenauer et al., 2013). Yet, this study and other investigations of the happy victimizer phenomenon assessed emotions in hypothetical scenarios. As outlined by Krettenauer (2012), cognitive representations of emotions and actual emotional experiences in the face of morally relevant behavior might differ. Cognitive representations likely build on previous experiences but these might be reconstructed and integrated with other factors. In addition, children might show emotional

reactions before reflecting about them and attributing them in hypothetical situations. Differentiating between experienced emotions in morally relevant decision situations and their cognitive representations is thus an important next step. Nunner-Winkler and Sodian (1988) accordingly called to examine emotions in real situations that require weighing self-interest and moral considerations.

1.2.2.2 Internalization Model by Kochanska

Kochanska aims to explain the development of adaptive, competent, prosocial behavior in childhood by shedding light on the internalization of parental rules and values. Her approach builds on work on the development of conscience (Thompson, 2014). A central claim of Kochanska's work is that early conscience gives rise to a moral self and thereby promotes adaptive, prosocial behavior. In detail, a child's representations of his or her own experiences with conduct are proposed to shape the child's general view of him- or herself as a moral child who more or less tends to comply with parental rules. These internal representations are proposed to constitute the child's moral self. The moral self, in turn, is suggested to guide future moral behavior. The moral self is thus considered as internal representations of oneself as a good child, shaped by early experiences with parental rules and values and serving as a regulator of moral behavior in the future. Indeed, empirical research supports the mediating role of the moral self for the relation between committed compliance and rule internalization, at least for boys (Kochanska, 2002). Even though conscience is supposed to comprise two dimensions – self-regulated conduct and moral emotions – empirical evidence only links previous rule internalization but not empathic concern with future moral self (Kochanska et al., 2010). Internalization of parental rules seems thus most important for the emerging moral self.

Kochanska's model highlights the role of early compliance, meaning rule-compliant behavior while a socialization agent is present. Kochanska proposes that the emergence of internalization builds on early committed compliance. Committed compliance describes self-regulated compliance that the child seems willingly and wholeheartedly to engage in. This form of compliance is contrasted to situational compliance, which describes compliance that relies on sustained control of a socialization agent. Children's experiences with engaging in committed compliance are suggested to shape their internal representations about themselves as a good child and thus become incorporated into the moral self. Following self-determination theory (Deci & Ryan, 2000; Grolnick et al., 1997), the voluntary, internally driven nature of committed compliance (vs. situational compliance) might enhance the endorsement of this behavioral tendency and its attribution to the self. In addition, drawing

on attribution theory (Lepper, 1983), this willingly engaged in behavior might be attributed more internally and hence more incorporated into the self. Particularly compliance in "don't" contexts, meaning compliance with prohibition of a tempting behavior, rather than "do" contexts, meaning compliance with maintaining an unpleasant behavior, seems to be related to rule internalization and the moral self (Kochanska, 2002).

Kochanska's approach provides a valuable contribution as it provides theoretical ideas and first evidence on the origins and behavioral relevance of the moral self. In addition, it situates the moral self in relation to an internalization of rules, thereby integrating the concept of the moral self with a concept of normativity. Given these strengths, some open questions follow from it. First, regarding the link between the moral self and future moral behavior, Kochanska (2010) makes some suggestions about underlying mechanisms, such as avoiding cognitive dissonance or anticipating feelings of guilt, but empirical investigation is lacking so far. Second, evidence for a relation between the moral self and behavior rests on parental report of children's prosocial and aggressive behavior (Kochanska et al., 2010; Sengsavang & Krettenauer, 2015). As parental report might be biased, evidence on children's actual behavior is needed. Third, given Kochanska's theoretical approach, her operationalization of the moral self focuses mostly on different dimensions of conscience, e.g., the tendency for internalized conduct, confession, or guilt. In order to explain morally relevant or prosocial behavior, it would be particularly interesting to conceptualize the moral self as children's representations of their tendencies to engage in morally relevant or prosocial behavior. Fourth, rule internalization is considered central in this model. Yet, given some evidence for children's moral autonomy, that is, children contesting parental authority and protesting against authority figures when transgressing moral norms (Alexander & Putnam, 2020; Heyman et al., 2016), it remains debatable whether internalization of parental rules represents an adequate model of moral development (Paulus, 2020). In addition, rule internalization is only addressed on a behavioral level. It remains unclear to which degree children explicitly represent these rules. On the one hand, children might have consciously internalized parental rules about how one ought to behave which in turn shape the construction of the moral self. On the other hand, the behavioral tendency to adhere to rules might implicitly shape the moral self, less dependent on an explicit representation of how to behave.

1.2.2.3 Developmental Model of the Moral Self by Krettenauer

Krettenauer (2013) provides a model that locates moral selfhood at the intersection of cognitive, emotional, and motivational processes. He proposes a bottom-up model, starting

with a minimal conception of moral selfhood and proposing developmental progress therefrom. The model comprises three layers of the development of the moral self, which will be introduced in the following: the moral self as *intentional agent*, as *volitional agent*, and as *identified agent*.

The beginning of selfhood is generally assumed to rely on a sense of agency. Agency in this model is conceived of as the ability for intentional, goal-directed behavior. Morally-relevant behavior might be followed due to desires or due to their obligatory nature, albeit obligatory behaviors might also be desired. The moral self is thus first considered as an *intentional agent*, emerging as soon as young children can desire morally-relevant actions and intentionally engage in them. This emergence is assumed around 2 years of age.

While young children spontaneously engage in morally-relevant behavior, they often fail to do so when conflicting interests or desires are present. Morally-relevant behavior sometimes requires to resist egoistic desires for the sake of other-oriented action. The moral self as *volitional agent* relies on the ability to form an intention for morally-relevant behavior while faced with conflicting desires. Krettenauer compares the ability of prioritizing a moral desire over another conflicting desire to Piaget's (1954/1981) notion of "conservation of values", the ability to subordinate a momentary situation to permanent values. As this ability is proposed to rely on concrete operations, developing around 7 to 8 years of age, the moral self as volitional agent might evolve in middle childhood. In particular, Krettenauer suggests the volitional moral self to develop between the age of 6 and 8 years. This assumption fits research on the happy victimizer phenomenon. From around 8 years, children predominantly attribute negative emotions to wrongdoers, suggesting that they can prioritize moral over selfish desires (Arsenio et al., 2006; Krettenauer et al., 2008; Nunner-Winkler & Sodian, 1988).

While children in middle childhood are able to prioritize moral desires over conflicting others, this prioritization is proposed to be not yet integrated into children's self. The moral self as *identified agent* is characterized by experiencing the prioritization of morally-relevant behavior as emanating from the self rather than external factors. Morally-relevant actions are thus a way of self-expression. The prioritization is not necessarily consistent across situations but can be context-dependent. Krettenauer therefore differentiates the identified moral self from moral identity, which implies a sense of unified and consistent identity. Krettenauer proposes the identified moral self to develop around late childhood or early adolescence

Krettenauer (2013) proposes these three layers to be hierarchically ordered. Lower layers are considered as a foundation for higher levels, but they are not proposed to replace each other. Rather, each layer adds a particular quality to the concept of the moral self. As all layers are proposed to co-exist, higher layers can influence lower layers. It is thereby possible that identifying with morally-relevant desires influences the prioritization of moral and conflicting desires. This direction of impact is considered relevant for the relation between moral self-concept and behavior.

Next to this theoretical advancement, Krettenauer and colleagues (2013) adapted the moral self-concept assessment by Kochanska (2002) in order to conceptualize the moral self-concept as *preference for prosocial behavior* and *avoidance of antisocial behavior*. These two dimensions were found to constitute separate factors in sample of preschool and school-aged children (Krettenauer et al., 2013). The moral self-concept in this line of research thus explicitly focuses on morally relevant behavior. Empirical evidence suggests that the early moral self-concept does not build on moral emotions. Moral self-concept and moral emotions rather become coordinated across childhood (Krettenauer et al., 2013). Regarding the behavioral relevance of the moral self-concept, first evidence suggests that the moral self-concept relates to aggressiveness in middle childhood (Sengsavang & Krettenauer, 2015). Yet, this evidence rests on parental report of aggressive behavior. In addition, given the moral self dimension of 'preference for prosocial behavior' and given the frequency of prosocial behavior in early childhood (Eisenberg et al., 2015), examining the relation between children's moral self-concept and actual prosocial behavior is an important next step. For that purpose, differentiating between different types of prosocial behavior both on the level of the moral self-concept and on the level of behavior seems important given the heterogeneity of prosocial behavior (Dunfield et al., 2011; Paulus, 2014).

1.3 The Current Thesis

The current thesis aimed at providing new insights on the theoretical debate whether morally relevant normative views are behaviorally relevant, and on the role of the moral self-concept for the potential judgment-behavior-gap. In doing so, this thesis integrates a cognitivist approach on moral development, focusing on normative views, with an approach focusing on self-related cognitions, that is, the moral self-concept. In particular, the current thesis aimed to advance the above outlined theories with regard to the following points.

First, this thesis tested theoretical notions on the emergence of normative stances. While classical approaches focused on school-age children (Kohlberg, 1976; Piaget,

1932/1997), more recent theories proposed moral norms to emerge in preschool years (Dahl & Killen, 2018; Dahl & Paulus, 2019; Tomasello, 2018). This thesis thereby sheds light on the early development of altruism and advances theories on the development of moral norms by investigating not only the emergence of normative stances in preschool years, but also how conflicting normative principles are handled.

Building on evidence for the existence of normative views, this thesis advances the theoretical debate whether morally relevant normative views are related to behavior (Blake, 2018; Blasi, 1983; Killen & Dahl, 2018; Turiel, 2003). It provides a new perspective on the relation between normative views and behavior, first, by providing a differentiated examination of the relation on the group level and the level of the individual, second, by examining a variety of normative indicators, their inherent structure, and thereby not only asking whether a normative view is behaviorally relevant but which indicator of a normative view might be related to behavior, and third, by targeting the relative contribution of a normative view for behavior when considering the role of the moral self-concept.

As previous research rendered normative views as insufficient to explain behavior, the current thesis examined the relevance of a moral self-concept from preschool years on in relation to actual behavior and normative views. This thesis thus advances theories on the moral self-concept in several respects. First, it provides empirical evidence on the relation with behavior across different age groups, starting with preschool years, thus testing developmental models that highlight the relevance of the moral self-concept early in development (Kochanska et al., 2010; Krettenauer, 2013). Second, this thesis tests functional mechanisms that might link the moral self-concept to behavior. In particular, it aims to test a central claim of Blasi's Self Model (1983), that is, the role self-consistency, and it advances theories on the role of affective processes for moral development (Eisenberg, 2000; Nunner-Winkler, 2007; Tangney et al., 2007). Third, by investigating the relation between the moral self-concept and normative views and their respective role for behavior, the current thesis addresses the claim that moral identity functions as a bridge between moral judgment and behavior (Walker, 2004).

On the behavioral level, this thesis examined different instances of morally relevant behavior. Following a social domain perspective (Smetana, 2013), I will define morally relevant behavior as behavior that pertains to other's welfare and fairness. Empathy-based comforting, distributing resources, and mostly sharing resources were the behaviors of interest in the current thesis, and can thus be considered as morally relevant. The last study examined social distancing during a pandemic as a form of other-oriented behavior. Since

social distancing is perceived as a disputed behavior, the focus of this study was, amongst other, on individual's moral relevance of this behavior. Moral judgment in this study refers to the degree that individuals perceive a behavior as morally relevant, which should relate to behavior following a social domain perspective (Turiel, 2003).

1.3.1 Research Questions

With the above outlined aims in prospect, the current thesis addressed in particular three key research questions:

i. Are normative views about behavior related to morally relevant behavior? This question derives from a longstanding debate about the relation of judgments and behavior. While one line of theories suggests moral judgments and behavior to be related (Killen & Dahl, 2018), another line of theories points towards a gap between judgment and behavior (Blake, 2018). Most previous research examined the development of different aspects of normative stances but empirical evidence on the relation to behavior remains inconclusive.

ii. Is the moral self-concept related to morally relevant behavior? This question builds on the first one as it derives from a more recent line of theorizing that suggests the moral self-concept to bridge a moral judgment-behavior gap (Hardy & Carlo, 2011). In detail, the personal relevance of morality is proposed as an important factor for adhering to ones morally-relevant normative stances and thus for engaging in morally-relevant behavior (Blasi, 1983; Edelstein & Nunner-Winkler, 1993; Krettenauer, 2013; Lapsley & Narvaez, 2004b). Particularly developmental theories on the early relevance of the moral self-concept are barely studied. A broad examination of the relation between the moral self-concept and behavior at different points of its ontogeny is thus pending.

iii. Assuming a relation of the moral self-concept and behavior, what mechanisms underlie this relation? This question builds on the second one and addresses the potential relation between the moral self-concept and behavior in more detail. Classical theories on the moral self-concept (Blasi, 1983) and accounts on moral emotions (Nunner-Winkler, 2007; Tangney et al., 2007) allow to derive two mechanisms: Striving for self-consistency and emotions regarding morally-relevant behavior. While previous studies evidenced a relation of the moral self-concept and

behavior in adolescence and adults, examinations of functional mechanisms are generally lacking.

These key questions were considered as interleaving rather than separate questions. In particular, integrating (i) and (ii), this thesis addressed the question of the interrelation of normative views and the moral self-concept, and of the relative contribution of normative views and the moral self-concept for behavior.

1.3.2 Outline of the Thesis and Author Contributions

Seven studies were conducted to examine the aforementioned research questions. These studies focused on various age groups (preschoolers, middle childhood, adults), investigated a variety of expressions of normative stances (protest, affirmation, evaluation, hypothetical punishment, non-costly punishment, costly punishment), and examined different aspects of morally-relevant behavior (sharing resources, donating money, adhering to social distancing in times of a pandemic). Study 1-2 served to first examine the development of normative stances regarding morally-relevant behavior in preschool years. Study 3-4 bridged the examination of normative development with the examination of prosocial development, investigating relations to behavior both on a group and on an individual level. Study 4 additionally linked the investigation of normative and prosocial development with the moral self-concept. Study 4-5 addressed the relation between the moral self-concept and behavior in children, namely preschool years and middle childhood. Study 6-7 served to address this question in adults. Study 5-6 thereby investigated functional mechanisms underlying the relation between the moral self-concept and behavior in different age groups. Study 7 draws back to the first and second research question, contrasting the relevance moral judgment and the moral self-concept for a currently relevant other-oriented behavior in adults. An overview of each study will be provided in the following. Table 1 presents the author's contribution to each study.

Study 1 served as a pre-study to the first research question, by not yet focusing on the relation to behavior but on the emergence of a normative stance regarding other-oriented behavior in itself. It aimed at examining whether preschool children consider empathy-based comforting as being obligatory, thereby providing evidence for the emergence of human altruism in preschool years. To this end, 3- and 5-year-old children (N = 93) were presented with three scenarios that depicted different reactions to a puppet who has hurt herself. One protagonist puppet comforted the puppet in need, one protagonist ignored the puppet's need,

Table 1. Author contributions to the studies. ✓ major contribution, (✓) joint contribution

	Study design	(Supervision of) Data collection	Data analysis	Manuscript writing
Study 1	-	-	(✓)	(✓)
Study 2	(✓)	(✓)	(✓)	(✓)
Study 3	-	-	✓	✓
Study 4	✓	✓	✓	✓
Study 5	✓	✓	✓	✓
Study 6	✓	✓	✓	✓
Study 7	✓	✓	✓	✓

and one protagonist laughed at the puppet in need. Children's spontaneous protest and affirmation, their evaluation, and their actual punishment and reward of the protagonists' behavior served as indicators of a normative stance regarding empathy-based comforting as one instance of other-oriented behavior. The study allowed to differentiate whether children actually conceive of a positive duty, that is, active comforting, as being obligatory (comforting evaluated better than ignoring) or whether they only consider the violation of a negative duty, that is laughing at another's need, as wrong (laughing evaluated worst, but no differentiation between ignoring and comforting).

Study 2 served to extend the examination of normative stances in preschool years to the domain of resource distribution across two experiments. In particular, the study aimed at contrasting two normative considerations, one of equal distribution and one of partiality resulting from friendship. For that purpose, 4- to 6-year-olds (N = 185) were presented with scenarios in which one protagonist favored a friend over a non-friend and one vice versa (Experiment 1), or in which one protagonist favored a friend over a non-friend and one distributed resources equally (Experiment 2). Children's spontaneous protest and affirmation, their evaluation, and their actual punishment and reward of the protagonists' behavior served as indicators of a normative stance regarding resource distribution. The study allowed to examine how children organize different normative demands, one resulting from fairness considerations and one resulting from interpersonal relationships.

Study 3 served to bridge the examination of normative stances and actual behavior in preschool years, thereby addressing the first research question. In particular, the study examined preschooler's normative stance and own resource distribution when contrasting fairness considerations and the inclination to favor a friend, that is, when distributing resources between a rich-friend and a poor non-friend. To this end, 4-6-year-olds (N = 91) observed protagonist puppets who favored either a rich friend over a poor non-friend or vice

versa when distributing resources. Children's spontaneous protest, affirmation, evaluation, and hypothetical punishment of the puppets' behavior served as normative indicators. In addition, children's own resource distribution behavior between a rich friend and a poor non-friend was assessed. This study allowed to investigate the relation between normative views and behavior both on a group level, meaning whether the general expression of a normative stance and behavior aligns across the sample, and on an individual level, meaning whether normative views and behavior correlate. This study therefore provides a differentiated examination of the relation between normative views and behavior.

Study 4 served to address the first and second research question in preschool years, that is, what is the relative contribution of a normative stance and the moral self-concept for morally-relevant behavior? For that purpose, 4- to 6-year-old children (N = 90) observed protagonist puppets who either shared resources equally with another puppet or who did not share any resources. Children's evaluation, hypothetical punishment, actual non-costly punishment, and actual costly punishment in response to the protagonists' behavior served as indicators of a normative stance regarding equal distribution. In addition, children's moral self-concept and own sharing behavior was assessed. The study allowed, first, to examine the structure of a variety of normative forms of expression regarding fairness, second, to contrast the relations of normative expressions and the moral self-concept with actual sharing behavior, and third, to investigate consistency in individual differences within fairness-related normative expressions and fairness-related behavior.

Study 5 served to address the second and third research question in middle childhood, that is, is the moral self-concept related to morally-relevant behavior and if so, what is an underlying mechanism of this relation? In particular, the study addressed across two experiments the role of consequential and anticipated emotions for the relation between self-concept and behavior. To this end, 5- to 9-year-olds (N = 169) own sharing behavior, moral self-concept, and consequential (Experiment 1) or anticipated (Experiment 2) emotions regarding sharing were assessed. The study allowed, first, to examine whether the moral self-concept is related to morally-relevant behavior, second, to investigate whether consequential or anticipated emotions regarding morally-relevant behavior mediate the relation between self-concept and behavior, and third, to explore developmental effects across middle childhood.

Study 6 served to address the second and third research question across two experiments as well, but focusing on adulthood. In addition to consequential and anticipated emotions, the study examined the role of preference for consistency for the relation between

self-concept and behavior. For that purpose, 170 adults' donation behavior, moral self-concept, consequential (Experiment 1) and anticipated (Experiment 2) emotions regarding donating, and their preference for consistency (Experiment 2) was assessed. Methods and analyses of Experiment 2 were preregistered. The study allowed to corroborate the expected relation between the moral self-concept and morally-relevant behavior and to shed light on three theoretically meaningful mechanisms, namely consequential emotions, anticipated emotions, and preference for self-consistency.

Study 7 served to address the first and second research question in adulthood, focusing on a currently highly relevant form of other-oriented behavior. In particular, the study examined the relative contribution of self-oriented and other-oriented psychological factors, including moral judgment and the moral self-concept, for social distancing during the unfolding COVID-19 pandemic. For that purpose, 246 adults' social distancing behavior, moral judgment regarding social distancing, moral self-concept, empathy for unspecific others, empathy for close others, fear of infection, and fear of punishment were assessed in an online study. The study allowed, first, to investigate the relative contribution of considering social distancing as a morally relevant behavior, that is, the moral judgment, and the moral self-concept for other-oriented behavior, and second, to address the theoretical claim that the moral self-concept bridges the gap between judgment and behavior.

2 Study 1:

The emergence of human altruism: Preschool children develop a norm for empathy-based comforting

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Abstract

The study examined whether preschool children conceive of empathy-based comforting as being an obligatory reaction towards others in emotional need. We presented 3- and 5-year-old children with three scenarios in which protagonists showed different reactions towards an agent who has hurt herself. One protagonist reacted antisocially by laughing at the agent, one ignored the agent, and one demonstrated empathy-based comforting. The 3-year-olds only protested against the antisocial protagonist. In contrast, the 5-year-olds protested against the protagonists who either acted antisocially or ignored the needy other while they selectively affirmed the protagonist who showed empathy-based comforting. The findings indicate that a norm for empathy-based comforting develops in the preschool years. Overall, our study demonstrates the emergence of a normative concern with the well-being of others, a central aspect of human altruism.

2.1 Introduction

Empathic concern and empathy-related responding are highly valued (Batson, 2011; Hoffman, 2000). For example, political polls regularly examine the degree to which people attribute empathy to political parties or candidates (e.g., Pew Research Center, 2017). Parents are interested in books that help their children to become empathic persons (McKearney & Mears, 2015) and empirical research tried to examine the conditions that foster the development of empathic concern and empathy-related prosocial actions (e.g., Brownell et al., 2013; Goldstein & Winner, 2012). Consequently, the psychological processes related to empathic concern have been of wide interest (e.g., Brownell, 2013; Decety & Svetlova, 2012; Preston & de Waal, 2002; for review see Eisenberg et al., 2006). On a conceptual level, ethical theories have debated the extent to which empathic concern and empathic behaviors (e.g., comforting) form an important aspect of morality (Battaly, 2011; Betzler, 2019; Prinz, 2011; Slote, 2007). These examples nicely illustrate that empathic concern and empathy-related responding to others in need are not merely behavioral inclinations or capacities that persons show to a greater or lesser extent, but are actually desired behaviors.

This could indicate that humans possess a norm for empathy, that is, regard empathic concern and empathy-based comforting responses towards needy others as being good and obligatory, and not only a voluntary or supererogatory behavior (that is, good to do, but okay not to do). Indeed, adults and adolescents think that it is crucial to help and wrong not to help others in need (Killen & Turiel, 1998), although the obligatory character decreased with

age when it concerned more distant others. At the same time, adolescents and adults do not regard all prosocial acts as obligatory, some are seen as supererogatory (Kahn, 1992; Killen & Turiel, 1998). Taken together, this suggests that prosocial behaviors are related to different degrees of obligations. Importantly, despite the public view that it is desirable that children show empathic responses towards needy others (e.g., McKearney & Mears, 2015) and the findings that adults do evaluate helping as important and good (Killen & Turiel, 1998), it is not clear whether and to which extent empathic concern represents a moral norm and obligatory reaction towards others in need. Moreover, it is not clear when such a norm might emerge in human development. In other words, do preschool children think that empathic concern and comforting towards others in emotional need is good or even required?

This question is not only of interest for philosophical debates, but it is also informative for current psychological theorizing on the development and nature of altruism. Importantly, Dahl and Paulus (2019) presented a developmental framework on the ontogeny of human altruism. They argued that in order to fully understand human altruism, two levels of altruism need to be differentiated. On the one hand, empathic concern with others' well-being, and, on the other hand, a normative stance towards altruistic actions. This second level includes a normative stance that helping and comforting others is something good. That is, empathic concern with others is not only displayed (first level), but actually regarded as morally good (second level). A concern with others' well-being seems to emerge by the second and third year of life as young children increasingly engage in empathy-driven behaviors such as comforting others in need (e.g., Decety & Svetlova, 2012). Yet, little is known about the development of the next level. The authors hypothesized that a normative stance towards altruistic actions emerges later in the preschool years. The current study aimed at contributing to this theoretical debate by examining the development of a normative stance towards empathic concern.

Notably, previous research accumulated evidence that already young children regard antisocial behavior as being morally wrong and the omission of antisocial acts as normatively required (for review see Dahl & Freda, 2017). These findings correspond to research demonstrating that young children punish antisocial others (Kenward & Östh, 2012) and protest against violations of moral norms (e.g., Rossano et al., 2011). Thus, these studies nicely demonstrate that already young children evaluate others' social behavior and have developed a norm to not harm others. This corresponds to the ethical notion of negative duties, that is, that we are obligated not to harm and injure others (Belliotti, 1981; Lichtenberg, 2010). Yet, they leave open the question whether young children also recognize

positive duties, that is, norms to help and support others, most interesting for the purpose of the present study a norm to react with empathic concern and comforting to others in need. We refer to this normative stance as indicating a norm for empathy.

Some evidence for the appreciation of positive duties, such as considering others' needs and helping-related behaviors, comes from a limited number of studies. A classical line of research on children's reasoning about hypothetical prosocial dilemmas (i.e. vignettes in which an agent can decide to follow his own interest or to help another person) suggested that while preschool children engage mostly in hedonistic reasoning, elementary school aged children increasingly refer to others' needs when justifying their judgments (cf. Eisenberg, 1986). Kahn (1992) showed that across middle childhood (8-13 years) children judged negative moral acts (e.g., not stealing) more often as being obligatory than positive moral acts (e.g., donating resources to needy others). Most relevant, in a cross-cultural study on US and Indian children and adults, Miller et al. (1990) showed that participants from the US tended to evaluate helping behavior as morally relevant the more needy the other was and the less personally distant the other was, while Indian participants viewed all lack of help as morally problematic. Finally, Weller and Lagattuta (2013) analyzed 5- to 13-year-old children's emotion attributions when (not) helping others. They showed that 5- to 6-year-old children reported rather positive emotions following a decision not to help while 7- to 10-year-old children reported rather negative emotions (with 11- to 13-year-olds showing an increase in positive emotions). Moreover, 9-13-year-olds differentiated in their permissibility to act selfishly in dependence of the neediness of the other, whereas the 5-8-year-olds did not differentiate between the levels of neediness. Overall, these studies suggested that helping others is, at least by middle childhood, a morally relevant action that is seen as normative.

Moreover, a more recent study examined preschool children's responses towards puppets (protagonists) who had either instrumentally helped (e.g., opening a box to retrieve a toy) or hindered (e.g., closing the lid of a box to prevent the other from retrieving the toy) another puppet (Van de Vondervoort & Hamlin, 2017). This is of interest for the purpose of the current study as helping can be regarded as a positive duty. In this study, participants were asked in a kind of forced-choice scenario which of the two protagonists they preferred, which one was nicer, and which one should get punished. It was found that the 4- and 5-year-old children preferred the helper, regarded the helper to be nicer, and allocated more punishment to the hinderer. In a simplified version, a similar pattern was found for 3-year-old children. This suggests that when directly being compared to an antisocial other,

preschool children more positively evaluate a character that engaged in instrumental helping. Yet, given the direct comparison, it remains an open question to which extent the effects were driven by the antisocial protagonist being judged negatively or the prosocial protagonist being judged positively; and to which extent this would differ from an agent who does not engage in either of these behaviors. In addition, instrumental helping has been suggested to differ from empathic responding and comforting. More precisely, studies revealed no relation between these behaviors (Dunfield & Kuhlmeier, 2013) and pointed to different neurophysiological correlates of helping and consoling (for review see Paulus, 2014). It has been suggested that while comforting is subserved by empathic concern, helping might be related to social routines and goal understanding. It remains thus an open question whether the patterns reported on instrumental helping can be transferred to the domain of empathy-based responding.

This lack of knowledge about whether children think that it is good to engage in empathy-driven actions is surprising given that there is a large body of literature on the emergence of empathic concern and comforting behavior in early childhood. Empathic concern (arousal reflecting sympathetic concern for the other; Davidov et al., 2013) has been shown to emerge in the first two years of life and to be related to comforting behavior (for reviews see Davidov et al., 2013; Decety & Svetlova, 2012; Eisenberg et al., 2006). Given that empathic concern and comforting behavior seem to emerge early in development, it would be interesting to explore how children reason about its moral nature and how they evaluate agents who either do or do not engage in empathic responding. This would reveal how young children think about and evaluate empathy-based responses.

Notably, recent findings demonstrate that young preschool children possess normative stances on how to distribute resources fairly between others (Rakoczy et al., 2016; Rizzo et al., 2016; Wörle & Paulus, 2018, 2019). For example, Wörle and Paulus (2018) presented 3- to 6-year-old children with two protagonists. Each of the protagonists could distribute resources between a rich recipient and a poor recipient. One of the protagonists allocated more resources to the rich recipient (than to the poor recipient), whereas the other protagonist allocated more resources to the poor recipient. It was found that the older children (5-6 years), but not the younger children (3-4 years) selectively protested against the protagonist who perpetuated the inequality, while they selectively affirmed the protagonist who rectified the inequality and gave more items to the recipient who was more needy. These types of spontaneous protest against a third party's norm violation and the affirmation of desired behavior have been interpreted as a strong indicator of an agent-

neutral norm (Rakoczy & Schmidt, 2013; cf. Nagel, 1970) as children enforce these norms even from unrelated third parties. Overall, these findings show that preschool children do not only have normative views that concern the omission of antisocial acts, but also view some types of prosocial behaviors as being normatively required. These studies also point to developmental changes in children's considerations of contextual factors and others' neediness: Three-year-old children strongly adhere to a norm of equal sharing (Rakoczy et al., 2016), while 5-year-old children enforce a norm of giving more to a poor than a rich other (Wörle & Paulus, 2018). That is, older preschool children considered the neediness of the recipients in considerations of resource allocations. This pattern is suggestive for the hypothesis that a norm for empathic concern might develop in the preschool years and should be present by 5 years. On the other hand, given that already toddlers show empathy-related responding, one could also entertain the hypothesis that a norm for empathy is present from early on. The current study was designed to examine these possibilities.

The Current Study

To this end, we presented 3- and 5-year-old children with three scenarios in which protagonists showed different reactions towards an agent who has hurt herself, that is, towards another in emotional need. One protagonist laughed at the other (laughing condition). One protagonist decided to keep playing and ignore the other (ignoring condition). Finally, one protagonist demonstrated empathic concern and comforting behavior (comforting condition). We decided to compare children's behavior across these three conditions as the laughing condition clearly presents antisocial behavior, the comforting condition clearly present altruistic behavior, and the ignoring condition presents neither of them. That is, it does not violate a norm of not acting antisocially, while it violates a norm of acting with empathic concern. This condition (and the direct comparison between the ignoring and the comforting condition) is diagnostic for our purposes as protest in this condition is unlikely due to the violation of a norm of reacting antisocially, but rather indicative for the violation of a norm to act altruistically.

In order to examine our question, we relied on a multimethod approach. We assessed young children's spontaneous protest and affirmative responses towards the protagonists as well as their punishment / reward behavior and explicit reasoning about the protagonists' actions. First, selective protest and selective affirmation have been widely used as measures for normative stances in preschool children (e.g., Rakoczy et al., 2016; Wörle & Paulus, 2018). This approach has been successfully used with children from the early preschool

years onwards. Moreover, an assessment of protest behavior across a wide range (3-6 years) has shown no association with age (Paulus, 2017) suggesting that this is a suitable measure to compare children's normative stances across the preschool years. Second, punishment and reward allocations have been accepted as indirect indicators for normativity (Kenward & Östh, 2012, 2015; McAuliffe et al., 2015), although it remained an open question to which extent punishment can be reliably observed before six years of age (McAuliffe et al., 2015). Third, we included explicit evaluations and reasoning as a classical measure of normative understanding representing a more deliberative assessment of others' behavior (Dahl & Killen, 2018a). Together, they allow for a differentiated assessment of young children's normative views on how others should or should not react to a person in pain.

For the purpose of the current investigation, it was most interesting to explore whether and how children would differentiate between the protagonist ignoring the other's need and the protagonist demonstrating empathic-related responding. This would reveal whether or not children attach particular value to empathic-related responding. We hypothesized that children of both age groups would react negatively towards the agent who laughed at the needy other, that is, that 3- and 5-year-olds would see gloating at others' misfortune as morally wrong. Moreover, based on Dahl and Paulus (2019) we hypothesized that mostly 5-year-old children would show evidence for a norm of empathy-based responding, that is, comforting others in need. That is, we hypothesized that 5-year-olds would negatively evaluate, punish, and protest against the protagonist who reacted antisocially or ignored the needy other. Moreover, they should positively evaluate, reward, and affirm the protagonist who acted with empathic concern, that is, comforted another person in need.

2.2 Method

Participants

The final sample included 48 3-year-old children (M = 43.90 months; range 36 – 48 months; SD = 3.50; 25 girls) and 45 5-year-old children (M = 66.32 months; range 60 – 71 months; SD = 3.23; 17 girls). One additional child was tested but not included in the final sample due to an experimental error. Participants were typically developing children from day-care centers located in the surroundings of a larger European city. Children were from heterogeneous socioeconomic backgrounds. The present study was approved by the local Ethics Board. Informed written consent for participation was given by the children's caregivers.

Materials

For each of the three conditions, we used a different pair of 28-cm-tall hand puppets. All puppets differed in hair color and clothing, and their paring and assignment to conditions was counterbalanced. We used a ball, two puzzles, paper and pencils, and a wind-up toy for the warm-up trials. Marbles, fingerboards, and matchbox cars served as play material for the puppets; it was counterbalanced which material was used in which condition. "Tasty" (colorfully decorated) and "disgusting" (plain green) cookies were provided for the punishment / rewarding. For the evaluation, we used a 4-point smiley-scale.

Design and Procedure

Children were tested individually in a quiet room. Experimental sessions were videotaped for later reliability coding. In a within-subjects design, we administered three conditions which were presented to the participants after a warm-up and a familiarization with the test material; the order of presentation of the conditions was counterbalanced. Each condition consisted of a demonstration phase, followed by a punishment / rewarding phase, and an evaluation phase. In the demonstration phase, two puppets were playing with toys. Then, one puppet stumbled upon her toy, fell down on the ground, and hurt her knee. Importantly, we manipulated the reaction of the other puppet (protagonist): She either comforted (comforting condition), ignored (ignoring condition), or laughed (laughing condition) at the injured puppet. After the demonstration, children could punish / reward the protagonist and evaluate her behavior. A video documentation that allows for a reproduction of the procedure can be found on Databrary at https://nyu.databrary.org/volume/1015. In the following, the procedure will be described in detail.

Warm-Up Trials. The experimenter introduced the puppets by their names and one after each other played ball with the participant. Then, she administered one task-specific warm-up trial with each of the three protagonist puppets in which the respective protagonist made an instrumental mistake. We counterbalanced which puppet did which out of the following three trials: 1. Puzzle: The protagonist placed a puzzle piece incorrectly, 2. Drawing: The protagonist tried to make a drawing with a broken pencil, 3. Wind-Up toy: The protagonist incorrectly moved a wind-up toy by hand. Participants were prompted to intervene if they didn't do so spontaneously. This served the purpose of reducing their potential inhibition to criticize or correct the protagonist puppets.

Familiarization. The experimenter familiarized participants with the tasty and disgusting cookies (procedure modified after Kenward & Östh, 2015) by trying one of each type,

commenting on their specific taste ("delicious" vs. "worm-like"), and displaying a matching facial expression. All participants could correctly identify the different cookie types after the familiarization and in the end of the procedure. Additionally, participants were familiarized with a 4-point smiley-scale, ranging from 'very bad' to 'very good'.

After the familiarization, participants were presented with three conditions in a row, each consisting of a demonstration phase, a punishment / rewarding phase and an evaluation phase.

Demonstration phase. All condition had in common that in the beginning of the demonstration phase two puppets were sitting next to each other on the table and playing with toys. Both had the same kind of toys but they were playing alone (without any interaction). Then, one puppet stumbled over her toy, fell down on the ground and hurt her knee. This was acted out through a verbal statement of the injured puppet of what had happened (e.g., "I hurt my knee") and the expression of pain (e.g., convulsing with pain on the ground) throughout the rest of the demonstration phase. It was varied between conditions how the other puppet (protagonist puppet) reacted to this event. In the *comforting* condition, the protagonist approached the injured puppet and showed empathic concern both verbally (saying that she is sorry for what happened and understands how much it hurts) and behaviorally (stroking her back). In the *ignoring* condition, the protagonist stopped playing for a second and looked at the injured puppet. Then she verbally stated that she will continue playing and did so, moving around her toy. In the *laughing* condition, the protagonist approached the injured puppet and laughed at her. This was emphasized verbally (through gleeful comments) and behaviorally (through pointing at the injured puppet). Following previous work (e.g., Wörle & Paulus, 2018), the protagonist first announced her behavioral intent. In the comforting condition she stated: "I think I am going to Lisa in order to comfort her." In the ignoring condition she stated: "I think I am going to continue playing." In the laughing condition she stated: "I think I am going to Lisa in order to laugh at her." Then, the action was presented in a stepwise procedure with a 5 seconds break in between each step to give children the opportunity to protest: First, the protagonist tentatively said what she was about to do (as when reflecting about her next action step). Second, she repeated what she was about to do in a more determined manner and turned toward her goal (the injured puppet in the *comforting* and *laughing* condition, her toy in the *ignoring* condition). Third, the protagonist actually did what she had announced to do for 7 seconds while the injured puppet continued expressing pain. In all three conditions, the demonstration phase ended with a statement of the injured puppet that the pain has subsided. Thereby we established an

emotionally neutral end of the scenario. After the demonstration phase, participants were asked control questions to test their memory of the scenario (e.g., "When Anne injured her knee, how did Marie react?"). Children who were not able to answer the control questions correctly were excluded from the analyses of the measures that are based on memory (see results).

Punishment / rewarding phase. After the demonstration phase, participants could allocate any number out of 3 tasty and 3 disgusting cookies to the protagonist puppet. They were explicitly allowed to also leave (all) cookies in the bowl if they wanted. More precisely, the experimenter put a bowl with three tasty and three disgusting cookies in front of the child and explained: "You can now distribute cookies to [Anna]. You can distribute some cookies to [Anna] and you can leave some in the bowl. You don't have to distribute all cookies, but you can distribute them. You can decide."

Evaluation phase. In a stepwise questioning procedure (cf. Marsh et al., 2002), participants had to make a binary choice regarding the quality of the protagonist's behavior ("Do you think it was good or bad what <name of the puppet> did?") and to refine their evaluation on the smiley-scale ("How good/bad do you think it was?"). This yielded a measure ranging over four points. Then, the experimenter asked participants to justify their evaluation and to indicate what else the protagonist could have done. With the evaluation, a condition was complete and the next condition followed, starting again with the demonstration phase.

Coding and Data Analysis

The punishment / rewarding and the evaluation were coded online by the experimenter. Participants' verbal protest / affirmation was coded from (transcriptions of) the videotapes.

Protest / affirmation. The critical period for verbal protest / affirmation and interventions during the demonstration phase started when the protagonist puppet first announced how she would react to the mishap of the injured puppet and ended when the injured puppet stated that her pain has subsided.

Verbal responses that occurred during the critical period were – according to their valence – categorized into protest and affirmation. Both protest and affirmation could arise on different levels, ranging from no protest/affirmation to imperative protest/affirmation to normative protest/affirmation. This coding scheme was based on the coding of protest behavior in previous work (e.g. Rakoczy et al., 2016; Wörle & Paulus, 2018). *No protest / affirmation* indicated that participants didn't make any relevant comments. *Imperative protest* was assigned if participants tried to make the protagonist act differently (e.g. "No,

comfort her!") and *imperative affirmation* if participants reinforced the protagonist's behavior (e.g. "Yes, go ahead! Get up!"). *Normative protest / affirmation* was given if participants commented on the protagonist's behavior using normative vocabulary (e.g. "Laughing at her is not allowed." in the category of protest or "Yes, this would be good." in the category of affirmation) or if their comments made evident some norm-related emotional reactions like indignation (e.g. "This is not funny!").

Twenty-seven children (ca. 29%) were coded for reliability by a second rater blind to the hypotheses. For the categorization of children's verbal responses, Cohen's kappa indicated almost perfect agreement for protest, $\kappa = .95$, as well as for affirmation, $\kappa = .92$.

Evaluation. For children's evaluation of the protagonists' behavior on the 4-point smiley scale, scores from 1 (frowning smiley; "very bad") to 4 (happy smiley; "very good") were assigned.

The justifications of the evaluations were categorized into four qualitatively distinct categories. The category *normative justifications* comprises responses in which participants explicitly referred to a norm, using normative vocabulary (e.g. "Because one ought to comfort."). Responses were classified into the category *condition of the injured puppet* if participants referred to what had happened to the injured puppet or the (relief of) pain she feels (e.g. "Because she hurt herself", "Because she feels better now"). This category covered responses that by and large referred to the welfare of the puppet (i.e. describing her pain, painful situation, or the other puppet's aid to relief the pain). If participants referred to what the protagonist had done or omitted, responses were categorized as *behavior of the protagonist* (e.g. "Because she laughed at her.", "Because she did not console her."). Irrelevant and ambiguous responses were classified as *other responses.*

Twenty-three children (ca. 29%) were coded for reliability by a second rater blind to the hypotheses. For the evaluation justifications, Cohen's kappa as a measure of interrater-reliability indicated almost perfect agreement with a value of $\kappa = .88$.

Punishment / rewarding. For the punishment / rewarding measure, the number of tasty and disgusting cookies (out of 3 respectively) that was given to each protagonist entered the analyses. Data and analyses scripts are available at https://osf.io/vx4gw/.

2.3 Results

Protest

Figure 1 shows the percentage of children showing each type of protest (A) and affirmation (B) in the different conditions. For statistical inference, we combined imperative and normative protest/affirmation into one category of protest/affirmation due to the rare

occurrence of the individual types. Linear mixed models were computed separately for predicting protest and affirmation, with protest and affirmation as binary outcome variable (present or not, independent of type). We decided to conduct linear mixed models given that logistic regressions had fitted probabilities near 0 (or 1) in some cells. Moreover, models based on logistic regressions that included higher order interaction terms failed to converge. Thus, based on the recommendation by Gomila (2019), we relied on linear mixed models. The full model included age group, condition, gender, order of conditions, and the four-way-interaction. Additionally, we included the random factor of participant since each participant saw all three conditions. To test the model's significance we compared the full model to the null model, which included only the control variables gender and order and the random factor of participant. To test the significance of individual factors and interactions, we compared a model with a reduced model lacking the respective factor or interaction using likelihood ratio tests.

For protest, the full model was a better fit compared to the null model, $X^2(65) = 121.78$, $p < .001$. Comparing the full model with a reduced model revealed no significant four-way interaction, $X^2(10) = 15.45$, $p = .116$. We thus dropped it from further analyses. Comparing a model including all possible three-way-interactions with reduced models revealed a significant interaction of age-group, gender, and condition, $X^2(2) = 6.61$, $p = .037$ (all other interactions non-significant, ps > .161). To interpret the interaction, we computed separate models for 3- and 5-year-olds. A significant interaction for gender and condition was found for 5-year-olds, $X^2(2) = 6.12$, $p = .047$, but not 3-year-olds, $X^2(2) = 2.47$, $p = .291$. Computing separate models for 5-year-old girls and boys revealed a main effect of condition for girls, $X^2(2) = 17.04$, $p < .001$, and boys, $X^2(2) = 7.48$, $p = .024$, but no effect of order for boys or girls, ps > .439. Pairwise comparisons for 5-year-olds girls and boys revealed that girls protested least in the comforting condition, which differed significantly from the laughing, $t = -4.34$, $p < .001$, and ignoring condition, $t = -3.38$, $p = .002$. Boys, however, protested less likely in the comforting compared to the laughing condition, $t = -2.73$, $p = .009$, not compared to the ignoring condition, $t = -1.82$, $p = .075$, although the direction of the effect was comparable to girls. Both girls' and boys' protest between the ignoring and laughing protagonist did not differ significantly, ps > .342.

To get interpretable main effects for 3-year-olds, we dropped the gender and condition interaction term from the model. Comparing the remaining model with the predictors condition, gender, and order with reduced models lacking each factor individually revealed a significant effect of condition, $X^2(2) = 7.42$, $p = .024$, but no effect of gender,

$X^2(1) = 0.97$, $p = .326$, or order, $X^2(5) = 4.15$, $p = .528$. Pairwise comparisons reveal that three-year-olds protested most likely in the laughing condition, which differed significantly from the comforting and ignoring condition, $t = 2.38$, $p = .019$, but their protest did not differ between the comforting and ignoring condition, $t = 0.00$, $p = 1.00$.

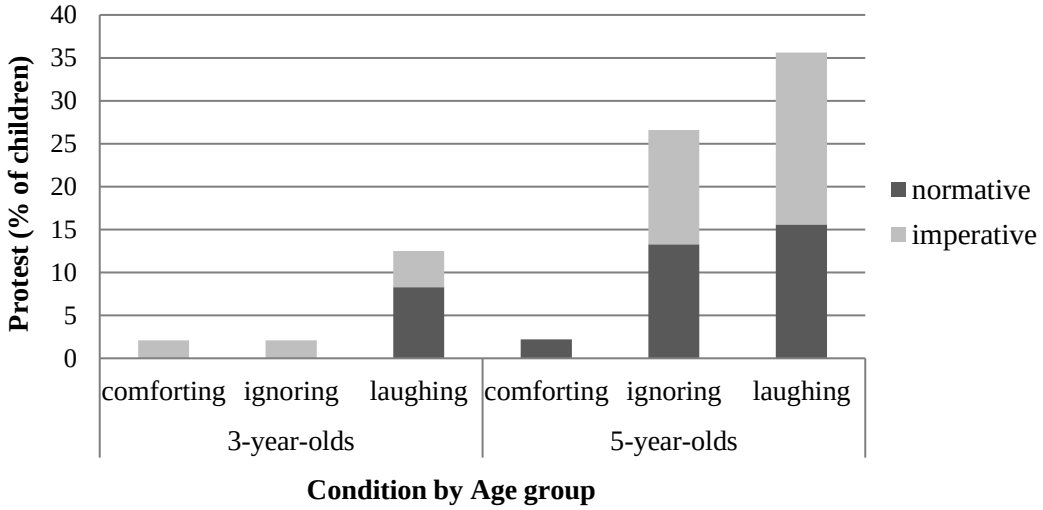
Taken together, this means that 3-year-olds hardly protested in the ignoring condition but selectively protested more strongly in the laughing condition. In contrast, 5-year-olds selectively protested more strongly not only in the laughing condition but also in the ignoring condition, although this effect was most clear in girls. Importantly, 5-year-olds in general did not differentiate between the ignoring condition and laughing condition.

Affirmation

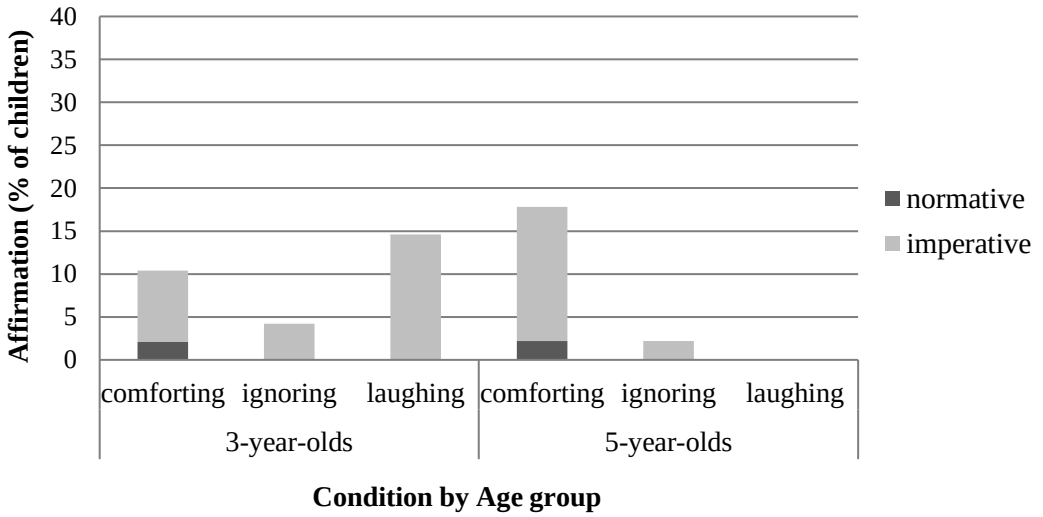
For the binary outcome variable of affirmation (yes/no), the same full and null models as for protest were computed. The full model was a better fit compared to the null model, $X^2(65) = 91.44$, $p = .017$. Comparing the full model with a reduced model revealed no significant four-way interaction, $X^2(10) = 17.32$, $p = .068$, which was thus dropped from the model. Comparing a model including all possible three-way-interactions with reduced models revealed no significant interactions, ps > .096. Comparing a model including all possible two-way-interactions with reduced models revealed a significant interaction of age-group and condition, $X^2(2) = 11.13$, $p = .004$ (all other two-way-interactions non-significant, ps > .154). Notably, there was no interaction of order and condition, $X^2(10) = 6.64$, $p = .759$. To follow-up on the interaction of age-group and condition, we computed separate models for 3- and 5-year-olds. For 3-year-olds, comparing the full model with a reduced model lacking each factor individually revealed neither an effect of condition, $X^2(2) = 4.32$, $p = .115$, nor gender, $X^2(1) = 0.01$, $p = .928$, nor order, $X^2(5) = 1.02$, $p = .961$.

For 5-year-olds, comparing the full model with models lacking each factor individually revealed a significant effect of condition, $X^2(2) = 16.21$, $p < .001$, and order, $X^2(5) = 14.03$, $p = .015$, but no effect of gender, $X^2(1) = 3.60$, $p = .058$. Pairwise comparisons regarding conditions revealed that five-year-olds affirmed most likely in the comforting condition, which differed significantly from the laughing, $t = 3.68$, $p < .001$, and ignoring condition, $t = 3.22$, $p = .002$. Five-year-olds' affirmation did not differ significantly between the ignoring and laughing condition, $t = 0.46$, $p = .647$. Pairwise comparisons regarding order of conditions revealed that five-year-olds presented with the following order, ignoring-comforting-laughing, affirmed overall more likely than children who saw any other order of

conditions. Overall, only the 5-year-olds selectively showed affirmation in the comforting condition.



A.



B.

Figure 1. Percentage of children showing imperative / normative protst (A) and affirmation (B) as a function of condition (comforting, ignoring, laughing) and age group (3 year-olds or 5 year-olds).

Evaluation

For the analysis of the measures that require a correct memory of the puppets' behaviors (evaluation, punishment / rewarding) 14 children were excluded from the final sample based on their incorrect answer to the check questions. This resulted in a subsample of 37 3-year-olds (M = 44.28, SD = 3.31; 21 girls) and 42 5-year olds (M = 66.24, SD = 3.26; 16 girls) for these measures. For the evaluation measure, children's ratings of the protagonist puppets' behavior on the 4-point smiley scale were analyzed. Figure 2 shows the mean evaluation of the puppets in the different age groups. A 3 x 2 mixed-model analysis of variance (ANOVA)

with the within subjects factor condition (Comforting, Ignoring, Laughing), and the between subjects factor age group (3-year-olds or 5-year-olds) was conducted on children's ratings. A preliminary analysis including the factor gender and order of conditions yielded no significant effect of either factor so they were dropped from the main analyses. The ANOVA revealed a main effect of condition, $F(2,154) = 86.78$, $p < .001$, $\eta_p^2 = 0.54$, a main effect of age group, $F(1,77) = 9.51$, $p = .003$, $\eta_p^2 = 0.10$, as well as a condition x age group interaction effect, $F(2,154) = 7.65$, $p < .001$, $\eta_p^2 = 0.09$.

To follow up on the interaction between condition and age group, a repeated measures ANOVA was conducted for each age group separately to test the effect of the factor condition on children's ratings. The analysis revealed a significant effect of the factor condition for 3-year-old children, $F(2,72) = 17.06$, $p < .001$, $\eta_p^2 = 0.32$, and for 5-year-old children, $F(2,82) = 101.18$, $p < .001$, $\eta_p^2 = 0.71$. For 3-year-olds, the t-tests revealed significant differences between the conditions comforting and laughing, $t(36) = 5.96$, $p < .001$, d = 1.23, as well as between the conditions comforting and ignoring, $t(36) = 3.64$, $p < .001$, d = 0.86. However, the difference between the conditions ignoring and laughing was not significant, $t(36) = 1.81$, $p = .079$, d = 0.33. For 5-year-olds, the t-tests also revealed significant differences between the conditions comforting and laughing, $t(41) = 11.25$, $p < .001$, d = 2.53, as well as comforting and ignoring, $t(41) = 11.33$, $p < .001$, d = 2.37. Like for 3-year-olds, the difference between the conditions ignoring and laughing was not significant for 5-year-olds, $t(41) = 1.06$, $p = .294$, d = 0.16.

Most interesting for our focal hypothesis: 51% (n=19) of the 3-year-old children judged the protagonist's behavior in the ignoring condition as bad or very bad, which was not different from chance, $\chi^2(1)=.03$, p=.869. In contrast, 88% (n=37) of the 5-year-old children judged the protagonist's behavior in the ignoring condition as bad or very bad. This pattern was different from chance, $\chi^2(1)=24.38$, p<.001. The difference between both age groups was also significant, $\chi^2(1)=12.87$, $p < .001$.

In sum, children of both age groups evaluated the behavior of the puppet in the comforting condition most positively and did not differentiate between the behavior of the puppet in the ignoring and the laughing condition, even though there was a tendency in 3-year-olds to give a better rating in the ignoring than the laughing condition (which was not the case for 5-year-olds).

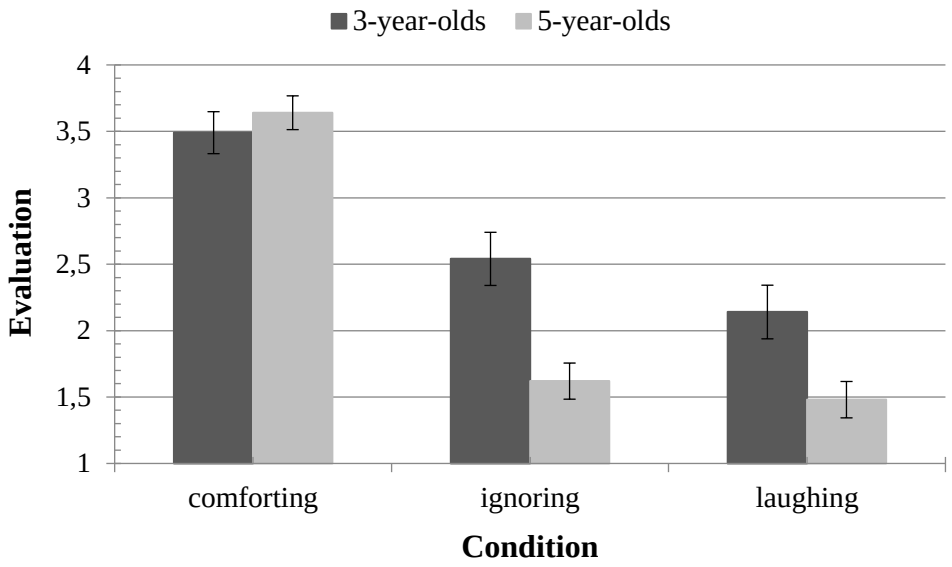


Figure 2. Mean evaluation (1-4) as a function of condition (comforting, ignoring, laughing) and age group (3 year-olds or 5 year-olds). Error bars indicate standard errors of the means.

Evaluation justifications. First, descriptive analyses were conducted for children's evaluation justifications. For each condition (comforting, ignoring and laughing), data were separately analyzed for children who had evaluated the behavior of the puppet positively (i.e. as 'good' or 'very good' on the smiley scale) and children who had evaluated the puppet's behavior negatively (i.e. as 'bad' or 'very bad' on the smiley scale). Table 2 shows the number of children who provided answers from the different categories to justify their evaluations. The numbers show that responses from the categories *normative justification* and *behavior of the protagonist* occurred more often than responses from the category *condition of the injured puppet.* Importantly, the former two categories were mainly used to justify a positive evaluation in the comforting condition and a negative evaluation in the ignoring and laughing condition.

In addition, the justifications of 3- and 5-year-olds were compared across conditions and the valence of evaluations (positive, negative). On a descriptive level, the proportion of answers from the categories *normative justification* and *behavior of the protagonist* is substantially higher in 5-year-olds (*normative justification:* 30.2%; *behavior of the protagonist:* 39.7%) than in 3-year-olds (*normative justification:* 6.3%; *behavior of the protagonist:* 14.4%). In contrast, the proportion of responses from the category *condition of the injured puppet* is roughly the same in both age groups (3-year-olds: 14.4%; 5-year-olds: 12.7%).

Table 2. Evaluation justification: Children's justifications of their evaluation in each condition subdivided according to the valence of their evaluation. A: 3-year-old children. B: 5-year-old children. Note. The numbers in the table give the number (and percentage) of children who provided answers from the different categories.

A. 3-year-olds

	Comforting		***Ignoring***		***Laughing***	
	Positive evaluation	Negative evaluation	Positive evaluation	Negative evaluation	Positive evaluation	Negative evaluation
Normative justification	1 (3.2%)	1 (16.7%)	1 (5.6%)	1 (5.3%)	-	3 (13.0%)
Condition of the injured puppet	5 (16.1%)	-	3 (16.7%)	2 (10.5%)	2 (14.3%)	4 (17.4%)
Behavior of the protagonist	6 (19.4%)	1 (16.7%)	2 (11.1%)	3 (15.8%)	2 (14.3%)	2 (8.7%)
Other responses / no answer	19 (61.3%)	4 (66.7%)	12 (66.7%)	13 (68.4%)	10 (71.4%)	14 (60.9%)

B. 5-year-olds

	Comforting		***Ignoring***		***Laughing***	
	Positive evaluation	Negative evaluation	Positive evaluation	Negative evaluation	Positive evaluation	Negative evaluation
Normative justification	16 (41%)	-	-	8 (21.6%)	1 (20.0%)	13 (35.1%)
Condition of the injured puppet	6 (15.4%)	1 (33.3%)	1 (20.0%)	3 (8.1%)	1 (20.0%)	4 (10.8%)
Behavior of the protagonist	14 (35.9%)	-	1 (20.0%)	18 (48.6%)	1 (20.0%)	16 (43.2%)
Other responses / no answer	3 (7.7%)	2 (66.7%)	3 (60.0%)	8 (21.6%)	2 (40.0%)	4 (10.8%)

One focal test concerned whether we can find evidence that the 5-year-old children treated empathic-responding as normatively good. Indeed, 16 of the 39 children (41%) who evaluated empathic-responding as good or very good justified this evaluation with a

normative justification. In contrast, one of the 31 3-year-old children (3%) who evaluated empathic-responding as good or very good justified this evaluation with a normative justification. This age difference was significant, $\chi^2(1)=13.42$, $p<.001$, showing that 5-year-old children were much more likely to view comforting as normatively good than the 3-year-old children.

Punishment / rewarding

Children's distribution of tasty and disgusting cookies to the puppets in the different conditions was analyzed. A 3 x 2 x 2 x 2 x 2 mixed-model ANOVA with the within subjects factors condition (comforting, ignoring or laughing) and cookie type (tasty or disgusting cookies) and the between subjects factors age group (3-year-olds or 5-year-olds), gender (male or female), and order of conditions was computed on the number of given cookies. The ANOVA revealed a significant main effect of cookie type, $F(1,55) = 16.33$, $p < .001$, $\eta_p^2 = 0.27$. Across age groups, conditions, gender, and order, children allocated more tasty cookies ($M = 1.41$, $SE = 0.07$) than disgusting cookies ($M = 0.85$, $SE = 0.07$). Moreover, there was a main effect of gender, $F(1,55) = 5.07$, $p = .028$, $\eta_p^2 = 0.13$, showing that overall boys gave more cookies than girls, which was further qualified by a gender x order interaction effect, $F(5,55) = 2.70$, $p = .030$, $\eta_p^2 = 0.24$.

To further explore the gender x order interaction effect we conducted a repeated measures ANOVA for each gender with the between-subjects factor order of conditions on the number of given cookies (across cookie types and across conditions) to compare whether male or female participants differentiated between order of presentation in the amount of cookies they gave. The analysis revealed no significant effect of order, neither in girls, $F(5,31) = 0.93$, $p = .475$, $\eta_p^2 = 0.13$, nor in boys, $F(5,36) = 2.36$, $p = .059$, $\eta_p^2 = 0.25$. In sum, our manipulation as reflected in the different conditions (comforting, ignoring, laughing) did not significantly affect participants' allocation of cookies and thus their punishment / rewarding behavior.

During the test trials, we observed that some children also intervened physically. These behaviors involved preventing the protagonist from laughing at the other in the laughing condition (e.g., by hitting him) and preventing the protagonist from further playing in the ignoring condition (e.g., by taking his toys away). Given that physical interventions can be regarded as a specific form of protest or punishment, we exploratorily analyzed them on a descriptive level. We report only descriptives as we had no a priori expectation on the occurrence of this behavior. In the laughing condition the highest number of children

intervened physically (3 [6.3%] of the 3-year-olds; 11 [24.4%] of the 5-year-olds). A few children also intervened in the ignoring condition (1 [2.1%] of the 3-year-olds; 2 [4.4%] of the 5-year-olds). No physical interventions occurred in the comforting condition.

Correlational Analysis Across Measures

We computed two-tailed Pearson correlations to investigate the consistency of children's reactions across measures. As some children had to be excluded from all analyses regarding evaluation and punishment/reward, sample sizes for correlations involving these measures are smaller. Results are presented in Table 3. While children's affirmation did not correlate with any other measure of normativity, children's protest correlated negatively with their evaluation of the behavior and tended to correlate positively with their punishment.

Table 3. Correlations between all variables across conditions. Note. Protest and affirmation scores reflect whether any type of protest or affirmation was present (imperative or normative). Punishment/reward reflect the given number of disgusting/tasty cookies.
$^{+}$ p < .10; * p < .05; ** p < .01; *** p < .001

	Protest (i/n)	**Affirmation (i/n)**	**Evaluation**	**Punishment**
Affirmation (i/n)	-0.08 (*n* = 93)	-	-	-
Evaluation	-0.33*** (*n* = 79)	0.04 (*n* = 79)	-	-
Punishment	0.12+ (*n* = 79)	0.05 (*n* = 79)	-0.22*** (*n* = 79)	-
Reward	-0.08 (*n* = 79)	0.10 (*n* = 79)	0.11^{+} (*n* = 79)	-0.17** (*n* = 79)

2.4 Discussion

The current study examined whether young children conceive of empathic concern and comforting as being a normative reaction towards others in need. In addition, we explored whether this norm develops in the preschool years as hypothesized by Dahl and Paulus (2019). To this end, we confronted 3- and 5-year-old children with three protagonists who showed different reactions toward another agent in emotional need. The protagonists either reacted antisocially by laughing at her, ignored her, or reacted with empathic concern and comforting. Our results revealed clear evidence for the presence of a norm for empathy by

the end of the preschool years. Moreover, we found evidence for a developmental effect: The 3-year-old children reacted most strongly towards the antisocial protagonist while not differentiating between the other two protagonists. Most interestingly, the 5-year-old children protested against the protagonists who either acted antisocially or ignored the needy other while they selectively affirmed the protagonist who showed empathic concern and comforting. Our results provide first evidence for a norm of empathy in young children and demonstrate that it develops in the preschool years.

The current results are in line with a recent theoretical model according to which the development of human altruism proceeds from a behavioral level to a normative level (Dahl & Paulus, 2019). Whereas previous research provided strong evidence that toddlers show empathy towards others in need (e.g., Davidov et al., 2013; Dunfield & Kuhlmeier, 2013; Malti et al., 2009; for review see Eisenberg et al., 2006), it has remained an open question whether and at which age children conceive of empathy-related comforting as being a normative response towards needy others. Dahl and Paulus (2019) proposed that this normative view emerges towards the end of the preschool years. The finding that 5-year-old children actively enforce empathy-related comforting from unrelated third parties supports the claim that young children develop an agent-neutral representation of a norm for empathic concern in the preschool years. Overall, this finding extends previous demonstrations of empathic concern in young children (Davidov et al., 2013) and their consideration of others' needs in their reasoning about prosocial dilemmas (Eisenberg, 1986) by revealing children's normative stance regarding empathy-related comforting.

Notably, our conclusions are based on corroborating evidence from 5-year-old children's selective protest, selective affirmation, as well as their verbal evaluation of the protagonists' actions. More precisely: They selectively protested against a protagonist either laughing at or ignoring another person in emotional need, while they selectively affirmed a protagonist showing empathic behavior. Protest and affirmative behaviors do not merely constitute preferences for or aversion to another person, but constitute indicators of normative stances (e.g., Rakoczy et al., 2016). Moreover, 5-year-old children evaluated empathic behavior positively and laughing as well as ignoring negatively. Importantly, they judged ignoring another person in need just as bad as laughing at this person (while we acknowledge a descriptive trend that responding antisocially resulted in more protest). This indicates that by 5 years, children regard empathy-related comforting not as a supererogatory behavior, but as an obligatory response towards others in need. Thus, our pattern of results

suggest that by the end of the preschool years, preschool children have developed a norm for empathic responding to others in need.

Interestingly, however, there was no selective allocation of tasty and disgusting cookies, that is, punishment and rewarding behavior. This could indicate that while children assume empathy-related comforting as being normative and selectively enforce it, they do not perceive its obligation as worthy of punishment. This interpretation relates to our suggestion that prosocial norms come with different levels of obligation. Yet, our observations of children's physical interventions seem to speak against this interpretation. On the other hand, it could also mean that the distribution of disgusting cookies – although successfully employed in previous research (e.g. Kenward & Östh, 2012) – might not be a sensitive measure for children's punishment behavior, or that punishment cannot be reliably observed at this age (McAuliffe et al., 2015). Indeed, other studies on fairness development used the withholding of resources (McAuliffe et al., 2015) or withdrawal of resources (Salali et al., 2015) to assess punishment behavior in young children, and we thus cannot exclude the possibility that we could have obtained different results when employing other measures. Future research is necessary to examine in greater detail whether and under which circumstances young children actively punish third parties.

While we found corroborating evidence for the presence of a norm for empathy in 5-year-old children, this was not the case for 3-year-olds. They selectively protested against the protagonist laughing at the needy other. This suggests that by 3 years, children conceive of Schadenfreude (i.e. gloating) as a morally problematic behavior. That is, they demonstrate an understanding that laughing at someone else's misfortunate is an inadequate response. The fact that young preschoolers protested against this behavior is in line with research demonstrating that moral norms on the omission of antisocial behavior are judged to be obligatory from early on (Dahl & Freda, 2017). Moreover, 3-year-olds did not show evidence for a selective enforcement of empathy-related comforting. If anything, there was only a statistical trend in the differentiation between laughing and ignoring. Yet, it should be noted that the 3-year-old children evaluated comforting behavior more favorably than ignoring behavior – which was rated mid-scale, however. With respect to 3-year-old children, this might suggest an emerging view that comforting is good, which is however not yet fully normatively reflected.

It should be noted that our conditions included a protagonist who acted antisocially (laughing condition) and a protagonist who kept playing (ignoring condition). Thus, in both conditions the protagonists did not engage in collaborative behavior. In contrast, in the

comforting condition the protagonist behaved collaboratively by engaging in empathy-based responding. Indeed, developmental theories have conceptualized empathic responding as being a prototype of collaborative behavior (Tomasello, 2009; Warneken, 2018). It would thus be interesting to explore whether any type of collaborative behavior would lead to the same effect. That is, do children have a more general norm for collaboration or is the norm specific for empathy-based responding? We have to leave it to future research to examine this issue. Yet, we also recognize a conceptual difficulty as many types of interactive behavior can be regarded as comforting behavior. For example, one could think of a situation in which the protagonist starts an interaction with the injured other and invites him to a collaborative activity. One might think that this would be a paradigmatic case for a collaboration without empathy-based responding. Yet, one would need to be aware that distraction could have the same motivation and is next to emotional support regarded as helpful in distressing situations (Burleson & Goldsmith, 1996). This is particularly the case when the problem likely dissolves by itself, which would be the case for temporary pain. Also 5-year-old children suggest distraction as a strategy to cheer up a sad child (McCoy & Masters, 1985). It remains thus an open question how far the different types of collaborative interactions in a situation of distress are clearly separable from comforting behavior.

Overall, the pattern of results suggests that a norm for empathy develops in the course of the preschool years. It remains a task for future research to investigate the psychological processes that lead to the emergence of a norm for empathy in preschool children. Here, we suggest three not mutually exclusive factors. First, if one assumes that norms emerge through the experiences of differential social feedback by parents and other caregivers (e.g., Dahl & Campos, 2013; Dahl & Freda, 2017), one could hypothesize that caregivers' feedback to unfulfilled empathy-related responding to others give rise to the emergence of a norm for empathy. Given that the violation of negative duties (e.g., not to harm others) can be seen as worse than the violation of positive duties (e.g., be helpful to others) (Belliotti, 1981; Lichtenberg, 2010), this could explain the finding that by 3 years children have a normative stance against antisocial behavior, whereas only 5-year-old children selectively enforced a prosocial norm. Second, it is possible that interactions with peers play a role in the emergence of this normative stance. In particular, with increasing age and stable peer relationships, children might start demanding support and relief also from their peers. The experience of asking others for aid and of being asked for support, that is the negotiation of adequate support in peer relationships (cf. Carpendale et al., 2013; Carpendale & Lewis, 2004), might also contribute to the emergence of a norm for empathy. Third, children's

normative development could be driven by both internal and external factors. On the one hand, children acquire internalized views on how others ought to behave. On the other hand, they understand what others expect from them and their normative utterances might therefore also include concerns about their own reputation and, in the current study, their wish to appear caring (cf. Silver & Shaw, 2018). Both mechanisms could give rise to the development of a norm for empathy and could differently impact the different measures in our study. We have to leave it to future research to investigate these possibilities in greater detail.

Our investigation adds to debates on the relation between empathic concern and human morality that has been intensely disputed across a variety of scientific disciplines (e.g., Betzler, 2019; Decety & Cowell, 2014; Prinz, 2011; Slote, 2007). The results demonstrate that children do not perceive empathic concern for others in need and empathy-related comforting as constituting only a voluntary skill (e.g., Battaly, 2011), but rather being a normatively required response towards others in need. That is, our results suggest that children do regard empathy-related comforting as being normative. Yet, we do not want to imply that we continuously expect others to comfort people in need. In real life, there are many factors that play a role and that shape our expectations. These factors include the extent to which help is needed, the evaluation whether someone is actually able to help, or cost-benefit considerations. Moreover, we continuously balance different normative claims and entitlements that can partly be in conflict with each other. In line with this point, the decision to act on such a norm and to, for example, engage in normative protest will be affected by many considerations, inter alia the expectation that one's protest has any effect on the other person or the fear of retaliation by others. A norm for empathy-based reactions might merely be one aspect that plays a role in our behavior and this is part of a more complex moral world.

Notwithstanding the insights gained from this study, it has also some limitations and leaves us with open questions. First, in line with other studies on online protest and affirmation behavior (e.g., Rakoczy et al., 2016; Wörle & Paulus, 2018) we used a warm-up phase in order to familiarize children with the set-up and to demonstrate that they are allowed to intervene and comment on the protagonist. This part of the protocol biases children in favor of displaying protest. Although this cannot explain the differences between conditions, it should be considered when interpreting our findings. Second, following Vaish and colleagues (2011), we relied on a stepwise procedure that included verbal announcement of behavioral intentions in order to clarify the puppets' behavior, to give children enough time

to react, and in order to demonstrate the intentionality of the puppets' actions. This might have facilitated the occurrence of protest and affirmative comments compared to real life contexts in which violations of norms often happen without previous verbal announcements. Third, although our results provide some evidence that children view prosocial responding as good and normative (e.g., in their protest behavior and their evaluations), we did not find evidence that they punished those who did not engage in it. It would be interesting to examine, whether and under which circumstances prosocial behavior becomes such an obligatory response that its omission is punished. Fourth, in line with previous research on normative understanding (Rakoczy et al., 2016; Vaish et al., 2011; Wörle & Paulus, 2018), the current study relied on puppets as protagonists in order to lower the hurdle to protest for children and in order to standardize the situations. It would thus be interesting to explore, how these results relate to interactions with humans. Finally, it would be interesting to examine whether or not there are any interrelations between children's own empathic responsiveness to needy others and their evaluation of a third party's response towards needy others. One suggestive hypothesis is that the extent of children's own emotional responsiveness towards others in pain relates to their evaluation of a third party's behavior.

Taken together, the role of empathic concern in human moral functioning has been a topic of vivid debate for millennia. In contrast to normative views that do not consider empathic concern to be an aspect of morality, the current study demonstrates that preschool children regard empathy-related comforting to be a normative response towards others in need.

3 Study 2:

The normative status of friendship: Do young children enforce sharing with friends and appreciate reasonable partiality?

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Abstract

Contemporary moral philosophy stresses the idea of reasonable partiality. This concept proposes that close relationships carry a moral obligation to be partial towards another person. This study explored in two experiments whether 4- to 6-year-old children (*n*=185) enforce partiality from third parties (Experiment 1) and how they prioritize a norm of equality and a norm of partiality (Experiment 2). Children were presented with protagonists who could distribute resources between a friend and a disliked peer. One protagonist complied with a norm of partiality by allocating more resources to his friend, whereas the other protagonist either behaved in the opposite way (Experiment 1) or distributed resources equally (Experiment 2). In Experiment 1, children enforced partiality by protesting against the protagonist who gave more to the disliked peer and by selectively affirming the protagonist who gave more to a friend. Yet, in Experiment 2 children showed stronger enforcement of a norm of equal sharing than partiality towards a friend. The study demonstrates how young children deal with moral demands in the context of friendship. At the same time, it suggests that fairness norms are given priority. Overall, our study demonstrates how young children handle normative demands and interpersonal responsibilities.

3.1 Introduction

A central principle of modern ethics is impartiality. With the increased focus on the individual in renaissance and enlightenment came the notion that every person should be treated in the same manner. This influential principle is exemplified in statements such as ‘all are equal before the law’ (Universal Declaration of Human Rights). Thus, the principle of impartiality describes the demand that no one should be given advantage in morally relevant contexts. This principle plays a central role in many major theoretical schools of classical moral philosophy (e.g., Kant, 1785/1959; Rawls, 1971).

Notwithstanding the undisputed role of impartiality for the maintenance of modern societies, recent developments in ethical theorizing have stressed the notion that particular human relationships carry special moral obligations with them that can be described as reasonable partiality (e.g., Feltham & Cottingham, 2010; Keller, 2013; Scheffler, 2010). It is assumed that there are good reasons, even a normative obligation for being partial towards close others (Betzler, 2014). In particular, against the notion that we should treat every person in the same manner, it has been argued that friendships cannot be realized without a particular level of partiality (Jollimore, 2000). The reciprocal nature of friendship and the

special role of friends for human development might give good reasons to be partial. These philosophical reflections can be related to everyday experiences. For example, if being asked by a complete stranger to help them moving to a new flat, most likely we would be surprised by this request and would be hesitating to do so. In contrast, when being asked by a close friend, we would feel a commitment to help or, at least, give a good reason why we would not be able to do so. Taken together, there are good reasons to entertain the hypothesis that a full appreciation of friendship requires the recognition of the norm that one is, to a certain extent, obligated to favor a friend.

Although there seem to be good ethical reasons to be partial towards a friend, it is unclear to which extent this viewpoint is actually shared in everyday normative reasoning and how it develops. In other words: Do people think that one *ought* to prefer a friend or do they enforce a strict norm of impartiality? The current study was designed to assess whether reasonable partiality is an aspect of laypersons' normative reasoning and, in particular, whether such an appreciation is already present in early childhood when normative stances emerge (e.g., Carpendale et al., 2013; Damon, 1977; Killen & Smetana, 2015; Turiel, 2010). We define normative stances as views on what someone ought to do or should not do (e.g., Paulus, 2020). This encompasses a broad conception of normativity. We appreciate that a differentiation in moral and conventional norms is meaningful (e.g., Turiel, 2010) and represents an important dimension between the context-dependency and unconditional validity of normative views. This study explores how children's reasoning about partiality towards friends is situated within this dimension.

Empirical research shows that social relationships affect young children's own generosity when sharing with others (e.g., Birch & Billman, 1986; Fehr et al., 2008; Moore, 2009) and that preschool children also expect others to share more with close than with distant others (e.g., McGillicuddy-De Lisi et al., 1994; Mills & Grant, 2009; Olson & Spelke, 2008). In particular, by 3-4 years children are more generous towards friends and also expect others to be more generous towards friends than towards disliked others (nonfriends), even though both persons are members of the child's in-group (Paulus & Moore, 2014). They even tend to give more to a rich friend than to a poor nonfriend (Paulus, 2016), indicating that social relations are given priority over equality in their sharing. Moreover, preschool children infer others' friendship status based on partial resource allocations (Liberman & Shaw, 2017) and, by school age, based on sharing secrets (Liberman & Shaw, 2018).

Research with older children and adults has examined whether and to which extent personal relationships carry obligations with them. It has been shown that by adolescence

friendship becomes an important value (for review see Keller et al., 2005). For example, when faced with a sociomoral dilemma in which a protagonist could either keep a promise to a friend or engage in an interesting activity with another person, adolescents recognize the obligation to keep one's promise towards a friend and predict negative feelings when violating the obligation (Keller et al., 1998). Yet, other studies found less conclusive evidence for the presence of normative obligations in social relationships. Miller and Bersoff (1992) assessed Northern American and Indian children's and adults' responses to moral vignettes that depicted conflicts between interpersonal and fairness issues. They found that the majority of American participants favored the justice obligations, whereas Indian participants gave priority to interpersonal relationships. The few American participants who also gave priority to interpersonal relationships justified their decision by reference to personal motivation and not by reference to normative obligations. Moreover, it has been shown that children and adults from India, but not from Northern America regard a failure to help a friend as a violation of a moral norm (Miller et al., 1990). Taken together, these findings provide some evidence that children expect others to share more with friends than nonfriends and that adolescents recognize the obligations that come with their commitments to friends. While these results point to the role that friendships play in childhood and adolescence, the evidence for a norm of partiality is not conclusive. It remains an open question whether humans and, in particular, already young children, adhere to the principle of reasonable partiality, that is, the norm that one ought to prefer a friend over a nonfriend. In other words, whereas previous research showed that young children prefer to give more to friend than a nonfriend and predict that others will do so as well, it is not clear whether they have a normative stance that one *should* prefer a friend.

Notably, recent work has shown that preschool children show an awareness of social norms and actively enforce social norms in others (Schmidt & Tomasello, 2012). They spontaneously protest against unfair resource distributions and show affirmative behavior when norms are obeyed (Rakoczy et al., 2016; Wörle & Paulus, 2018). Moreover, young children evaluate wrongdoers negatively (Killen et al., 2011) and even punish third-parties in order to enforce norm-compliant behavior (Kenward & Östh, 2015; McAuliffe et al., 2015). The inclination to spontaneously enforce moral norms even by third parties demonstrates the presence of strong normative commitments in preschool children (cf. Tomasello, 2009; Turiel, 2010). Previous research has focused on aspects of impartiality (e.g., Rakoczy et al., 2016; Wörle & Paulus, 2018) and its interaction with intergroup contexts (Cooley & Killen, 2015; McAuliffe & Dunham, 2016). This line of research has

shown that equality is the dominant fairness principle for young children (e.g., Elenbaas, 2019).

Yet, so far no research has explored to which extent children consider a norm of partiality. Indeed, notwithstanding preschool children's strong focus on equality, they do favor their rich friends (over poor others) when it comes to actual sharing behavior (Paulus, 2016). Given the strong theoretical claims on the role of partiality in human social life (Betzler, 2014; Jollimore, 2000; Keller, 2013) and the findings that preschoolers rather favor their friends in sharing contexts than sharing equally, this study investigated whether or not a norm to be partial towards friends emerges in early childhood.

That is, the current study was designed to examine whether children hold the normative view that one should be partial towards friends in two experiments. We relied on well-established measures of normative stances in preschool children, that is, an assessment of spontaneous protest and affirmation (Rakoczy et al., 2016; Wörle & Paulus, 2018), explicit judgment and reasoning (Killen et al., 2011), as well as reward and punishment (McAuliffe et al., 2015). In Experiment 1 we presented young children with two scenarios in which a protagonist could distribute resources between a friend and a nonfriend. In one scenario, the protagonist showed partiality towards the friend, whereas in the other scenario the protagonist preferred the nonfriend. Given previous findings that children expect others to share more with friends than nonfriends by the end of the fourth year of life (Paulus & Moore, 2014), we decided to examine children at 4 years and older. We assessed whether children would show spontaneous protest and affirmation during the protagonists' resource distribution. In addition, we examined children's explicit evaluation of the protagonists' behavior and their reasoning about whether the observed behavior was good or bad. Finally, children were presented with the possibility to reward and punish the protagonists. Given longstanding claims that young children strongly endorse equality (e.g., Damon, 1977; Elenbaas, 2019), Experiment 2 examined whether children give priority to a norm of equal sharing or to a norm of partiality, that is, to give more to a friend. To this end, we directly compared children's reactions to a protagonist who shared resources equally with reactions to a protagonist who favored a friend.

With respect to Experiment 1, we tested the following hypotheses. If children appreciate the idea that one ought to show reasonable partiality towards a friend, we would expect them in Experiment 1 to not only evaluate the agent who preferred a disliked other over a friend more negatively, but to also show selective protest against the norm violator and selective affirmation towards the protagonist who follows the norm. Yet, if children

strictly follow a norm of impartiality, they should demonstrate high levels of protest and low levels of affirmation against both protagonists as neither of them distributed resources equally.

3.2 Experiment 1

3.2.1 Method

Participants

The final sample included 103 children with a mean age of 63.88 months (*SD* = 7.69, range = 48 – 82 months; 53 female). Five additional children were tested but excluded from the final sample due to experimental mistake (*n* = 3), insufficient language understanding (*n* = 1), or the loss of attention during the task (*n* = 1). Another 16 additionally tested children had to be excluded because they failed to respond correctly to relevant check questions (see Experimental Design and Procedure). All participants were typically developing children from daycare centers located around Munich (Germany). Children's caregivers gave written informed consent for participation.

Materials

Two 65 cm tall hand puppets (Living Puppets) which were played by the experimenter acted as protagonists in two resource allocation scenarios (henceforth: two conditions). The puppets were counterbalanced between conditions. Recipients were represented by pictures of four other puppets (two recipients per condition, counterbalanced between conditions). All puppets differed in their clothing and hair color.

A ball, two puzzles, paper and pencils, and a wind-up toy were used for the warm-up trials. Erasers and stickers served as items to distribute (one type of item per condition, counterbalanced between conditions). The recipients' different friendship statuses were introduced by pictures of a thumbs-up (friend, F) or thumbs-down (nonfriend, NF) symbol. Both recipients received envelopes to store their items.

Tasty (colorful) cookies and disgusting (plain green) cookies were used for the punishment/reward phase (cf. Wörle & Paulus, 2018). For the evaluation phase, a 4-point smiley scale was used (cf. Killen et al., 2011).

Experimental Design and Procedure

All participants were tested individually in a quiet room. Experimental sessions were videotaped. Each session started with three warm-up trials. After that, two conditions were

enacted. In one condition, the protagonist consistently favored the friend (*F-more Puppet*) whereas in the other condition, the protagonist consistently favored the nonfriend (*NF-more Puppet*). All participants were exposed to both conditions, the order of presentation was counterbalanced between participants. After they have seen both conditions, participants could punish or reward the protagonists and were asked to evaluate their behavior. A description of each phase in more detail is given below.

Warm-Up Trials. The experimenter introduced the protagonist puppets by their names and each of them played ball with the participant. Two out of three warm-up trials were administered with each puppet including an instrumental mistake of the puppet to accustom the participants to protest: 1. The puppet placed a puzzle piece incorrectly. 2. The puppet used a broken pencil for drawing a picture. 3. The puppet moved a wind-up toy by hand. If participants did not intervene spontaneously, the experimenter asked the child whether the puppet was making a mistake and encouraged him/her to correct the puppet.

Resource allocation scenarios. Two conditions were enacted. In each scenario, two recipients were introduced by showing a picture of them. Both were told to go to the same preschool as the protagonist. One was introduced as the best friend (F), who spends much time and often plays together with the protagonist. The other recipient was introduced as someone the protagonist does not like (NF), who is no friend and does not play together with the protagonist. A thumbs-up (F) and thumbs-down (NF) symbol were used to introduce the friendship status. The experimenter explained that both recipients like stickers or erasers (that is, the respective resource of the upcoming allocation scenario). Incorrect answers to check questions about who the protagonist does (not) like served as an exclusion criterion for the final sample.

Each resource allocation scenario was composed of two trials that were presented in a fixed order. In the first trial, the protagonist distributed five items between the recipients (one receiving one item, the other receiving four items). In the second trial, the protagonist puppet distributed another three items between the recipients (one receiving zero items, the other receiving three items). Across trials, the same recipient (F/NF) was favored by the protagonist: the friend in the F-more condition, the nonfriend in the NF-more condition. The allocation procedure followed a standardized scheme of three steps with pauses of 5 seconds in between, to offer some time to the participants to intervene. First, the protagonist puppet expressed her intended distribution verbally. Second, she repeated the distribution and indicated it by moving the respective amount of items in the direction of the recipients. Third,

the protagonist allocated the items one by one to the recipients, vocalizing her action. After the first condition was finished, the second condition was presented.

After both allocation scenarios were completed, final check questions tested whether participants were still aware of the social relationships (friend and nonfriend of the protagonists) and the allocation decisions of the protagonists. Incorrect answers about the resource allocations served as an exclusion criterion for all analyses. Nine children who answered the relationship question for the nonfriend incorrectly but were correct in recognizing the friendship relation, were included in the final sample. Exploratively excluding these children did not change the pattern of results.

Punishment/reward phase. The experimenter introduced a bowl filled with different types of cookies, tried one of each type and highlighted the different tastes by verbal comments and matching facial expressions. Participants' understanding regarding the different cookie types was tested and they were corrected in case of mistakes. From the remaining six cookies (three of each type), participants could allocate as many as they wanted to the protagonists. They could also leave cookies in the bowl if they wanted to. The instructions were: "You can now distribute cookies between Tim and Max. You can distribute some cookies to Tim and some cookies to Max and you can leave some in the bowl. You don't have to distribute all cookies, but you can distribute them. You can decide."

Evaluation phase. Participants were introduced to a 4-point smiley scale ranging from *very bad* to *very good*. First, they made a dichotomous choice whether the behavior of each protagonist was good or bad. For a more fine-grained answer, the behavior was additionally rated on the smiley scale and participants were asked to justify their evaluation. Finally, participants judged whether the protagonists should have done something different and if so, what they should have done (cf. Wörle & Paulus, 2018).

Coding and Data Analysis

Resource allocation scenarios. In a first step, participants' verbal reactions during both trials (5 items and 3 items) of each scenario were transcribed from the videotapes. The critical phase for registering utterances started when the protagonist puppet received the items to allocate and ended when all items have been placed on the recipients' envelopes. Comments were included in the analysis until the next trial started. Overall, 54 out of 103 children (52%) protested or affirmed in at least one of the trials. Second, the verbal reactions were categorized into protest and affirmation according to their valence. Differentiating between these types of normative responses is informative as protest rather shows what

should not be done (that is, it indicates the violation of a norm), whereas affirmation clarifies what precisely should be done (that is, it indicates the adherence to a particular norm). Third, following previous studies (e.g., Rakoczy et al., 2008; Wörle & Paulus, 2018), protest and affirmation were coded following different categories that reflect increasing indicators of normativity and that are explained in greater detail in the following paragraph. Overall, four categories from *no protest/affirmation* to *normative protest/affirmation* were distinguished. In case of multiple utterances within one response phase, the qualitatively highest category was assigned.

No protest/affirmation was assigned if the participant did not show any verbal reaction that was related to the situation. E*xpectation-related protest/affirmation* (e) was assigned for comments expressing a violation of expectations (e.g. "Why?" for protest) or indicating that the observer's expectations were met (e.g. "Yes, because they are friends." for affirmation). Expectations about behaviors are suggested to constitute a basis for normativity. They allow to evaluate a behavior with regard to how people usually behave. As they do not directly enforce behavior on others, they are only weak indicators for normativity. The category *imperative protest/affirmation* (i) was assigned for comments that expressed disapproval (e.g. "Why not give him more?" for protest) or reinforcement of the protagonist's behavior(e.g. "Yes, do it like that!" for affirmation). These comments demonstrate an underlying conviction of how things ought to be done and an enforcement of these convictions on others. Yet, as they do not contain normative vocabulary, they are regarded as a weaker indicator than explicit normative statements. *Normative protest/affirmation* (n) applied to utterances including normative vocabulary (e.g. "This is unfair!" for protest or "This is very good!" for affirmation). The normative category also included comments expressing an emotional reaction to the observed behavior that indicates an evaluation, by showing moral outrage (e.g. "What's the point of that?" for protest) or enthusiasm (e.g. "Cool!" for affirmation). Using normative vocabulary presents direct evidence of an underlying normative stance, thus resulting in the highest category of normative protest/affirmation. Notably, we included emotional reactions as emotions are suggested to indicate the existence of personal norms (Montada, 1993). Empirical studies revealed that emotions such as anger, as a form of moral outrage, play an important role in norm-enforcing behavior (Fehr & Fischbacher, 2004; Jordan et al., 2016) and are thus indicators of normative evaluation of observed behavior. A second independent observer coded a random sample of 25% of all sessions to assure interrater reliability. For the

categorization of verbal protest/affirmation, Cohen's kappa indicated almost perfect interrater agreement for protest, $\kappa = .85$, and affirmation, $\kappa = .87$.

Two variants of protest/affirmation scores were computed (cf. Wörle & Paulus, 2018). The more liberal protest (e/i/n) and affirmation (e/i/n) scores reflect the number of trials (out of 2) in which any form of protest/affirmation (expectation-related, imperative, or normative) occurred. The more conservative protest (i/n) and affirmation (i/n) scores indicate the number of trials which included either imperative or normative protest/affirmation.

Punishment/reward phase. The number of disgusting cookies out of 3 given to each protagonist puppet (F-more, NF-more) was recorded as punishment. Accordingly, the number of tasty cookies out of 3 given to each protagonist puppet represented the measure of reward.

Evaluation phase. The rating of each protagonist's behavior on the smiley scale received a code from 1 (*very bad*) to 4 (*very good*).

The justification of the evaluation was categorized into four categories that considered reasoning about the procedural justice (e.g., equal sharing) and the relationship between the protagonists. *Procedural-based* responses focused only on the allocation of resources itself (e.g. "Because he gave many stickers to him and only few to him."). If the response was referring to the status of the friendship or nonfriendship (e.g. "Because they are friends."), it was categorized as *relationship-based*. All justifications taking into account both the distribution procedure and the friendship status were categorized as *procedural- and relationship-based* (e.g. "Because he gave more to his friend."). Replies that did not relate to these categories were classified as *other responses*.

The replies about whether the puppets should have done something different were first coded as Yes or No. In case of "yes", specifications about what should have been done differently were classified into four categories. Comments demanding to give an equal amount of items to both recipients were coded as *equal distribution*. Suggestions to favor the same recipient as the puppet did, but in a more extreme manner, were coded as *more extreme inequality*. Correspondingly, suggestions to favor the same recipient but in a less extreme manner were coded as *less extreme inequality*. Replies that suggested to favor the other recipient than the puppet did were classified as *reversed inequality*. All replies that did not relate to these categories were coded as *other responses*.

Interrater reliability for the evaluation justifications was almost perfect as computed by Cohen's kappa, with $\kappa = 0.89$. For the statements about what the puppets should have done differently, interrater reliability was almost perfect as well, with $\kappa = .87$.

3.2.2 Results

Paired sample two-tailed *t*-tests were computed to assess whether the participant's protest/affirmation, their punishment/reward, and their evaluation behavior differed between the F-more and the NF-more Puppet. Analyses of Variance (ANOVA) were additionally applied to investigate punishment/reward of the different puppets. Pearson's chi-squared tests were computed to investigate the independence of evaluation justifications from evaluation's valence and the frequencies of alternative suggestions. Pearson correlation analyses completed the analyses by investigating the association of significant measures with age.

Preliminary ANOVAs revealed comparable protest and affirmation on the different trial types (5 items, 3 items). This factor is thus not further discussed in the subsequent section. Likewise for gender (male, female), preliminary analyses did not yield differences in any form of protest/affirmation (e/i/n, i/n), punishment/reward, and evaluation. Consequently, the factor is dropped from subsequent analyses. Preliminary ANOVAs revealed an order effect on protest (e/i/n), $F(1,101) = 5.34$, $p = .023$, with generally more protest when the F-more Puppet was presented first. Likewise, order of presentation had an effect on protest (i/n), $F(1,101) = 4.18$, $p = .044$. Furthermore, preliminary analyses yielded an order effect on punishment, $F(1,101) = 3.99$, $p = .049$, with generally more punishment when the F-more Puppet was presented first. No order effects were revealed for affirmation (e/i/n, i/n), reward, and evaluation.

Protest during resource allocation

Figure 3A shows the mean number of trials in which participants showed some form of protest toward the F-more Puppet and the NF-more Puppet. Regarding the mean number of trials comprising any form of protest (e/i/n), participants showed more protest towards the NF-more Puppet ($M = 0.53$, $SD = 0.75$) than to the F-more Puppet ($M = 0.09$, $SD = 0.32$), $t(102) = 6.26$, $p < .001$, $d = 0.763$. Similarly for the occurrence of only imperative or normative protest (i/n), participants protested more towards the NF-more Puppet ($M = 0.25$, $SD = 0.59$) than to the F-more Puppet ($M = 0.06$, $SD = 0.27$), $t(102) = 3.31$, $p < .001$, $d = 0.414$. Importantly, the effects of puppet and order did not interact, $F(1,101) = 0.77$, $p = .383$ for protest (e/i/n) and $F(1,101) = 0.13$, $p = .718$ for protest (i/n). Thus, the difference in

protest against the two puppets was comparable across both orders of conditions. Neither selective protest (e/i/n), $r(101) = .16$, $p = .117$, nor selective protest (i/n), $r(101) = .20$, $p = .054$, against the NF-more Puppet was significantly correlated with age (based on a difference score of protest towards the NF-puppet minus the F-puppet).

Affirmation during resource allocation

Figure 3B shows the mean number of trials in which participants showed some form of affirmation toward the F-more Puppet and the NF-more Puppet. Overall, children showed more affirmation (e/i/n) towards the F-more Puppet ($M = 0.50$, $SD = 0.80$) than towards the NF-more Puppet ($M = 0.16$, $SD = 0.48$), $t(102) = 5.20$, $p < .001$, $d = 0.514$. Considering only imperative and normative affirmation, participants still expressed more affirmation (i/n) towards the F-more Puppet ($M = 0.41$, $SD = 0.76$) than towards the NF-more Puppet ($M = 0.15$, $SD = 0.47$), $t(102) = 4.36$, $p < .001$, $d = 0.411$. Importantly, the difference in affirmation against the two puppets was comparable across both orders, since puppet and order did not interact, $F(1,101) = 0.11$, $p = .736$ for affirmation (e/i/n) and $F(1,101) = 0.01$, $p = .906$ for affirmation (i/n). Neither selective affirmation (e/i/n), $r(101) = -.03$, $p = .777$, nor selective affirmation (i/n), $r(101) = -.07$, $p = .496$, of the F-more Puppet was significantly correlated with age (based on a difference score of affirmation towards the NF-puppet minus the F-puppet).

In order to examine whether the results were driven by our coding of emotional reactions as indicators for normative stances, we rerun the analyses without including these reactions. Notably, the results of the differences in protest and affirmation between conditions stayed the same.

Taken together, children consistently showed more affirmation towards the puppet favoring the friend irrespective of which measure was taken into account. In line with this, children consistently protested more against the puppet favoring the nonfriend, as hypothesized.

Punishment and Reward

Participants distributed in general more tasty cookies than disgusting cookies, $F(1,102) = 15.47$, $p < .001$, $\eta 2 = .132$. This was the case for the F-more Puppet (tasty: $M = 1.23$, $SE = 0.08$; disgusting: $M = 0.94$, $SE = 0.09$) as well as for the NF-more Puppet (tasty: $M = 1.16$, $SE = 0.08$; disgusting: $M = 0.97$, $SE = 0.09$). However, the lack of a main effect of Puppet (F-more, NF-more), $F(1,102) = 0.31$, $p = .581$, and interaction, $F(1,102) = 0.16$, $p = .687$,

points towards the fact that participants did not differentiate between the two puppets in their punishment and reward behavior.

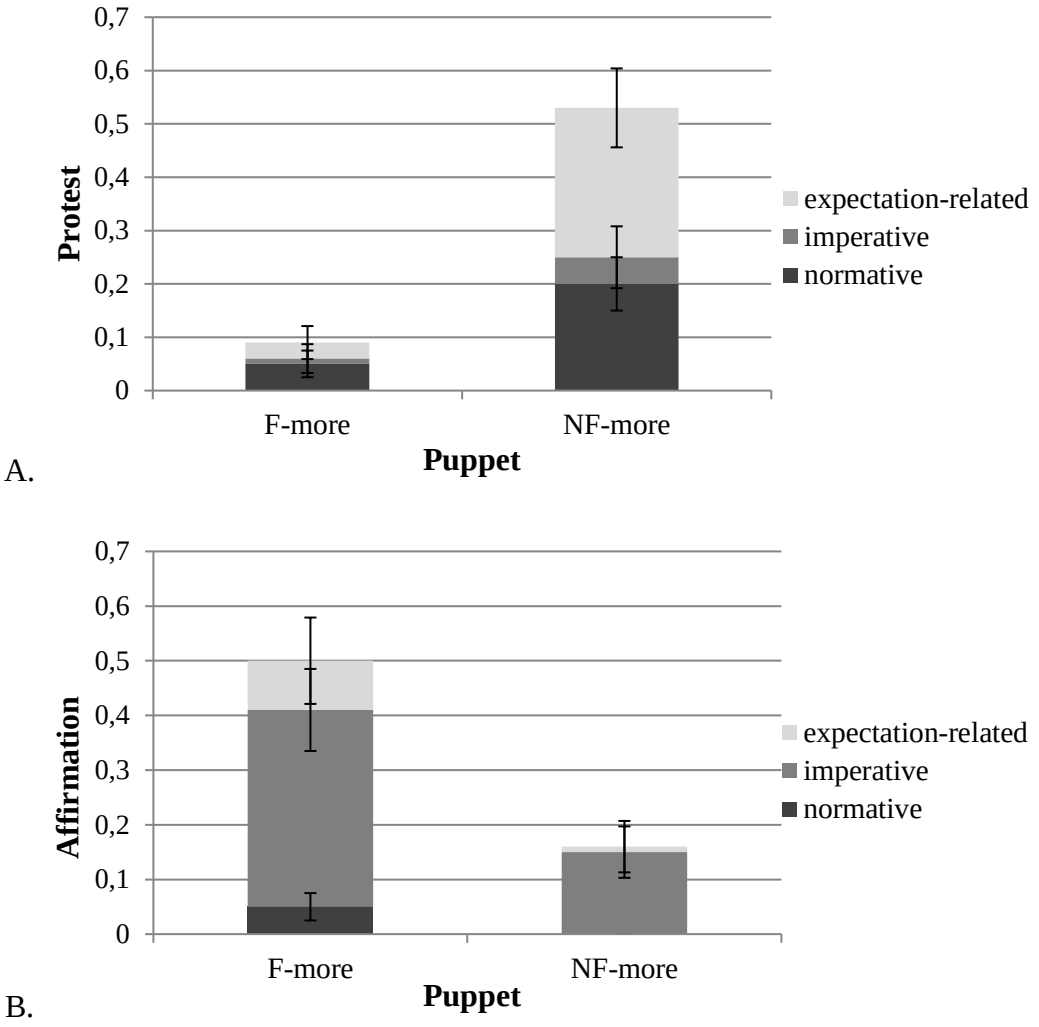

Figure 3. Mean number of trials (out of 2) in which participants showed any form protest/affirmation (expection-related, imperative, normative) as a function of Puppet (F-more, NF-more). Error bars indicate the standard errors. A: Protest. B: Affirmation.

Evaluations

Evaluations as measured on the 4-point smiley scale differed significantly between the two puppets, $t(101) = 5.58$, $p < .001$, $d = 0.75$. As predicted, children evaluated the behavior of the puppet favoring her friend better ($M = 3.19$, $SE = 0.11$) as compared to the puppet who distributed more to the nonfriend ($M = 2.25$, $SE = 0.13$). Children's evaluation of the F-more puppet was above average (2.5 on the 4-point scale), $t(101) = 6.12$, $p < .001$, whereas their evaluation of the NF-more puppet was around the midpoint of the scale, $t(102) = -1.87$, $p = .064$. See Figure 5 for an overview.

For the justifications of their evaluations, participants were divided into groups of children who evaluated the puppets' behavior positively (*very good* or *good* on the smiley scale) or negatively (*very bad* or *bad* on the smiley scale). For the F-more Puppet, 79 participants (76.7%) expressed a positive evaluation of the distribution behavior and 23 participants (22.3%) evaluated the behavior negatively. This distribution differed from chance, $\chi^2(1, N = 102) = 30.75$, $p < .001$. The NF-more Puppet's behavior was evaluated positively by 42 participants (40.8%) and negatively by 61 participants (59.2%). This distribution did not differ from chance, $\chi^2(1, N = 103) = 3.50$, $p = .061$. The frequencies of justifications for the positive or negative evaluations are depicted in Table 4. In order to investigate the relation between justifications and evaluation's valence, both categories focusing on the relationship (*relationship-based* and *procedure- and relationship-based* justifications) were grouped together and contrasted against *procedure-based* justifications. The proportion of justifications was different depending on the evaluation's valence for both the F-more Puppet, $\chi^2(1, N = 58) = 10.77$, $p = .001$, and the NF-more Puppet, $\chi^2(1, N = 67) = 7.78$, $p = .005$. In particular, when the behavior of the F-more Puppet was evaluated negatively, more children than expected used procedure-based justifications ($p = .026$). When this behavior was evaluated positively, there was a tendency that children rather used relationship- or procedure-and relationship-based justifications ($p = .082$). When the behavior of the NF-more Puppet was evaluated positively, there was a tendency that children justified the behavior based on the procedure ($p = .078$).

When asked about whether the F-more Puppet should have done something differently, 42 participants (40.8%) replied with "yes", 59 participants (57.3%) with "no", and 2 children gave no answer. Thinking about whether the NF-more Puppet should have done something differently, 80 participants (77.7%) answered "yes", 22 participants (21.4%) "no", and 1 child gave no answer. For the children who answered "yes", the frequencies of the suggestions what the puppets should have done are displayed in Table 5. The frequencies of the strategies (*equal distribution, reversed inequality, more/less extreme inequality* combined as *inequality*) were investigated for both puppets. For the F-more Puppet, most participants did not specify an alternative suggestion but the strategy most often used among the remaining children was *equal distribution*, χ^2 $(2, N = 14) = 7.00$, $p = .030$. For the NF-more Puppet, *reversed inequality* was mainly suggested, χ^2 $(2, N = 42) = 27.57$, $p < .001$. The difference score, reflecting the degree to which the F-more Puppet was evaluated more positively, was not significantly associated with age, $r(100) = .16$, $p = .114$.

In order to investigate whether children focused mainly on giving more to a friend, giving less to a nonfriend, or both, we additionally coded the *relationship-based* and *procedure- and relationship-based* justifications of children who evaluated the puppets in line with our hypotheses (i.e. positive evaluation of F-more Puppet and negative evaluation of NF-more Puppet). Across both puppets, 20 justifications addressed only the friend (e.g. "Because he gave more to his friend."), 8 addressed only the nonfriend (e.g. "Because he is not his friend."), and 36 addressed both recipients (e.g. "Because his best friend got many and his not-best friend got one."). That is, about 88% of these justifications addressed the friend and 69% the nonfriend. As computed by a McNemar's test with continuity correction, more justifications referred to the relation to the friend than to the nonfriend, $\chi^2(1, N = 64) = 4.32$, $p = .038$.

Table 4. Number (and percentage) of children who gave justifications of the respective category for their positive or negative evaluations for each puppet in Experiment 1.

	F-more Puppet		***NF-more Puppet***	
	Positive evaluation	Negative evaluation	Positive evaluation	Negative evaluation
Procedure-based	11 (13.9%)	11 (47.8%)	14 (33.3%)	14 (23.0%)
Relationship-based	11 (13.9%)	2 (8.7%)	2 (4.8%)	9 (14.8%)
Procedure- and relationship-based	21 (26.6%)	2 (8.7%)	5 (11.9%)	23 (37.7%)
Other responses / No answer	36 (45.6%)	8 (34.8%)	21 (50.0%)	15 (24.6%)

Table 5. Number (and percentage) of children who gave suggestions of the respective category what each puppet should have done differently.

	F-more Puppet	***NF-more Puppet***
Equal distribution	9 (21.4%)	7 (8.8%)
More extreme inequality	2 (4.8%)	3 (3.8%)
Less extreme inequality	2 (4.8%)	2 (2.5%)
Reversed inequality	1 (2.4%)	30 (37.5%)
Other responses / No answer	28 (66.7%)	38 (47.5%)

3.2.3 Discussion

Experiment 1 examined whether or not young children actively enforce a norm that one ought to show partiality towards close friends. Overall, while there was no effect for the punishment/reward measure, the pattern of children's evaluations as well as their spontaneous protest and affirmation behavior indicated that children enforced partiality with a friend.

It should be noted that order of presentation did not interact with condition. That is, the difference in protest against the two puppets was comparable across both orders of conditions. This renders it unlikely that children's lesser protest against someone who favored a friend was caused by an anchor effect of having first observed someone who favors a nonfriend (i.e. a lesser of two evils effect). In addition, there was no order effect for selective affirmation and the evaluation measure. That is, children's selective affirmation of the protagonist who favored a friend was not affected by having first observed a protagonist who favored a nonfriend. Moreover, one should note that for most measures children were able to comment on and evaluate the protagonists individually. Thus, they would have been able to rate both protagonists negatively or to protest against both protagonists to the same extent. Indeed, in the study by Wörle and Paulus (2018) 3- to 4-year-old children protested against both a protagonist who gave more to a poor than to a rich other and a protagonist who gave more to a rich than to a poor other, potentially as both violated a norm of equal sharing. Yet, this was not the case in the present experiment. Finally, being asked what the NF-more protagonist should have done differently, a large number suggested a reversed inequality. In contrast, in each condition only a small number of children suggested an equal distribution. Overall, this suggests that young children, to some extent, consider the normative obligations related to friendships.

One has to note that in the current setup we relied on an uneven number of items for the single trials and an equal division was therefore not possible on the level of single items. Yet, an equal split would have been possible across both trials as the number of items added up to eight. Alternatively, one could have realized an equal treatment by alternating the recipient who received more. Indeed, taking turns seems to be one strategy by which preschoolers realize equal treatement (e.g., Grocke et al., 2015; Melis et al., 2016). Finally, children realize an equal split of an uneven number of items by removing items from the total quantity (Shaw & Olson, 2012). Importantly, none of these strategies that would have realized an equal division were demanded by the participants. Rather, when being asked what the NF-more puppet could have done differently, the majority suggested a reversed

inequality. Yet, we cannot exclude that it was too difficult for preschool children to apply these strategies in the current context.

While there was no interaction between order and condition, there was on average a higher amount of protest and punishment (across both conditions) when the F-more puppet was presented first. This effect was not hypothesized, and we can only speculate about its nature. It is interesting to note that this effect was only there for sanctioning behaviors (protest, punishment). It may be possible that observing the interaction between friends created a more open atmosphere and made it easier for children to express their inclination to sanction others. We have to leave it to future research to explore this effect in detail.

Interestingly, a closer look at children's justifications shows that a majority referred to the friendship relation and a (smaller) majority also referred to the relationship to the nonfriend. It is possible that these two types of argumentation represent two different sides of the same coin. Alternatively, it is possible that the results could be driven by two (not mutually exclusive) considerations; that one should favor a friend and that one should not favor a nonfriend. Both aspects could play a role in children's evaluations that were assessed after the allocation scenarios were completed.

Notably, a look at the distribution of evaluations suggested that the average scores of the evaluation were driven by a rather bimodal distribution. A large majority of children evaluated the F-more protagonist positively whereas a majority evaluated the the NF-more protagonist negatively. In both conditions, however, there were also children who showed an opposite pattern. In particular, a minority also rated the NF-more protagonist positively. We will turn to this point in the General Discussion.

Before turning to a comprehensive theoretical discussion of these findings, we wanted to explore in greater detail the significance of a norm of partiality in children's moral world. More precisely, we examined whether children prioritize a norm of partiality towards friends over a norm of equal sharing or vice versa. On the one hand, in their own behavior, they rather tend to give more to a friend than to share equally (Paulus, 2016). On the other hand, the norm of equality has been shown to be very strong in preschool children, even overruling ingroup favoritism (e.g., Cooley & Killen, 2015; Wilks & Nielsen, 2018) or other fairness principles (Elenbaas, 2019). Experiment 2 was designed to answer this question. It closely followed the design of Experiment 1 with the exception that we did not include the punishment and reward measure as it did not yield clear results in the first experiment. Moreover, in order to realize the possibility of equal distribution in each trial, protagonists could distribute an even number of items.

If the norm of partiality is given high priority, children should affirm the protagonist who prefers his friend and protest against the protagonist who distributes resources equally. Yet, if the norm for equal sharing trumps the norm of partiality, we would expect that children in Experiment 2 should protest against the protagonist preferring the friend and should affirm the protagonist who distributes resources equally.

3.3 Experiment 2

3.3.1 Method

Participants

The final sample comprised 82 children with a mean age of 63.09 months (*SD* = 8.63, range = 37 – 79 months; 38 female). The exact age of two children was missing. Two additional children were tested but excluded from the final sample due to experimental mistake (*n* = 1) or loss of attention (*n* = 1). Another 9 additionally tested children were excluded because they failed to answer relevant check questions correctly (see Experimental Design and Procedure). Sample characteristics and consent protocol were the same as in Experiment 1.

Materials

Materials were the same as in Experiment 1 with the following differences. For the evaluation phase, a 5-point smiley scale was employed in order to allow for neutral evaluations. Additionally, the punishment/reward phase was excluded, since no differences between conditions were detected in Experiment 1, and thus no cookies have been used.

Experimental Design and Procedure

The general procedure of Experiment 2 closely followed Experiment 1 with the following main differences: The NF-more Puppet was replaced by the Equal puppet, the punishment/reward phase and the question about what the protagonist should have done differently was dropped (as we experimentally assessed the answers that were most often given by children in Experiment 1, that is, equal sharing vs preferring the friend, this question was no longer necessary), and the evaluation phase was extended by a question on which protagonist's behavior was preferred.

Following the three warm-up trials, the two conditions were enacted. In one condition, the protagonist puppet consistently favored the friend (*F-more Puppet).* In the other condition, the protagonist consistently distributed the items equally between the friend and the nonfriend (*Equal Puppet*). All participants were presented with both conditions, and

the order of conditions was counterbalanced between participants. Afterwards, participants were asked to evaluate the behavior of each puppet and to decide, whose behavior they preferred.

Warm-up trials. The procedure of the warm-up trials followed exactly Experiment 1. The smiley scale, which was used for the evaluation phase, was introduced directly after the warm-up trials with daily life examples.

Resource allocation scenarios. The introduction of the two recipients (F, NF) followed exactly Experiment 1. Each condition consisted of two trials. In each trial, the protagonist distributed four items between the recipients. The number of items was changed from five to four, in order to allow for equal distribution. In the F-more condition, the F was consistently favored (3 vs. 1 item; 4 vs. 0 items). In the Equal condition, both F and NF received two items in each trial. The stepwise allocation procedure exactly followed the standardized scheme of Experiment 1. After both scenarios were completed, final check questions tested whether participants were still aware of the allocation decisions of the protagonists. Incorrect answers served as an exclusion criterion for all analyses.

Evaluation phase. After both conditions were completed, participants evaluated each protagonist's behavior on the 5-point smiley scale ranging from *very bad* to *very good.* Additionally, they were asked to justify their evaluations. Finally, participants decided whether they preferred the behavior of the F-more Puppet or of the Equal Puppet.

Coding and Data Analysis

Resource allocation scenarios. Coding of the resource allocation scenarios followed the procedure from Experiment 1. Overall, 39 out of 82 children (48%) protested or affirmed in at least one of the trials. A second independent observer rated a random sample of 25% of all sessions to assure interrater reliability. Cohen's kappa indicated perfect agreement for protest, $\kappa = 1$, and almost perfect agreement for affirmation, $\kappa = .85$.

Evaluation phase. The rating of each protagonist's behavior on the smiley scale was coded from 1 (*very bad*) to 5 (*very good*). The coding of the justifications of the evaluation followed the procedure of Experiment 1. Interrater reliability for the justifications was very good with $\kappa = .85$. The general evaluation of the protagonists was coded with a score of 1, if the participant preferred the Equal-more Puppet's behavior, and a score of 2, if the participant preferred the F-more Puppet's behavior.

3.3.2 Results

Paired sample two-tailed *t*-tests were computed to compare participant's protest/affirmation and evaluation behavior regarding the F-more and the Equal Puppet. A chi-squared test was computed to test the frequencies of the general evaluation about which puppet's behavior was preferred. Pearson correlations were employed to investigate the relation of significant measures with age.

Preliminary analyses revealed comparable protest and affirmation on the two trials. Likewise, gender (male, female) and order of conditions had no effect on protest/affirmation and evaluation behavior. Consequently, these factors are dropped from the following analyses.

Protest during resource allocation

Figure 4A shows the mean number of trials in which participants showed some form of protest towards the F-more Puppet and the Equal Puppet. Participants generally showed more protest (e/i/n) towards the F-more Puppet (M = 0.32, SD = 0.61) than to the Equal Puppet (M = 0.11, SD = 0.42), $t(81) = 2.56$, $p = .012$, $d = 0.40$. Considering only imperative or normative protest (i/n), participants still showed more protest towards the F-more Puppet (M = 0.23, SD = 0.53) than to the Equal Puppet (M = 0.09, SD = 0.39), $t(81) = 2.04$, $p = .045$, $d = 0.31$. Order and puppet did neither interact for protest (e/i/n), $F(1,80) = 1.25$, $p = .266$, nor for protest (i/n), $F(1,80) = 1.15$, $p = .288$. The difference in protest against the two puppets was thus comparable for both orders of conditions. Neither selective protest (e/i/n), $r(78) = .01$, $p = .924$, nor selective protest (i/n), $r(78) = .05$, $p = .638$, against the F-more Puppet was significantly correlated with age (based on a difference score of protest towards the F-more Puppet minus the Equal Puppet).

Affirmation during resource allocation

Figure 4B shows the mean number of trials in which participants showed some form of affirmation toward the F-more Puppet and the Equal Puppet. Overall, children's affirmation (e/i/n) did not differ significantly between the F-more Puppet (M = 0.21, SD = 0.49) and the Equal Puppet (M = 0.29, SD = 0.64), $t(81) = -1.02$, $p = .310$, $d = 0.15$. Similarly regarding imperative or normative affirmation (i/n), children did not differ significantly between the F-more Puppet (M = 0.18, SD = 0.47) and the Equal Puppet (M = 0.27, SD = 0.63), $t(81) = -1.07$, $p = .289$, $d = 0.15$. Neither selective affirmation (e/i/n), $r(78) = .03$, $p = .776$, nor selective affirmation (i/n), $r(78) = -.02$, $p = .868$, of the Equal Puppet was significantly

correlated with age (based on a difference score of affirmation of the Equal Puppet minus the F-more Puppet).

Taken together, children consistently protested more against the puppet favoring the friend. This tendency was not reflected in the affirmation towards the puppets.

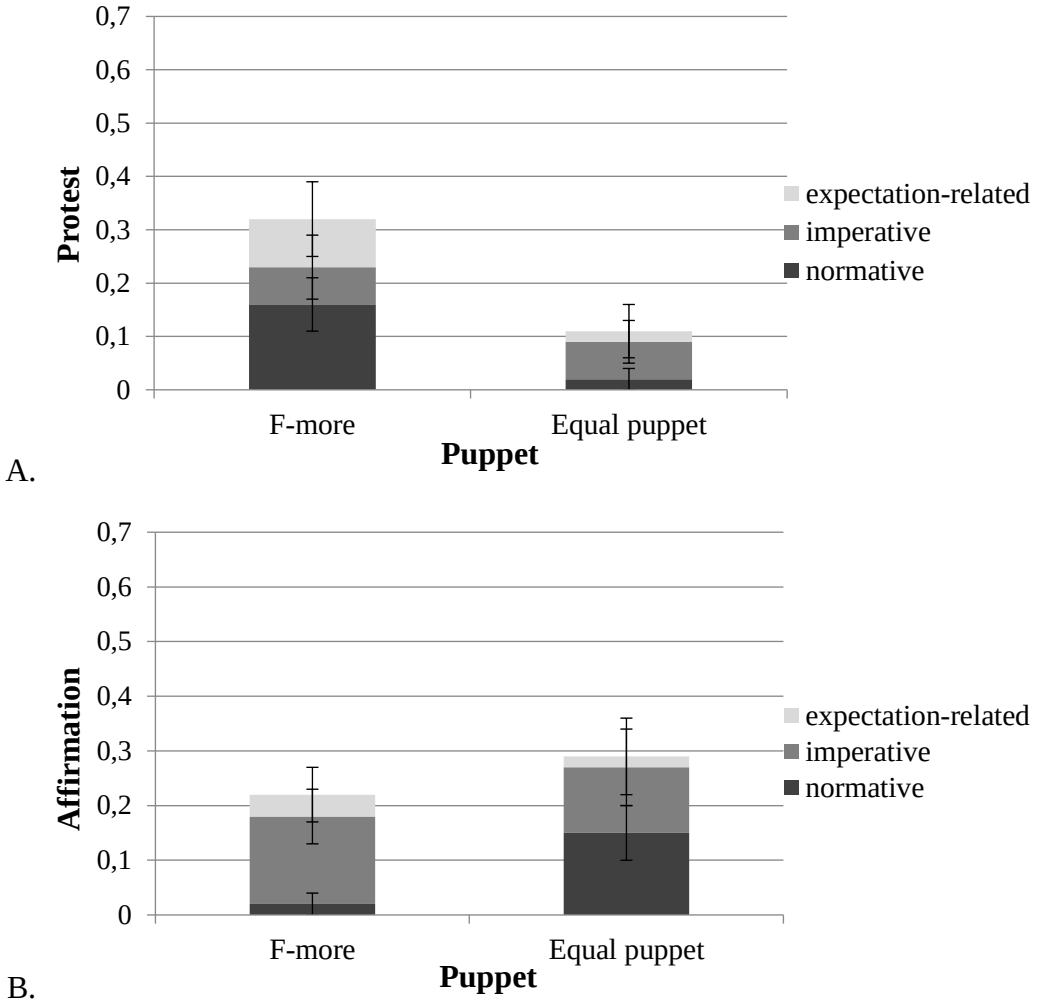

Figure 4. Mean number of trials (out of 2) in which participants showed any form protest/affirmation (expection-related, imperative, normative) as a function of Puppet (F-more, Equal). Error bars indicate the standard errors. A: Protest. B: Affirmation.

Evaluations

Evaluations as measured on the 5-point smiley scale differed significantly between the two puppets, $t(81) = 5.72$, $p < .001$, $d = 0.99$. Participants evaluated the behavior of the Equal Puppet better ($M = 4.18$, $SE = 0.16$) than the behavior of the F-more Puppet ($M = 2.56$, $SE = 0.20$). Children's evaluation of the F-more puppet was below average (3 on the 5-point scale), $t(81) = -2.20$, $p = .031$, $d = 0.24$, whereas their evaluation of the Equal puppet was above average, $t(81) = 7.35$, $p < .001$, $d = 0.81$. One child was excluded from the analysis of the preferred behavior because a response to that question was missing. Overall, the majority

of participants (74%) preferred the behavior of the Equal Puppet over the behavior of the F-more Puppet, X^2 (1, N = 81) = 18.78, $p < .001$. See Figure 5 for an overview.

In order to investigate the justifications of the evaluations, participants were split into groups of children who evaluated the puppets' behavior positively (*very good* or *good* on the smiley scale) or negatively (*very bad* or *bad* on the smiley scale). Overall, eight children (3 for F-more and 5 for Equal Puppet) evaluated a puppet's behavior with a 3 (*middle*). These children were excluded from the analyses of the justifications. The F-more Puppet's distribution behavior was evaluated positively by 29 participants (35.4%) and negatively by 50 participants (61.0%). This distribution differed from chance, $\chi^2(1, N = 79) = 5.58$, $p = .018$. For the Equal Puppet, 64 participants (78.0%) evaluated the behavior positively and 13 participants (15.9%) evaluated the behavior negatively. This distribution differed from chance, $\chi^2(1, N = 77) = 33.78$, $p < .001$. The frequencies of justifications for the positive or negative evaluations are depicted in Table 6. As illustrated, mainly *procedure-based* justifications were employed overall. The frequency of *relationship-based* and *procedure- and relationship-based* justifications in contrast to *procedure-based* justifications was comparable for positive and negative evaluations of the F-more Puppet, $\chi^2(1, N = 56) = 1.38$, $p = .240$, as well as the Equal Puppet, $\chi^2(1, N = 57) = 0.67$, $p = .413$.

Table 6. Number (and percentage) of children who gave justifications of the respective category for their positive or negative evaluations for each puppet in Experiment 2.

	F-more Puppet		***Equal Puppet***	
	Positive evaluation	Negative evaluation	Positive evaluation	Negative evaluation
Procedure-based	11 (37.9%)	31 (62.0%)	42 (65.6%)	5 (38.5%)
Relationship-based	4 (13.8%)	4 (8.0%)	3 (4.7%)	2 (15.4%)
Procedure- and relationship-based	2 (6.9%)	4 (8.0%)	5 (7.8%)	0 (0%)
Other responses / No answer	12 (41.4%)	11 (22%)	14 (21.9%)	6 (46.2%)

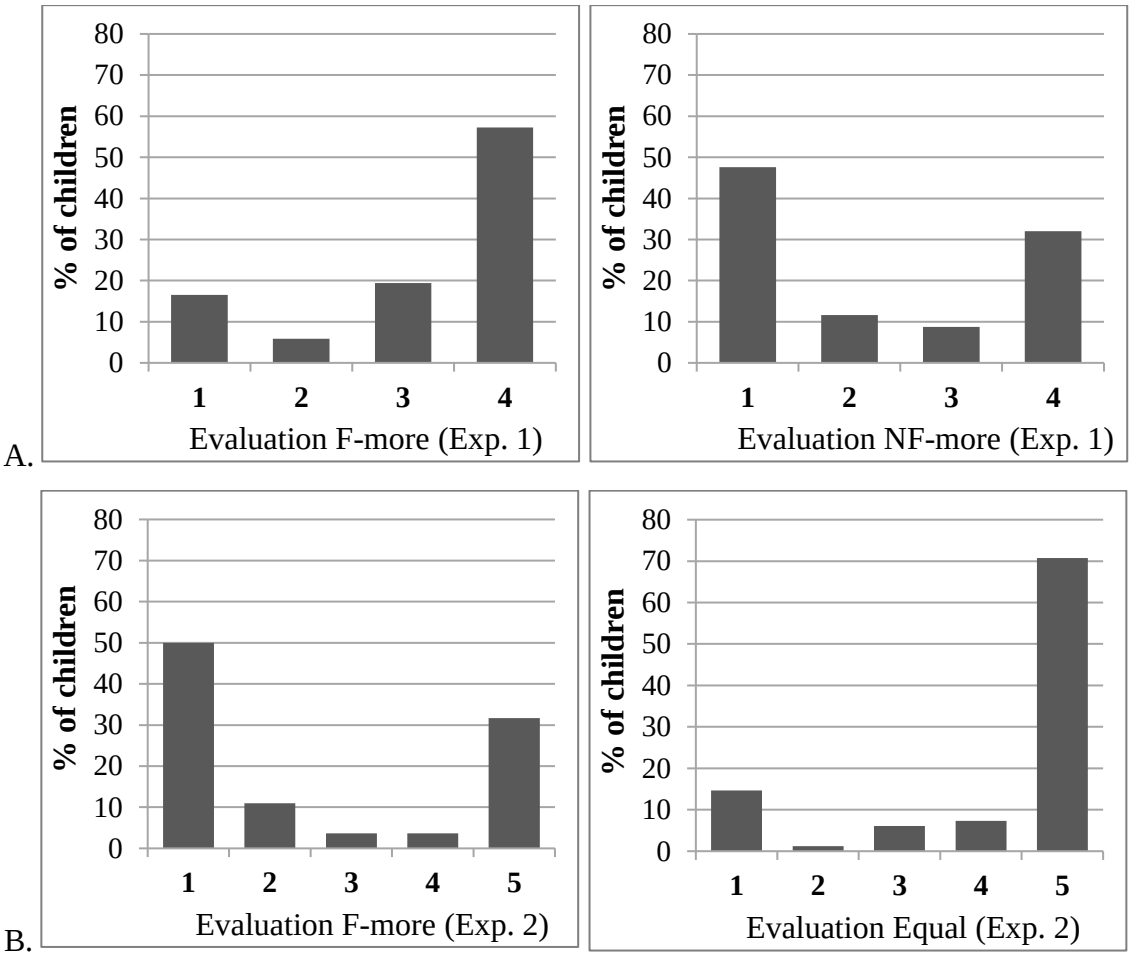

Figure 5. Distribution of participants' evaluations of the respective protagonists. A: Experiment 1. B: Experiment 2.

3.3.3 Discussion

Experiment 2 investigated the relative importance of partiality and equality in early childhood. The pattern of results suggests that young children prioritize an equal distribution over partiality towards friends. The results relate well to other findings about a strong concern for equality in preschool children (e.g., Cooley & Killen, 2015; Elenbaas, 2019; Shaw & Olson, 2012) and to findings that older children and adults from Western societies (Miller & Bersoff, 1992) prioritize justice concerns over interpersonal obligations.

Importantly, there was no effect of order of presentation. Like in Experiment 1, this pattern indicates that children's normative evaluations were not subject to an anchor effect. In contrast to Experiment 1, however, the results were less consistent across the measures. On the one hand, children protested more against the protagonist who favored a friend and also preferred the behavior of the equal distributor. On the other hand, there was no clear difference in children's affirmative behavior between the conditions. Children affirmed both protagonists to the same extent.

Similar to Experiment 1, the results of the evaluations were driven by a rather bimodal distribution of evaluations. Whereas a majority of children rated the equally distributing protagonist (very) positive and the F-more protagonist (very) negative, did a third of the children rate the F-more protagonist as (very) positive. We will turn to this point in the General Discussion.

Overall, this suggests that the 4- to 6-year-old children, on average and in vast majority, prioritize equality over partiality towards friends, but at the same affirm partiality towards friends to the same extent as an equal distribution. The implications of our findings will be further discussed in the next section.

3.3.4 Exploratory Analyses Across Experiments

Each of the two experiments showed a contrast between two principles of resource distributions. As one principle (partiality towards the friend) appeared in both experiments and appeared to be evaluated differently, we compared children's evaluations across both experiments. Given that the scales in both experiments differed slightly (Experiment 1: 1-4; Experiment 2: 1-5), we plotted the evaluations on a common scale (1-10) by means of a linear transformation (see Figure 6).

We first compared the evaluation of the F-more puppet across experiments. The F-more puppet was more positively evaluated in Experiment 1 than in Experiment 2, $t(182) = 5.54$, $p < .001$, $d = 0.82$. Moreover, we analyzed whether children viewed a transgression against partiality in Experiment 1 as wrong as a transgression against equality in Experiment 2. There was no difference between children's evaluation of the NF-more puppet in Experiment 1 and the F-more puppet in Experiment 2, $t(183) = 0.41$, $p = .683$, $d = 0.06$. Likewise, the evaluation of the F-more puppet in Experiment 1 was comparable with the evaluation of the Equal puppet in Experiment 2, $t(182) = -1.21$, $p = .226$, $d = 0.18$.

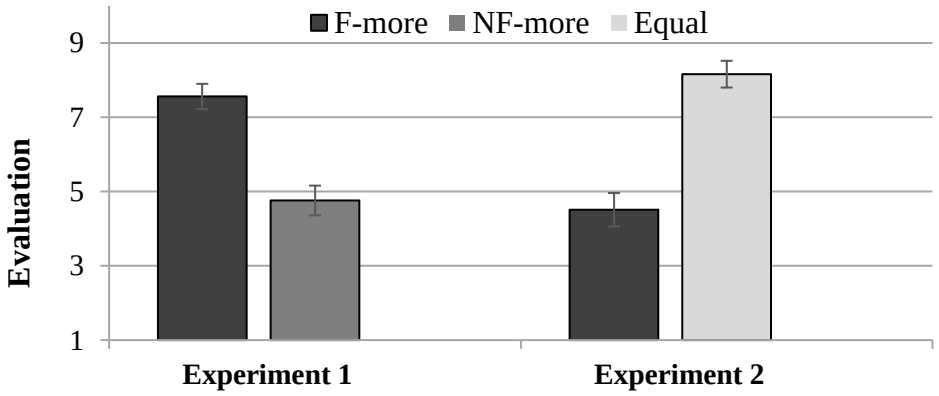

Figure 6. Mean evaluation as a function of experiment and protagonist. Note that the ratings of each experiment were linearly transformed to a scale from 1 to 10 to allow direct comparisons. Error bars indicate standard errors of the means.

3.4 General Discussion

Recent moral philosophy stresses the idea that close human relationships carry special moral obligations with them and demand that one is obligated to act partially towards friends (e.g., Betzler, 2014; Jollimore, 2000; Scheffler, 2010). At the same time, impartiality has been suggested to be a cornerstone of human morality (Kant, 1785/1959; Rawls, 1971). The current study investigated whether or not young children enforce a norm that one ought to show partiality towards close friends. Across two experiments, we compared 4- to 6-year-old children's reactions towards a protagonist who showed partiality towards a friend with a protagonist who either preferred a non-friend (Experiment 1) or who distributed resources equally (Experiment 2). In order to control for potential ingroup biases, the nonfriend was introduced as a child from the same preschool the protagonist does not like to play with. The results suggest that partiality towards the friend is perceived differently depending on the context. In Experiment 1, children on average selectively affirmed the protagonist who allocated more resources to her friend and selectively protested against the protagonist who gave more to a non-friend. Being asked what the protagonist who favored the nonfriend should have done differently, the largest proportion of answers referred to a reversed inequality, that is, favoring the friend. In Experiment 2, children on average selectively protested against the protagonist who favored a friend and the majority also evaluated the protagonist who shared equally positively. Yet, there was no clear difference in selective affirmation. Thus, whereas impartiality and equal distribution take precedence whenever possible, partiality towards close friends guides children's evaluative stances and normative reasoning when equal distribution is not an option. Our findings highlight how preschool children handle different normative demands and interpersonal responsibilities. It suggests that partiality in close relationships plays a role in children's thinking, but that equality is a stronger normative stance.

It is important to note that in the current study children's own interest was not at stake. That is, the current study goes beyond demonstrating that children themselves are more generous towards close others (e.g., Fehr et al., 2008; Paulus & Moore, 2014). Moreover, by focusing on children's normative reactions, it extends previous work that explored how children infer friendship status (e.g., Liberman & Shaw, 2017). By presenting children with protagonists and recipients with whom they did not have any personal relationship, children's reactions towards them are not driven by self-interest (e.g., sharing more with a friend in the expectation that she will pay back). Rather, children's normative reactions such as their spontaneous protest and affirmation as well as their explicit judgments

of others' behavior indicates the presence of an agent-neutral norm that serves as the basis for judging others (cf. Nagel, 1970).

In the first experiment, both children's evaluations as well as their spontaneous protest and affirmation behavior provide converging evidence that children on average evaluated partiality towards friends more positively than partiality towards the non-friend. In addition, this interpretation is supported by children's reasoning about the protagonists' behavior. We thus found corroborating evidence across a number of different measures. Yet, there was no effect on their reward and punishment behavior. This pattern of results differs from previous work using the same paradigm in which preschool children showed selective punishment and rewarding behavior toward protagonists who either violated or followed a norm of charity by sharing more with a rich than with a poor other (Wörle & Paulus, 2018). One interpretation of this difference could be that although children consider partiality towards friends as a possible principle of resource distribution, the majority perceives its violation as being less severe compared to the violation of classical moral principles such as giving more to poor than rich others or as sharing equally.

This interpretation is supported by the findings of Experiment 2. Children prioritized a norm of equal distribution over a norm of partiality. This pattern of results relates to other studies demonstrating a strong concern for equality in young children's reasoning (e.g., Cooley & Killen, 2015; Elenbaas, 2019; Shaw & Olson, 2012). That is, while preschool children appreciate partiality towards friends to some extent, it also demonstrates that – on a normative level – a majority of young children gives more weight to a norm of equality. In a situation in which equal sharing was possible, there was a tendency to evaluate partiality towards friends as unfair. Most noteworthy, children protested more when a protagonist favored a friend than when she shared equally. At the same time, children affirmed both behaviors to the same extent. This finding demonstrates that young children situate partiality in the context of other normative demands.

Notably, when comparing the result patterns across both experiments, we see that on average children evaluated the agent who gave more to a friend more positively in Experiment 1 (above average) than in Experiment 2 (below average). Moreover, they evaluated this agent as positively in Experiment 1 as they evaluated the agent who shared equally in Experiment 2. This is interesting as children were evaluating the same behavior. Given that the evaluation measures were always presented after the completion of both allocation scenarios and were thus likely influenced by a comparison with the other protagonist, children's evaluations should be interpreted in relative terms. At the same time,

children's protest and affirmation (that was assessed during each puppets' actions and not after the completion of the allocation scenarios) was not affected by order of presentation. Overall, we interpret this pattern as being in line with findings that contexts affect judgments and that young children learn to handle a variety of different norms and principles (e.g., Kienbaum & Wilkening, 2009; McGillicuddy-De Lisi et al., 1994; Turiel, 2010).

It is an interesting speculation whether these principles form a (more or less) stable hierarchy of principles of resource distributions, or whether children handle them at the same level and apply them differently depending on context. This question relates to ongoing lines of research in the field (e.g., Abramson et al., 2018; Collins et al., 2017; Rizzo et al., 2020). For example, Collins and colleagues (2017) demonstrated that by 5 years children make consistent choices about their personal hierarchy of values. In this context, it is important to note that our experiments can be interpreted in a comparative nature. Experiment 1 demonstrated that on average partiality towards a friend is rated more positively and normatively enforced compared to partiality towards a nonfried. Experiment 2 showed that for a majority of children equality is rated more positively and normatively enforced compared to partiality towards a friend. One speculative interpretation is that this pattern of results represents a hierarchy of principles of resource distributions in which for most children equality is given priority over partiality towards a friend that in turn is prioritized over partiality towards a non-friend. Thus, our study contributes to this debate by exploring the extent to which friendship is one aspect in children's evaluations of others' behavior and how it relates to other normative principles.

Research on preschool children's actual distribution behavior has shown that they distribute resources rather to friends than to strangers (Olson & Spelke, 2008). Notably, they do so even when the friend is wealthy and the stranger (or non-friend) is poor (Paulus, 2016). This suggests that children's own behavior is guided by partiality towards friends. In contrast, on the level of normative considerations and moral reasoning as assessed in Experiment 2, children prioritize a norm of equal sharing above a partiality norm. This pattern of results suggests that children's normative views do not always reflect their actual behavior. Similar patterns have been observed in studies concerning equal sharing: while 3- to 6-year-old children reported that they should share equally, they actually shared less than half (Smith et al., 2013). Our study together with previous work adds to these findings by suggesting a similar dissociation between behavior and norms even when children's own interests are not at stake, that is, even when children did not gain from the distributions themselves (e.g., Olson & Spelke, 2008; Paulus, 2016). Yet, on the other hand, a further line

of work suggests relations between children's normative views and their actual behavior (Dahl & Killen, 2018). Thus, given these contrasting findings and theoretical views, it would be valuable to explore in greater detail the circumstances under which young children's behavior and their normative views coincide or diverge.

Our main question concerned whether or not young children appreciate the idea that one ought to show reasonable partiality towards a friend. How can we interpret the complex set of findings with respect to this question? How can we situate it in the dimension between the context-dependency and unconditional validity of normative views? Can we conclude that young children regard partiality towards a friend as a norm or an obligation? On the one hand, a majority of children clearly preferred equality over partiality towards friends in Experiment 2. On average, they more negatively evaluated the protagonist who favored a friend than a protagonist who shared equally. Thus, the results do not suggest that partiality towards friends is regarded as an obligation or unconditional norm. Partiality is therefore not comparable with many central moral norms children appreciate and enforce on others (e.g., Turiel, 2010). On the other hand, in the same experiment they affirmed partiality towards friends to the same extent as equal sharing. In Experiment 1, they selectively enforced partiality towards friends over partiality towards nonfriends, and rated the first principle considerably higher and positive. After all, if they would have perceived partiality towards friends as inherently bad, they could have evaluated both protagonists negatively or could have protested against both protagonists to the same extent. The answer to the main question, we guess, depends thus on our conception of norms and normativity. Children do not regard partiality towards friends as being a moral obligation or a prescriptive moral norm (as they do with equality). Yet, given children's normative responses in the first experiment and their affirmative behavior in the second experiment, there seems to be a normative notion in their responses. In addition, a view at the distribution of responses suggests that a third of participants in Experiment 2 rated the protagonists who distributed more to the friend than sharing equally as positive. Given our broad conception of normativity as views on what someone ought to do or should not do, we interpret these results as indicative for a weaker normative stance concerning partiality towards friends in preschool children. From a social domain theoretical point of view, it might correspond to a conventional or an instrumental norm. Another possibility, related to a relational view of morality, is that relationships represent a distinctive source of reasons that have normative weight (Scheffler, 2010) and that young children learn to appreciate from early on. Notwithstanding these possibilities, a majority of children gives higher priority to equality when evaluating others.

While the present study indicates that young children pay attention to potential obligations coming from friendship, it leaves open the ontogenetic emergence of this stance. The age-related parallels between the development of children's own inclination to share more with friends as well as their prediction of others' behavior (Olson & Spelke, 2008; Liberman & Shaw, 2017; Paulus & Moore, 2014), and their normative expressions revealed in this study could point to an interrelation between these three phenomena. That is, the emergence of a stance to favor friends could be supported by children's own experiences in sharing contexts with close others, their observation of others' actual behavior, and the potential direct demands of their own friends (e.g., "we are friends and friends share with each other"). It is possible that the observation of regularities could contribute to the emergence of a normative stance (e.g., Roberts et al., 2017). Moreover, it would be interesting to explore in greater detail the developmental interplay between children's own tendency to favor their friends (Paulus, 2016) and their normative stance that one ought to share equally, even between friends and non-friends (as revealed in this study). One possibility is that in their everyday life, children experience different demands from significant others. Whereas some peers and caregivers demand equal sharing, might friends demand selective sharing with them. In a related vein, we found evidence for considerable inter-individual variability in children's evaluations. These findings seem to demand future work to clarify the nature of this variability and to deepen our understanding how children come to quite opposed evaluations of central principles of resource allocations. It should be noted that the non-friend was a person the protagonist knew, but did not like to play or interact with. We choose this person in order to control for potential in-group biases. Yet, it would be interesting to explore whether children would enforce partiality towards friends when the protagonist were to be confronted with a stranger rather than a non-friend. Finally, given cross-cultural variation in children's friendship reasoning (Keller et al., 2005) and findings of differences between Western and non-Western societies in relative priority of obligations coming from social relations versus fairness concerns (Miller & Bersoff, 1992), it would be highly interesting to systematically explore cross-cultural differences in preschoolers' partiality norm. The findings of cross-cultural differences point to an impact of the social environment and social interactions on young children's normative development (Carpendale et al., 2013; Carpendale & Lewis, 2004).

Taken together, the current study suggests that young children consider the normative status of friendship and, under some conditions, enforce a partiality norm even from

unrelated third parties. At the same time, if equal distribution is an option, children prioritize equality over partiality.

4 Study 3:

Normative views and own resource distribution in childhood: Transcending the debate about dissociation or coherence

Christner, N., Wörle, M., & Paulus, M. (in prep.). Normative views and own resource distribution in childhood: Transcending the debate about dissociation or coherence.

Abstract

Previous research debated whether normative views and own behavior in childhood are either dissociated or aligned. The current study aimed to move this debate forward by examining the relation of normative views regarding resource distribution and own resource distribution behavior on the group level and on the individual level. For that purpose, preschooler's (N = 91) normative stance and own resource distribution behavior when contrasting fairness considerations and the inclination to favor friends, that is, when being faced with a rich friend and a poor non-friend, were assessed on separate days. As indicators of a normative stance, we assessed children's spontaneous protest and affirmation toward distributor puppets, evaluations of the puppets' behavior, and judgments about deserved punishment. The results demonstrated that, on a group level, preschoolers hold a normative stance toward rectifying inequalities while favoring the rich friend in their own behavior. On the individual level, preschooler's normative stance correlated with their own behavior. These findings suggest that normative views regarding resource distribution and own behavior differ on the group level, while individual tendencies seem to align. Overall, the study highlights that the relation between normative views and behavior in preschool years is characterized by both dissociation and coherence.

4.1 Introduction

Children's developing understanding of norms was examined long-since (Piaget, 1932/1997) and continues to be a prevalent topic in current research (Kenward et al., 2011; Rakoczy & Schmidt, 2013; Tomasello, 2018). In preschool years, children increasingly conceive of behavior in normative terms, that is, they have a representation of how one ought to behave. Next to conventional rules (e.g., Casler et al., 2009; Rakoczy et al., 2008; Schmidt et al., 2019) and norms on the omission of antisocial behavior (e.g., Kenward & Östh, 2015; Smetana et al., 2012; Vaish et al., 2011), normative stances in preschoolers pertain to fairness principles in resource distribution or sharing situations. A solid body of evidence supports that preschoolers hold a normative view regarding equal distribution (e.g., Elenbaas, 2019; McAuliffe et al., 2015; Rakoczy et al., 2016). Beyond that, children's principles become increasingly differentiated by taking into account other factors, such as the wealth of a recipient (Wörle & Paulus, 2018), the group context (Cooley & Killen, 2015), and a principle of merit (Schmidt et al., 2016). These normative stances become expressed across a variety of indicators. For example, preschoolers enforce a behavior in others by protesting against norm-transgressing and affirming norm-compliant behavior (e.g., Rakoczy et al., 2016;

Vaish et al., 2011; Wörle & Paulus, 2018), they express their normative view in evaluating a behavior (e.g., Cooley & Killen, 2015; McCrink et al., 2010; Smith & Warneken, 2016), and they even punish a transgressor (e.g., Bernhard et al., 2020; McAuliffe et al., 2015). Preschool years thus mark a period when children start to hold normative stances regarding fairness-related behavior.

While the early emergence of normative views is well underpinned, a vivid debate centers on the question whether normative views translate to actual behavior. The origin of this question dates back to Aristotles' (trans. 2009) famous critique of Plato's assumption that one will do what is right if one knows what is right. The debate on the relation between moral norms and behavior (or the lack thereof) has been a central force in the history of moral psychology (Gibbs, 2019). It keeps to be central for current debates and has advanced theorizing in developmental science.

On the one hand, long-standing developmental theories suggest that moral judgments relate to behavior, as considering a behavior as morally relevant should be intrinsically motivating (Killen & Dahl, 2018; Turiel, 2003). Accordingly, studies evidenced a similar developmental timeline of moral reasoning and behavior (Elenbaas et al., 2016; Elenbaas & Killen, 2016; Schmidt et al., 2016). Similarly, research with adults has reported a link between moral reasoning and some aspects of moral behavior (Hardy, 2006; for review see Villegas de Posada & Vargas-Trujillo, 2015), and between considering a behavior as morally relevant and behaving accordingly (Smetana, 1982; for review see Rhee et al., 2019). In addition, previous research demonstrated relations of single normative indicators and value orientations with behavior (Abramson et al., 2018; Paulus et al., 2018; Rizzo et al., 2020). Thus, there are theoretical reasons and empirical evidence suggesting that normative views regarding morally relevant behavior relate to actual behavior.

On the other hand, theories suggest that moral judgments are not directly related to behavior, pointing to a gap between the two (Blake, 2018; Blasi, 1983). Studies support this view by demonstrating that normative views about how one ought to share and own sharing behavior diverge up to around 7 years (Kogut, 2012; Smith et al., 2013) and also in adults (M. Keller et al., 2013). For example, a recent study assessed 3- to 6-year-olds' prosocial behavior and their evaluation of scenarios depicting morally relevant actions, such as pushing somebody from a swing (Tan et al., 2020). This study reported no relation between evaluations of moral situations and sharing behavior. In conclusion, theoretical considerations and previous research suggest that normative stances do not relate to behavior.

Thus, the situation is characterized by opposing sets of evidence that partly suggest a clear coherence between morally relevant normative views and behavior, and partly a clear dissociation between the two. The empirical evidence on the relation between normative stances and behavior is therefore inconclusive. Yet, it is possible that we should not conceive of this debate as depicting a simple dichotomy according to which there is either coherence or a dissociation between moral judgments and behavior, but that both positions characterize different aspects of this complex relation and that a differentiated view would help to advance this debate.

More precisely, previous studies addressed the alignment of a normative stance and behavior partly on a group level and partly on an individual level. On a group level, the question is whether behavior that is expressed to be normatively required and actual behavior of a particular age group show a similar pattern or diverge. Comparing the pattern of a normative stance and behavior across age groups allows to infer whether the developmental pathway of a normative stance and actual behavior is similar. On an individual level, the question is whether the level of a normative stance and behavior correlate within a group of individuals, that is, whether interindividual differences in normative stance and behavior are related. While similar patterns on the group level suggest that a normative stance and the respective behavior develop in parallel, they leave open whether normative stances and behavior are dissociated or integrated on the level of the individual. Correlations on the individual level suggest that children apply their representation of how one ought to behave in their own behavior. Each level allows thus for particular conclusions. Accounting for the two levels in interpreting previous research and in future research is therefore important. The current study aimed at advancing this debate by addressing the relation between a normative view and behavior when two motives are at conflict, namely considerations of fairness and an inclination to favor one's own friends.

A principle of equality marks children's sense of fairness from early on. Children seem to expect equal distributions already in infancy (Schmidt & Sommerville, 2011; Ziv & Sommerville, 2017) and they express the normative view that resources ought to be distributed equally in preschool years (Elenbaas, 2019; Rakoczy et al., 2016; Smith et al., 2013). Yet, other principles gain in importance as well. An increasing line of evidence supports the early endorsement of fairness by rectifying inequalities. On the behavioral level, preschoolers were found to share more resources with a poor recipient than with a rich recipient (e.g., Li et al., 2014; Malti et al., 2016; Zinser et al., 1975). Likewise, a normative stance that one ought to rectify inequalities seems to emerge in preschool years (Rizzo &

Killen, 2016; Wörle & Paulus, 2018) and become stronger across childhood (Elenbaas & Killen, 2016). For example, a recent study reported that older preschoolers protest against an agent who distributes more items to a wealthy recipient and affirm an agent who gives more to a poor recipient (Wörle & Paulus, 2018). Preschool children thus consider the wealth of a recipient in their resource distribution behavior and, most importantly for the aims of the current study, they develop a norm toward rectifying inequalities.

In contrast, when distributing resources themselves, children's behavior seems sometimes to be driven by other considerations than fairness. In particular, the underlying social relationship when distributing or sharing resources seems to important. Previous studies underpin that preschoolers prefer to share more with friends compared to non-friends or strangers (e.g., Birch & Billman, 1986; Moore, 2009; Paulus & Moore, 2014). This tendency also becomes evident in how they guide others to distribute resources between a friend and a stranger (Olson & Spelke, 2008). Importantly, a recent study reported that preschoolers give priority to the recipient with a positive social relationship albeit his or her greater material wealth (Paulus, 2016). That means, preschoolers allocate more resources to a rich friend than to a poor non-friend or poor stranger. Preschoolers thus favor their friends when allocating resources and therefor even transgress the norm that one ought to give more to a poor than to a rich recipient.

Overall, this evidence highlights the dominance of positive social relationships for sharing behavior. Yet, it conflicts with research demonstrating that preschoolers increasingly endorse a norm of rectifying inequalities (Li et al., 2014; Malti et al., 2016; Wörle & Paulus, 2018). Findings on the behavioral levels thus stand in contrast to findings on the normative level and offer thus an excellent paradigm for studying the coherence and dissociations between normative views and actual sharing behavior.

Normative views and behavior might not either be dissociated or coherent. Instead, they might differently align on the group level and on the level of the individual, as relations on these two level have different meaning. As outlined above, relations on the group level across age groups might reflect whether two constructs share a developmental timeline, while relations on the individual level suggest that two constructs are integrated on the level of the individual and might affect each other. In particular, a dissociation might characterize the relation of normative views and behavior on the group level, while coherence might mark their relation on the individual level. Following the notion that moral judgments are coordinated with moral action (Turiel, 2003), normative views and behavior should be integrated on the level of the individual. Yet, normative views and engaging in actual

behavior likely depend on additional different processes. While both are rooted in early interactional experiences (Carpendale et al., 2013; Dahl & Killen, 2018b), normative views likely result from reflecting on normative issues and reaching agreements in social interactions. The inclination to share and allocate resources, on the other hand, might additionally depend on immediate desires (Blake, 2018), affective preferences (Paulus & Essler, 2020), and strategic considerations (Leimgruber, 2018; Silver & Shaw, 2018). Situational demands (e.g., observer present, relationship context, self-interest involved, …) might thus trigger particular processes that affect the general inclination to engage in sharing behavior across individuals of a similar age, without impairing the intrinsic relation between a normative stance and behavior. Meaningful relations of interindividual differences in normative views and behavior would thus be retained, but the general expression of a normative view and behavior might be shifted. Accordingly, this would become evident in a discrepancy of normative views and behavior on the group level and coherence on the individual level.

The Current Study

The current study examined preschooler's normative view and behavior in order to investigate both relations on the group level and individual level. It investigated whether both coherence and dissociation between norms and behavior can be find when distinguishing these two levels. For that purpose, we assessed children's normative stance and own resource distribution behavior when contrasting unequal resource distributions and friendship. We built on previous research on these issues and therefore focused on preschool children. Children observed puppets who distributed resources between a rich friend and poor non-friend (third-person task) and children were asked to distribute resources themselves between a rich friend and a poor non-friend (first-person task). To assess the normative stance, children's protest against and affirmation of the puppets' behavior in the third-person task were assessed (Rakoczy et al., 2016; Wörle & Paulus, 2018). Moreover, children explicitly evaluated the puppets' behavior and rated whether a puppet deserves to be punished (Killen et al., 2011). To assess actual behavior, children were asked to allocate resources to a rich friend and a poor non-friend in forced-choice trials. In order to prevent transfer effects, we assessed the normative stance and own resource distribution behavior on separate days (first normative stance, later own behavior).

The study advances our knowledge in two ways. First, it examined the relation between normative views and behavior on the group level within one sample. Previous

evidence on dissociations stems from separate studies that investigated either the normative view toward rectifying inequalities (e.g., Rizzo & Killen, 2016; Wörle & Paulus, 2018) or the behavioral inclination to favor friends in resource distribution contexts (e.g., Moore, 2009; Paulus, 2016), and differed in methodological details. By assessing both constructs in the same sample, we could examine whether there indeed appears a kind of dissociation on the group level. That is, we hypothesized preschoolers to endorse a norm of rectifying inequalities based on the early importance of fairness while at the same time to favor a rich friend and thereby amplify inequality in their own allocation behavior. Second, the current study examines whether normative views and behavior are related on the individual level, although they might differ on the group level. Following the theoretical notion that moral judgments are linked to action (Killen & Dahl, 2018; Turiel, 2003), we expect the normative view and own behavior to be related on the level of the individual.

4.2 Method

Participants

The final sample for the *third-person task* consisted of 91 4-6-year-old participants *(M* = 69.29 months; range = 58 – 81 months; *SD* = 5.31; 43 girls). Seven additionally tested participants were excluded from the analyses because they failed to answer the control questions correctly (see procedure). Out of the 98 participants who were tested in the third-person task, 75 participants constituted the final sample for the *first-person task*, administered in a second testing session *(M* = 69.48 months; range = 59 – 81 months; *SD* = 5.01; 37 girls*)*. One additionally tested participant was excluded from the analyses due to an experimental error. The overlap between the final samples of the *third-person task* and the *first-person task* represented the basis for the analyses across tasks. These analyses included 70 participants (*M* = 69.61 months; range = 59 – 81 months; *SD* = 5.09; 35 girls). All participants were typically developing children from daycare centers located in a larger European city and were of mixed socioeconomic background. Informed written consent for participation was given by the children's caregivers.

Materials

In the *third-person task*, participants were presented with two 65 cm tall hand puppets (agents) played by the experimenter and pictures of another four puppets (recipients). In each condition, an agent was paired with two recipients: a rich friend and a poor non-friend. The agents were randomly assigned to the two conditions and the recipients were randomly assigned to the respective friendship statuses (recipients). Friendship statuses were

illustrated by additional pictures of the agent and the recipient either playing together (friend) or looking in different directions and playing for themselves (non-friend). In the *first-person task,* two pictures drawn by the participant represented the friend and non-friend.

For the warm-up trials of the *third-person task* a plastic ball, two puzzles, a paper and pencil, and a wind-up toy were used. Stickers and colourful erasers served as items for the resource allocations in the *third-person task* (counterbalanced between conditions), stickers were used in the *first-person task*. In both tasks, the relative wealth of the recipients was represented through their possessions, which were either a large (rich recipients) or a small amount of items (poor recipients). To ensure that none of the resource allocation trials could equalize the difference between rich and poor an obvious difference of items was chosen (e.g. 3 stickers vs. 50 stickers). A 5-point smiley-scale (ranging from "very bad" over "mediocre" to "very good") was used for the evaluation in the *third-person task.*

Experimental Design and Procedure

Experimental sessions were videotaped. Participants were presented with the *third-person task* first and with the *first-person task* after an interval of 5 days to 6 months due to different availabilities of the preschools and holiday breaks.

Third-person resource allocation task. Ahead of the resource distribution, we administered a set of warm-up trials with the agents. Then, each participant was presented with two conditions (order of presentation counterbalanced between participants) in which an agent distributed resources between a rich friend and a poor non-friend respectively: whereas in the *friendship condition* resources were allocated in favor of the rich friend, in the *neediness condition* resources were allocated in favor of the poor non-friend. After children have seen both conditions, an evaluation and a punishment phase followed.

Warm-up trials. Both agents were introduced to the participant and played ball with her. Afterwards, each agent performed two warm-up tasks similar to Rakoczy et al. (2008) in which she made an instrumental mistake (e.g. placed one piece of a puzzle incorrectly). If the participant did not intervene, the experimenter prompted her to correct the agent. After the warm-up trials participants were familiarized with the 5-point smiley scale that was used in the evaluation phase later on.

Resource distribution phase. In each condition, the experimenter first introduced two recipients. Both recipients were introduced as going to the same preschool as the agent. One was said to be the best friend, somebody the agent likes to play with and spends a lot of time with. He was assigned a large number of items (rich friend). The other recipient was said to

be no friend, somebody the agent doesn't like to play with and doesn't play with. He was assigned a small number of items (poor non-friend). Pictures of the agent and the recipient playing or not playing with each other were used to emphasize the friendship status. The friendship status was introduced in reference to their play time because friendships in preschool are typically characterized by common activities (Furman & Bierman, 1983; Newcomb & Bagwell, 1995). Thereafter, the agent distributed 8 items between the recipients in two trials (5 items in a first trial and 3 items in a second trial, fixed trial order). Two trials were used to demonstrate the agent's consistent inclination to favor the one or the other recipient, irrespective of the particular number of items to distribute. In both conditions, the items were split unequally (4 vs. 1; 3 vs. 0). Whereas the agent in the *friendship condition* distributed items in favor of the rich friend twice, the agent in the *neediness condition* distributed items in favor of the poor non-friend. The resource distribution followed a stepwise procedure to give participants enough time to protest. Control questions before and after the agents' resource distribution were asked to ensure participants' understanding of the recipients' characteristics and their memory of the agents' resource allocation decisions. Participants who gave an incorrect answer were excluded from the analyses (n = 7).

Evaluation phase. After having seen both conditions participants were asked to indicate which agent's behavior they found better. Then, they were asked to refine their evaluation for each agent on the 5-point smiley scale ("How good or bad do you think it was what [agent] did?") and to justify their answer, similar to Cooley and Killen (2015).

Punishment phase. Participants were asked whether they think the respective agent puppet deserves no, slight, or much punishment for her behavior following Killen et al. (2011).

First-person resource allocation task. The procedure of the first-person task was adapted from previous work (Moore, 2009; Paulus, 2016). Participants named and drew a friend (child they like to play with) and a non-friend (child they don't like to play with) as recipients for the resource allocation. Then, the experimenter introduced the recipients' respective possessions, always assigning the role of the rich recipient to the friend and the role of the poor recipient to the non-friend. To ensure that participants correctly reported their social relations and understood the difference in the recipients' relative wealth, control questions were asked. All children answered the control questions correctly. Thereafter, children could distribute stickers between the two recipients in 12 forced-choice trials distributed over 4 blocks. Each block contained 3 trial types (even-rich: 3 stickers for the rich friend / 1 for the poor non-friend or 2 for both; even-poor: 3 stickers for the poor non-friend / 1 for the rich friend or 2 for both; uneven: 3 stickers for the rich friend / 1 for the poor non-friend or vice

versa). The trial order was counterbalanced among blocks and participants. Finally, the same control questions as before the resource allocation were asked to test children's memory. All children gave a correct answer.

Coding and Data Analysis

Third-person resource allocation task. Resource distribution phase. Participants' verbal comments during the resource distribution phase were transcribed and categorized into protest and affirmation depending on whether they disapproved (protest) or appreciated (affirmation) the agent's behavior. Verbal comments were then further categorized into three qualitatively distinct categories (cf. Rakoczy et al., 2008, 2016; Wörle and Paulus, 2018): Responses in which participants made use of normative vocabulary (e.g. "Good decision. Right!" or "Unfair!") were counted as *normative protest / affirmation (n).* The second category *imperative responses (i)* entails comments that enforce the agent or aim to make her act differently (e.g. "Ok, do that!" or "Him not so much!"). In the category of *expectation-related comments (e)* responses were coded if they indicate that the observed behavior did (affirmation) or did not (protest) meet the child's expectations (e.g. "Because he already has so many" or "Why? Isn't he his best friend?"). To assess interrater-reliability, a random sample of 30% of all participants was coded by a second independent person. Cohen's kappa indicated a satisfying agreement for affirmation, $\kappa = .81$, and protest, $\kappa = .84$. For the analyses, protest / affirmation scores were computed. All scores range from 0 to 2 indicating the number of trials (out of two) in which the respective form(s) of protest / affirmation occurred. Whereas the scores protest (n/i/e) and affirmation (n/i/e) include *normative protest / affirmation (n), imperative protest / affirmation (i)* and *expectation-related comments (e),* the scores protest (n/i) and affirmation (n/i) include only *normative (n)* and *imperative (i) protest / affirmation*.

Evaluation phase. A binary coding was used for participants' answer to the question which agent's behavior they found better. For participants' evaluations on the 5-point smiley scale a score from 1 ("very bad") to 5 ("very good") was assigned. Children's evaluation justifications were coded into eight different categories. The coding scheme is explained in more detail in the supplemental material.

Punishment phase. Depending on their answer whether the agent should be punished, participants received a score of 0 (no punishment), 1 (slight punishment), or 2 (much punishment).

First-person resource allocation task. The mean number of trials in which participants allocated resources in favor of their rich friend was computed for each trial type and across trial types.

4.3 Results

The data-analysis followed a stepwise plan. In a first step, we analyzed the third-person task and the first-person task separately. Thereby, we looked at participants' own resource allocation behavior (first-person task) and their normative responses (protest / affirmation, evaluation, punishment) to others' resource allocation decisions (third-person task). In a second step and in order to test our main research question, we looked at interrelations between participants' own behavior and their normative responses.

Third-person Resource Allocation Task

Protest. See Figure 7 for the descriptive statistics. To examine whether participants protested more against the behavior of the agent in the *friendship condition* or the agent in the *neediness condition*, Wilcoxon tests for two related samples have been performed. In a first analysis, every form of protest (e/i/n) was analysed and in a second, more conservative analysis only imperative and normative protest (i/n) were included. Both analyses revealed that participants protested against both agents equally often (protest (e/i/n): Z = -0.17, N = 91, p = .862; protest (i/n): Z = -0.51, N = 91, p = .609).

Affirmation. See Figure 7 for the descriptive statistics. Participant's affirmation was analysed the same way as their protest behavior. The analyses revealed that when including all forms of affirmation, participants showed higher affirmation rates in the *neediness condition* than in the *friendship condition* (affirmation (e/i/n): Z = -2.34, N = 91, p = .019). This was not the case when a more conservative measure of affirmation was used (affirmation (i/n): Z = -0.42, N = 91, p = .672).

Evaluation. To analyse which agent's behavior participants rated as better, a qui-square test was computed. It revealed that the number of participants who rated the behavior of the agent in the *neediness condition* as better (N = 57) was significantly higher than the number of participants who rated the behavior of the agent in the *friendship condition* as better (N = 34), χ^2 = 5.813, N = 91, p = .016.

Mean evaluations of the two agents on the 5-point smiley-scale are presented in Figure 8. To test which agent's behavior participants rated higher, a related-samples *t*-test

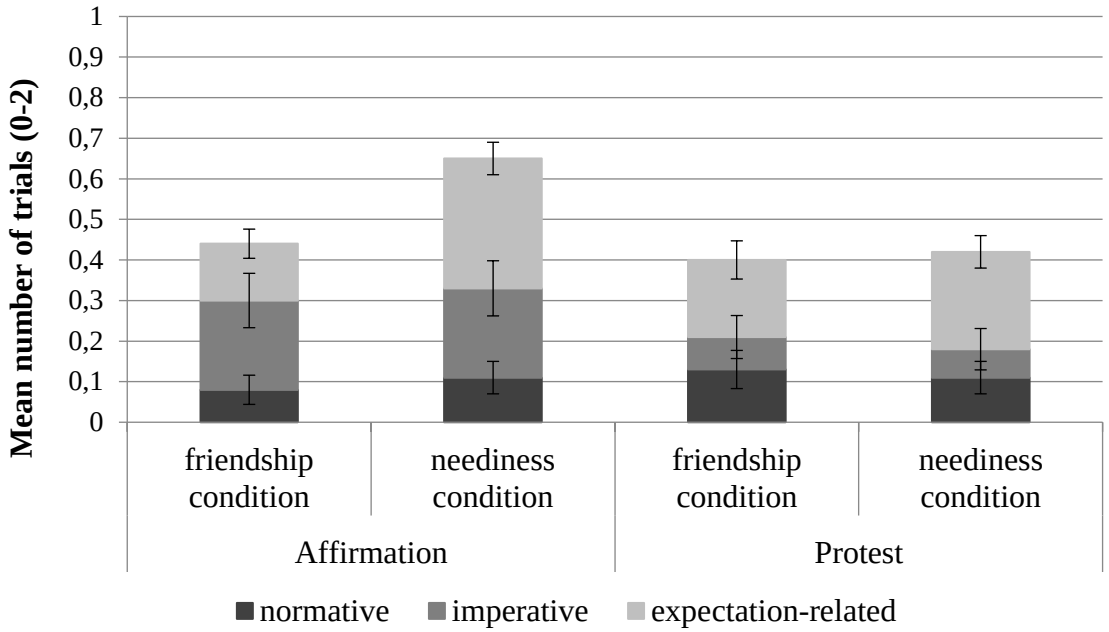

Figure 7. Third-person task: Protest / affirmation. Mean number of trials (0-2) in which children showed some form of protest / affirmation, as a function of Condition (*friendship condition*, *neediness condition*). Error bars indicate standard errors of the means.

was computed. The analysis revealed a significant difference between conditions, $t(90) = -3.04$, $p = .003$, d = -0.53, showing that participants gave a more positive evaluation to the agent in the *neediness condition* ($M = 3.78$, SE = 0.16) than to the agent in the *friendship condition* ($M = 2.95$, SE = 0.17). One-sample *t*-tests revealed that children's evaluation of the agent in the *neediness condition* was above average (3 on the 5-point scale), $t(90) = 4.79$, $p < .001$, $d = 0.50$, while the evaluation of the agent in the *friendship condition* did not differ from average, $t(90) = -0.33$, $p = .741$, $d = 0.03$. The descriptive analysis of children's evaluation justifications can be found in the supplemental material.

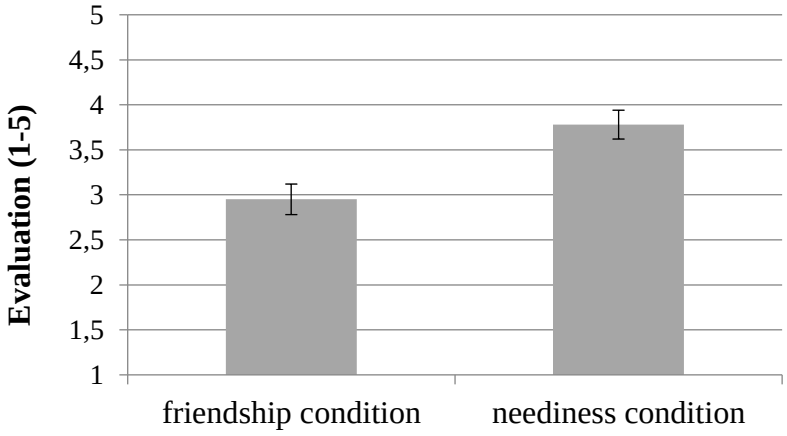

Figure 8. Third-person task: Evaluation of the agent in the *friendship condition* and the agent in the *neediness condition*. Error bars indicate standard errors of the means.

Punishment. A related-samples *t*-test revealed that participants requested significantly more punishment for the agent in the *friendship condition* (M = 0.99, SE = 0.08) than for the agent in the *neediness condition* (M = 0.73, SE = 0.08), $t(90) = 2.22$, $p = .029$, d = 0.35.

First-person Resource Allocation Task

See Figure 9 for the descriptive statistics. A *t*-test against chance revealed that across trial types, participants allocated resources in favor of their rich friend in more than half of the 12 trials (M = 8.77, SE = 0.30), $t(74) = 9.21$, $p < .001$, $d = 1.06$. Looking into the different trial types separately, this effect was significant for the uneven trials, $t(74) = 9.50$, $p < .001$, $d = 1.10$. That means, when children had to decide whether to favor the rich friend or the poor non-friend, they decided for the rich friend in more than half of the four trials (M = 3.17, SE = 0.12). In addition, children allocated resources in favor of the rich friend in the even-poor trials, $t(74) = 71.19$, $p < .001$, but not in the even-rich trials, $t(74) = 1.17$, $p = .246$.

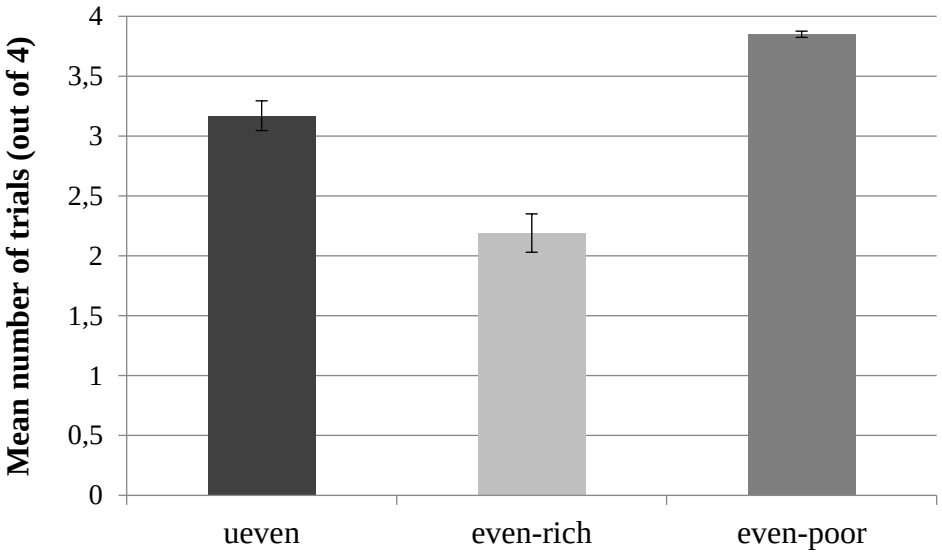

Figure 9. First person task. Mean number of trials (out of 4) in which participants chose the option that afforded relatively more items to their friend, as a function of trial type (uneven, even-rich, even-poor). Error bars indicate standard errors of the means.

Interrelation of Measures of Normativity and Self-Sharing Behavior

To assess our main research question, we correlated participants' reactions in the third-person task with their own resource allocation decisions across all trial types in the first-person task. In all correlational analyses, we controlled for age (i.e. run partial correlations). Given the clearly directional nature of our hypothesis, one-tailed tests were used. The results can be found in Table 7. The results indicate that the more participants affirmed the behavior of the agent who gave more to the rich friend and the more they protested against the

behavior of the agent who relatively favored the poor non-friend, the more items children gave to the rich recipient themselves. Likewise, their evaluation of the respective agent was related to their own distribution behavior. The pattern of results was similar when considering the – theoretically most interesting – uneven trials only, with significant correlations with protest (*r*s > .21) and affirmation (*r*s > .34) and a marginal significant relation with punishment (*r* = .17). Overall, across several measures there are clear relations between children's third-party evaluations and their first-person resource sharing.

Table 7. Partial, one-tailed correlations between participants' reactions in the third-person task and their own resource distribution behavior. All correlations are controlled for participants' age (i.e. partial correlations).

	Number of sharing decisions in favor of the Rich Friend	
	r	*p*
Selective Protest (e/i/n) against Poor NF-more puppet	.269*	.013
Selective Protest (i/n) against Poor NF-more puppet	.264*	.014
Selective Affirmation (e/i/n) of Rich F-more puppet	.269*	.013
Selective Affirmation (i/n) of Rich F-more puppet	.241*	.023
Better Evaluation of the Rich F-more puppet	.192^{+}	.057
Selective punishment of the Poor NF-more puppet	.117	.170

Note. $^{+}$ p < .1; * p < .05

4.4 Discussion

A key debate in moral development centers on the relation between normative views and behavior. Previous theories and empirical evidence suggested either a relation between normative views and behavior (Killen & Dahl, 2018; Paulus et al., 2018; Rizzo et al., 2020; Turiel, 2003) or a discrepancy (Blake, 2018; Blasi, 1983; Smith et al., 2013; Tan et al., 2020). The current study aimed to get beyond this dichotomy of dissociation or coherence by investigating the relation on the group level and on the individual level when contrasting fairness considerations and the inclination to favor friends. The results demonstrated that preschoolers hold a normative stance toward rectifying inequalities, that is, they express that one ought to give more to a poor non-friend than to a rich friend. Yet, when allocating resources themselves, children favored the rich friend over the poor non-friend. At the same time, this discrepancy on the group level stands against a relation on the individual level. Preschooler's selective protest and affirmation of one puppet correlated with their own distribution behavior. The more they protested against a puppet who favored a poor non-

friend or affirmed a puppet who favored a rich friend, the more resources they allocated themselves to a rich friend.

Overall, these findings suggest that both dissociation and coherence characterize the relation between normative views and behavior early in development. Normative views and behavior can be discrepant on the group level, but integrated on the level of the individual. Thus, this study advances the debate about the relation between normative stances and behavior by integrating evidence for dissociation and coherence on an empirical and theoretical level. In particular, this study supports the notion that normative stances are related to actual behavior on the individual level (Killen & Dahl, 2018; Turiel, 2003). Beyond that, children's general inclination to share or allocate resources across individuals seems to be affected by additional factors – in the current study, triggered by the friendship status of recipients. This resulted in a shift of the normative view and behavior on the group level, while maintaining a relation on the individual level. This discrepancy on the group level aligns with the notion of a gap between normative views and behavior (Blake, 2018). The current study thus allows to reconcile theoretical views that suggest either coherence or dissociation. Research on the relation between normative views and behavior might benefit from more differentiated examinations in the future, investigating relations on the group level, the individual level, and factors that might lead to a shift between the two.

Children expressed a normative stance toward rectifying inequalities in their spontaneous affirmation of the behaviors, their evaluation, and their deserved punishment judgments. These findings fit to the notion that preschoolers endorse fairness considerations and enforce norm-conforming behavior in third parties (e.g., McAuliffe et al., 2015; Rakoczy & Schmidt, 2013; Smetana, 2013). In particular, preschooler's view that one ought to give more to a poor than to a rich recipient aligns with previous evidence (Rizzo & Killen, 2016; Wörle & Paulus, 2018). The finding that spontaneous protest against the behaviors occurred with similar frequency suggests that children do not spontaneously prevent others from giving particularly more to a rich friend. The fact that the rich recipient was the best friend of the distributor might have rendered the behavior more acceptable, albeit his greater wealth. Yet, when being asked to reflect on the goodness of a behavior and whether an agent deserves to be punished, children considered favoring a rich friend as worse. On the whole, these findings corroborate that preschoolers generally hold a normative stance toward fairness and rectifying inequalities.

Preschooler's favoring of the rich friend in their own resource allocation behavior fits a line of evidence that highlights the role of social relationships for sharing behavior

(Birch & Billman, 1986; Fehr et al., 2008; Moore, 2009; Paulus, 2016). Importantly, even when children had to decide between giving more to a rich friend or a poor non-friend (uneven trials), they decided for the rich friend in more than half of the trials. Interestingly, in the even-rich trials, children decided to favor the rich friend in around half of the trials, although the alternative option would both fulfil a principle of equal distribution and a principle of relatively allocating more to a poor recipient. These findings extend previous research by demonstrating a strong inclination of favoring a friend in the presence of conflicting, prevalent demands and thus inform about the weighting of different motivations for prosocial behavior (Martin & Olson, 2015). In addition, the even-rich and even-poor trials revealed that the decision for an equal split depends on the alternative option. This pattern suggests that in a given situation, children coordinate different considerations when reaching a behavioral decision (Turiel, 2015). Moreover, the findings add to a recent line of research demonstrating preschool children's expectation of a relation between partiality and friendship (e.g., Afshordi, 2019; Liberman & Shaw, 2017).

Yet, children's behavioral tendency stands in contrast to their normative view. On the group level, preschoolers favor a rich friend although they express that one ought to favor a poor non-friend. This discrepancy suggests that children's distribution behavior is affected by factors that are independent of their normative view. For example, being confronted with a friend as potential recipient might trigger reciprocal considerations (Laursen & Hartup, 2002). In addition, friendships are typically characterized by shared positive affect and affiliation (Newcomb & Bagwell, 1995). Hence, preschoolers might be generally inclined to favor a friend, irrespective of his wealth, because they like him, feel close to him, or expect reciprocal behavior. These factors might generally move children to behave generously towards a rich friend, although they hold an opposite normative view.

Most importantly for our second research question, this discrepancy on the group level stands against coherence on the individual level. Children's normative view correlated with their own distribution behavior. This finding fits the theoretical notion that moral judgments are intrinsically motivating (Killen & Dahl, 2018; Turiel, 2003). It might still be the case that some children enforce giving more to the poor recipient but give more to the rich friend themselves, that is, they do not completely follow their moral judgment. Importantly, however, the stronger children endorsed a norm, the more they behaved accordingly. Even though own behavior might be shifted, it seems to be related to children's own normative stance. This finding builds on previous studies, suggesting that judgments about resource allocations align with own behavior (Paulus et al., 2018; Rizzo & Killen,

2016), and extends these by demonstrating individual coherence in the face of dissociation on the group level. The correlation on the individual level was positive for all normative indicators, strongest for spontaneous protest and affirmation, and marginally significant for the evaluation. This pattern suggests that spontaneous expressions of a normative stance might most closely reflect own behavioral tendencies. When being explicitly asked to make an evaluation or punishment judgment, children might start to reflect more on the observed behavior. Overall, relations of both spontaneous and more reflective normative indicators suggest that normative views are relevant for own behavior.

The notion that the early normative view toward rectifying inequalities becomes shifted in actual behavior aligns with previous evidence. A recent study reported that young children take equity considerations into account when making judgments about resource distributions, but act accordingly only later in development (Rizzo & Killen, 2016). Moreover, some studies report children to perpetuate inequalities when distributing resources, as in the current study (e.g., Kenward et al., 2015; Olson et al., 2011; for review see Paulus & Essler, 2020). Different processes might affect the general inclination to allocate resources in this context, leading to a discrepancy with children's normative view. The current study extends this line of research by revealing that individual tendencies in normative view and behavior align, although a discrepancy is present on the group level.

In addition, the view that differences on the group level stem from general shifts in behavioral tendencies within an age group fits to previous research on costly sharing behavior. Children up to around 7-8 years express that one ought to share half of ones resources, but act rather selfishly when sharing resources themselves (Kogut, 2012; Smith et al., 2013). Lacking self-control competencies have been suggested as an explanation for this gap on the group level (Blake, 2018). While correlational studies on the relation between self-regulatory competencies and sharing behavior revealed mixed evidence (for review see Blake, 2018), taxing behavioral control seems to generally reduce children's inclination to share (Steinbeis, 2018). This pattern of findings fits to the notion that in a costly sharing situation, when children's own resources are at stake, they might be generally less inclined to share, leading to the discrepancy between a norm of equal distribution and selfish behavior on the group level. Whether this discrepancy in normative view and costly sharing behavior on the group level is accompanied by a relation on the individual level remains an open question.

The current study assessed normative views and behavior in a non-costly resource distribution scenario. One could argue that this procedure renders an explanation of lacking

self-control for the discrepancy on the group-level unlikely, as children's own resources are never at stake. The current approach thus allows to examine discrepant normative views and behavior outside a context in which children's self-interest is concerned. However, when using a broader concept of self-interest, one could argue that preferring friends is a kind of self-focused behavior. Friends could be considered as part of the self because children engage in close, reciprocal interactions with friends and describe themselves with reference to their friendships (Harter, 2007; Laursen & Hartup, 2002). Following such an argumentation, it is possible that the bias towards favoring friends in own resource distribution stems from a bias towards self-interest. It might be an interesting avenue for further research to examine the role of behavioral control for preferential sharing with friends.

Beyond addressing the relation between normative views and behavior, this study speaks to the question how children handle conflicting normative demands. In particular, it suggests that preschoolers handle conflicting demands differently on the normative and behavioral level. Previous studies and theoretical considerations suggest that friendships carry normative obligations (e.g., Betzler, 2014; Keller et al., 1998). Accordingly, preschoolers seem to hold a normative notion toward giving more to friends than non-friends (Paulus, Christner, et al., 2020), expect others to share more with a friend (Paulus & Moore, 2014), and also guide others to distribute resources accordingly (Olson & Spelke, 2008). Yet, the current study suggests that in preschool years, the normative view that one ought to favor friends is subordinate to a normative view of rectifying inequalities. This study thus indicates how demands resulting from social relationships are handled in the face of conflicting, fairness-based demands.

This study advances the debate about the relation between normative stances and behavior by integrating evidence for dissociation and coherence. As the study relied on resource distribution scenarios, it leaves open whether individual relations would be present also in costly sharing situations or whether individual differences in, for example, self-control, would outweigh the role of normative views. This would be an interesting question for future research because children naturally engage in sharing that involves costs (Iannotti, 1985). Moreover, the current evidence stems from a sample of Western cultural background. Yet, the weighing of justice-based and relationship-based considerations, and therefore the inclination to generally favor friends might be culturally dependent (Miller & Bersoff, 1992). It remains thus an open question whether the pattern of a dominating norm of rectifying inequalities while generally favoring a friend is universal. Furthermore, normative views are

suggested to be perceived as more personally binding around middle childhood (Nunner-Winkler, 2007). While the current findings already suggest relations with behavior in preschool years, it would be interesting to examine how these develop across childhood. On the one hand, an increasing sense of personal obligation might generally lead to more adherence to the norm of giving more to the poor non-friend (cf. Rizzo & Killen, 2016). On the other hand, one could hypothesize that social relationships receive increasing normative force, because friendships become more complex and social-communicative across childhood, and provide a context for children to construct their view of the social world (Carpendale et al., 2013; Rubin et al., 2005). A third alternative could be that children develop individually different with regard to how they weigh conflicting principles (cf. Abramson et al., 2018). Some individuals might give more weight to fairness-base considerations, while others might give more weight to demands resulting from social relationships, which then mark both their normative view and behavior.

In summary, the current study reconciles evidence for coherence and dissociation between normative views and behavior in preschool years. While normative views and behavior differ on the group level, individual tendencies seem to align. The study thus highlights that differentiating between relations on the group level and the individual level is important to reach a comprehensive picture of the relation between normative views and behavior.

Supplemental Material

Evaluation Justifications: Coding Scheme

Justifications for the evaluations were coded into eight categories based on Wörle & Paulus (2018). The categories reflect whether children considered the relationship, the recipient's wealth, the procedure of distributing, or a combination of these factors in their justification. *Relationship based* justifications refer to the status of the friendship or no friendship between agent and recipient (e.g., "Because he is his best friend."). *Wealth based* justifications refer to the recipient's possession of many or little resources (e.g., "Because he has already a lot and he has almost none."). *Procedural based* justifications refer to the process of distributing resources itself (e.g., "Because he gave many to him and one to him."). Responses were categorized as *procedural and relationship based* if they referred to both the procedure and the friendship status (e.g., "Because he gave many stickers to his friend."). *Procedural and wealth based* justifications comprise responses that referred to the procedure and the recipient's wealth (e.g., "Because he gave him only one because he already had so many, and he gave him several because he didn't have so many yet."). Responses were categorized as *procedural, friendship, and wealth based* if they took into account all three aspects (e.g., "Because he gave his friend, who has many stickers, more, and the other less because he has less and he doesn't like to play with him."). Responses that did not fit to these categories were classified as *other*. If children provided no justification, this was coded as *did not give a reason*.

Evaluation Justifications: Descriptive Analyses

In order to examine children's evaluation justifications, we split children based on whether they evaluated a puppet's behavior positively (as *very good* or *good*) or negatively (as *bad* or *very bad*). Children who evaluated a behavior with a 3 (medium) were excluded from this analysis. The behavior in the friendship condition was evaluated positively by 32 (35%) children and negatively by 40 (44%) children. The behavior in the neediness condition was evaluated positively by 59 (65%) children and negatively by 19 (21%) children. Table 8 presents the frequency of the respective justification category divided by condition.

Table 8. Number (and percentage) of children who justified their positive or negative evaluation based on the respective category.

	Friendship		**Neediness**	
	Positive evaluation	Negative evaluation	Positive evaluation	Negative evaluation
Relationship based	5 (15.6%)	0 (0%)	1 (1.7%)	3 (15.8%)
Wealth based	2 (6.3%)	8 (20.0%)	17 (28.8%)	0 (0%)
Procedural based	3 (9.4%)	7 (17.5%)	5 (8.5%)	2 (10.5%)
Procedural and relationship based	10 (31.3%)	1 (2.5%)	3 (5.1%)	8 (42.1%)
Procedural and wealth based	0 (0%)	17 (42.5%)	18 (30.5%)	0 (0%)
Friendship, wealth and procedural based	0 (0%)	3 (7.5%)	3 (5.1%)	1 (5.3%)
Other	9 (28.1%)	3 (7.5%	9 (15.3%)	4 (21.1%)
Did not give a reason	3 (9.4%)	1 (2.5%)	3 (5.1%)	1 (5.3%)

5 Study 4:

Structure of normative understanding and sharing behavior in preschool children

Christner, N., & Paulus, M. (in prep.). Structure of normative understanding and sharing behavior in preschool children.

Abstract

Children increasingly appreciate normative obligations and share resources across preschool years. But the internal structure and behavioral relevance of normative expressions remains disputed. Here, 4- to 6-year-old European children (N = 90, 37 female) observed protagonists sharing or not sharing resources. Children's evaluation, punishment of the protagonists (hypothetical, non-costly, costly), their moral self-concept, and own sharing behavior was assessed. Results revealed two distinct factors underlying normative expressions: norm representation and its behavioral enforcement. Children's moral self-concept was the only normative expression that related to sharing behavior. Person-centered analyses suggest some consistency in individual differences across normative and prosocial development. This study advances our understanding of early normative development and highlights the internal structure of normative stances in the preschool years.

5.1 Introduction

Humans routinely share own resources with others. The emergence and influencing factors of sharing are major ongoing topics in developmental research. Spontaneous sharing seems to emerge already during toddlerhood, at first depending on explicit cues (Brownell et al., 2009; Dunfield & Kuhlmeier, 2013). When not confronted with explicit cues, preschoolers generally share little and tend to favor themselves, particularly when sharing is costly for themselves, that means, when they have to give up own resources (Abramson et al., 2018; Fehr et al., 2008; Moore, 2009). Across school years, children increasingly avoid inequalities and engage in equal distribution themselves (Fehr et al., 2008; Kogut, 2012; Shaw & Olson, 2012; Smith et al., 2013). An increasing sense of fairness thus marks prosocial development during early childhood, with preference for equality being one important aspect (McAuliffe et al., 2017).

Children's sharing behavior becomes accompanied by a normative stance towards sharing. From around three years, children express norms about how resources ought to be distributed (e.g., McCrink et al., 2010; Rakoczy et al., 2016; Rizzo et al., 2020; Smetana, 2013; Wörle & Paulus, 2018). For example, when observing a puppet distributing resources unequally, children spontaneously protest against the puppet's behavior. Particularly four- to five-year-olds do so using explicit normative protest (Rakoczy et al., 2016). This normative stance on resource distribution is embedded in a greater set of stances about how one ought to behave, including topics of harm and care (e.g., Paulus et al., 2020; Smetana, 2013; Vaish et al., 2011) and arbitrary game rules likewise (Rakoczy et al., 2008). During

preschool years, children thus become increasingly part of the normative world, which entails topics of fairness (McAuliffe et al., 2017; Tomasello, 2018; Turiel, 2003).

This study aimed at investigating the internal structure of early normativity. It examines to which extent different normative expressions regarding fairness form a coherent normative stance or to which extent they constitute distinct factors of normativity. Moreover, it aimed at exploring the behavioral relevance of children's fairness-related normative stances contributing thus to an ongoing debate about the relation between normative views and actual behavior.

Varieties of Normative Expressions in Preschool Children

Norms set a standard of what is considered right or wrong (Carpendale et al., 2013). A key characteristic of norms concerns that this standard is not only applicable to the self but considered to be valid for any agent in comparable situations (Nagel, 1970). Developmental research has evidenced a variety of different normative expressions in young children, most notably evaluations, hypothetical punishment, non-costly punishment, costly punishment, and the moral self-concept. One key theoretical question concerns to which extent this variety of normative expressions coheres or to which extent early normativity is internally structured. In the following, we will first introduce five normative expressions in more detail before outlining the theoretical question.

First of all, normative stances reflect the view about how one ought to behave and thus about what behavior should be considered right or wrong. A normative stance is therefore the basis for the evaluation of a behavior (Killen & Dahl, 2018). In addition, justifications for evaluations are informative about how children reason about norms and about the underlying basis of evaluations. The explicit reference to normative considerations suggests that an evaluation actually reflects a normative stance rather than a desire (Smith et al., 2013). Examining children's justifications thus allows for a more detailed picture of evaluations as one aspect of normative stances. A body of research investigated children's evaluation of and reasoning about fairness-related behavior (e.g., Cooley & Killen, 2015; Rizzo et al., 2020; Smith & Warneken, 2016). Already preschoolers differentiate in their evaluation between moral and social-conventional norm transgressions (Smetana, 1981) and between different ways of distributing resources, e.g., behavior following a charity norm and behavior non-compliant with the norm (Wörle & Paulus, 2018). Children's strong preference for equal resource distribution is highlighted by their increasingly positive evaluation of

equal distribution between the age of 3 to 8 years (Elenbaas, 2019). Children's ratings about how good or bad they view a behavior are thus one central aspect of their normative stances.

Judgments about deserved punishment can be considered as a second aspect of normative stances. Classical theories of moral development have proposed that children first conform to norms because these are set by authorities and transgressions get punished (Kohlberg, 1976; Piaget, 1932/1997). More recent accounts highlight the relevance of reasoning about punishment as being indicative of a strong normative stance (Killen et al., 2011). Following that line of thought, considerations about punishments are informative in themselves because they allow to infer what actions children consider to be wrong. Hence, a line of research investigated children's hypothetical judgments about what actions deserve to be punished (e.g., Killen et al., 2011; Malti et al., 2010; Piaget, 1932/1997; Smetana, 1981; Van de Vondervoort & Hamlin, 2017). For example, preschoolers evaluate moral norm transgressions as more deserving of punishment than social-conventional transgressions (Smetana, 1981). Overall, hypothetical judgments about deserved punishment reflect one's approval of a behavior, suggesting that the evaluated behavior is considered obligatory.

Third, children's normative stances become evident in their actual punishment behavior. Third-party-punishment, meaning punishment of an actor without being affected by the actor's behavior oneself, is particularly interesting because it requires to focus on fairness for others rather than fairness for oneself (McAuliffe et al., 2017). It is regarded as an important tool for enforcing social norms and promoting cooperation (Fehr & Fischbacher, 2004). Investigating the developmental origins of punishing allows to draw inferences about how deeply rooted the tendency to punish is in human's behavioral repertoire. On the one hand, punishment might rely on cognitive capacities that develop across childhood, for example, norm compliance and behavioral control (McAuliffe et al., 2017) or reputational concerns (Jordan et al., 2016; McAuliffe et al., 2020). On the other hand, punishment might be a fundamental part of children's developing fairness (Tomasello & Vaish, 2013), emerging in line with other facets of fairness such as evaluative judgments of resource allocations.

First hints of approval of third-party punishment are already observed early in ontogeny (Hamlin et al., 2011). In preschool years, children start to spontaneously punish in response to norm-transgressing behavior (Kenward & Östh, 2015; McAuliffe et al., 2015; Riedl et al., 2015; Yudkin et al., 2020). Strikingly, humans are even willing to incur costs in order to punish a norm transgressor (e.g., Henrich et al., 2006; McAuliffe et al., 2015). Costly punishment can thus be considered as a fourth aspect of normative stances. It seems to

emerge around four to five years and occur robustly from around six years on (Bernhard et al., 2020; McAuliffe et al., 2015; Salali et al., 2015). Using more naturalistic methods, costly punishment was observed already in a sample of 4- to 6-year-olds (Yudkin et al., 2020). The emergence of non-costly and costly punishment is thus a highly relevant topic in current developmental research. Previous studies revealed that preschoolers generally punish less, if costs are involved (McAuliffe et al., 2015), and that patterns of non-costly and costly punishment differ in the group context (Yudkin et al., 2020). Notably, evidence on whether interindividual differences in non-costly and costly punishment align is lacking. Examining this point would be informative about the underlying processes of early punishment.

These four expressions – evaluations including justifications, hypothetical punishment, non-costly punishment, costly punishment – can be considered genuinely normative phenomena because they express a stance towards a behavior with regard to its obligatory nature. Beyond that, evaluating oneself with regard to issues of fairness and other moral criteria can likewise be considered as an evaluative or normative phenomenon. Representation of oneself are organized in the self-concept (Harter, 2007). The moral self-concept, that is, children's evaluation about themselves with regard to moral criteria, constitutes a further normative expression in the context of fairness. Theories highlight the role of the moral self-concept for prosocial behavior (Blasi, 1983; Hardy & Carlo, 2011; Krettenauer, 2013; Lapsley & Narvaez, 2004b). Several studies demonstrated that by around five years, children's moral self-concept is meaningfully related to parent-rated pro- and antisocial behavior (Kochanska et al., 2010; Sengsavang & Krettenauer, 2015). In addition, relations to actual prosocial behavior were evidenced in older children (Christner et al., 2020) and adults (Hertz & Krettenauer, 2016). To date, however, no study investigated the behavioral relevance of the moral self-concept for prosocial behavior in preschool years. Our study explores whether children's early moral self-concept is meaningful for individual behavioral tendencies and how it relates to other normative expressions about moral aspects.

Taken together, a variety of expressions of normative stances exist. These are often studied in separation, though. A key question concerns to which extent young children's normative expressions are coherent or independent and whether they are inherently structured in distinct factors. That is, do children express a normative stance coherently across a variety of indices? From a theoretical perspective, two views can be put forward. On the one hand, following an essentialist perspective, different normative expressions might align as they all ground on the same normative stance. On the other hand, a normative

stance might be a multi-faceted construct, constituted by a variety of, to some degree distinct, normative expressions.

Little research addressed the interrelation of normative expressions. Some studies suggest that a subset of normative expressions align (Paulus et al., 2020; Smith & Warneken, 2016; Van de Vondervoort & Hamlin, 2017), while others report no interrelations (Killen et al., 2011; Wörle & Paulus, 2018). For example, while Smith and Warneken (2016) reported that fairness judgments about punishment and own punishment allocations were correlated, Killen et al. (2011) found no relation between ratings about punishment acceptability and evaluations of a behavior. However, previous studies differed in the normative stance they investigated and in the subset of normative expressions of interest. Partly, they only examined the alignment of expressions on the group level without focusing on relations on the individual level. Empirical evidence is thus inconclusive. One recent study systematically examined preschooler's moral functioning (Tan et al., 2020). The authors investigated evaluations of different types of moral scenarios, reporting some to be correlated and others not. While the authors addressed different types of moral scenarios, their examination of normativity rested on evaluative normative expressions only. For example, this study included reasoning-based forms of normative expressions, such as evaluation and hypothetical punishment, but did not examine behavioral expressions, such as actual punishment – leaving a comprehensive assessment of preschoolers' normative stances an important task for future studies. Our study aims at making a further step at drawing an overall picture of early normativity by providing a comprehensive assessment of various normative expressions in early childhood, reflecting normativity both on the reasoning-based and behavioral level.

Relation Between Normative Stances and Behavior in Preschool Years

Are children's normative stances related to actual behavior? This question remains topic of a vivid debate. One line of theories proposes that judgements align with behavior from early on (Killen & Dahl, 2018; Turiel, 2003), which would suggest that behavior might be directly guided by normative views. Another line of theories suggests that judgement and behavior are not directly related (Blake, 2018; Blasi, 1983; Gerson & Damon, 1978), which would point towards the idea that early in development normative stances do not immediately translate into behavior and that their early ontogeny is guided by different mechanisms. Although this is a key question for developmental psychology, most research on the relation between normative stances and prosocial behavior examined these on a group level, meaning

whether children of different age groups show the same response pattern across variables (Kogut, 2012; Smith et al., 2013). The few studies that directly addressed this question examined only single aspects or subtypes of normative expressions (Malti et al., 2010; Tan et al., 2020) or third-person scenarios (Paulus et al., 2018). Some studies revealed a relation (Malti et al., 2010; Paulus et al., 2018; Rizzo et al., 2020), while others suggest a gap between single fairness-related normative expressions and behavior (Kogut, 2012; Smith et al., 2013; Steinbeis, 2018; Tan et al., 2020). Yet, given that these studies focused on a limited number or only specific subtypes of normative expressions, empirical evidence on this issue is inconclusive and awaiting further assessment. Our study aimed at contributing to this theoretical debate by including a wider variety of different normative expressions.

As different normative expressions might be differently related to behavior, examining response patterns across all indicators and behaviors is particularly interesting. Next to variable-centered analyses, it would be informative to examine whether children form meaningful subsamples that are characterized by specific response patterns across a number of fairness-related behaviors. Are some children characterized by coherent fairness-related responding, while others show a response pattern that reveals specific phenomena to be dissociated? Identifying distinct groups of children based on their level of normative stances and behavior sheds further light on the emergence of fairness-related functioning.

Current Study

The current study investigates varieties of normative expressions in the context of fairness in relation to prosocial behavior. The aim of the study was three-fold. First, we aimed to examine the interrelations of different normative expressions regarding equal distribution to shed light on the coherence of early normativity. Second, we aimed to advance the theoretical debate about the relation between normative views and behavior (Blake, 2018; Turiel, 2003) by assessing a variety of normative indices regarding fairness (evaluation, hypothetical punishment, non-costly punishment, costly punishment, moral self-concept) and actual prosocial behavior. We included the moral self-concept next to genuine normative expressions in order to examine whether preschoolers have a cognitive representation of their prosociality that is meaningfully related to their active sharing behavior, as proposed by developmental theories (Hardy & Carlo, 2011; Kochanska et al., 2010; Krettenauer, 2013). Third, we aimed to examine response patterns of individuals across fairness-related responding. That is, can groups of individuals be identified based on their levels of normative expressions and sharing behavior? Addressing this question further advances our

understanding of coherence in fairness-related normative and prosocial development by accounting for different individual tendencies.

The current study investigated the relation of normativity and behavior both in a variable-centered and person-centered approach following previous developmental research (Newton et al., 2016). The variable-centered approach focuses on how different variables relate to each other. The person-centered approach (Latent Profile Analysis) aims to identify groups of individuals, who show a consistent pattern across variables. It therefore nicely complements the variable-centered approach by allowing to investigate consistency in individual differences across a variety of normative forms of expression and sharing behavior.

To address our research questions, children first had the possibility to share items (Smith et al., 2013). To assess normative expressions, children observed puppets who either shared or did not share resources with another puppet. Following each puppet, children were first asked to evaluate the behavior and to justify their evaluation (Killen et al., 2011). Next, children were asked whether the puppet should get into trouble (hypothetical punishment; Smetana, 1981) as an indicator of their cognitive representation of how much punishment a norm transgressor deserves. In addition, children had possibilities to punish each puppet by taking resources away, either in a non-costly or a costly way (Robbins & Rochat, 2011). For assessing children's moral self-concept, we employed a puppet interview (Christner et al., 2020; Krettenauer et al., 2013).

The current study assessed four- to six-year-old children. This age period is suitable to investigate normative stances because from around three years, children are considered to form explicit normative standards (Dahl & Paulus, 2019; Tomasello, 2018). It is particularly a remarkably phase of fairness development, because most children are aware of a norm of equal distribution while only some behave accordingly (Blake, 2018). Moreover, around 5 to 6 years, children increasingly employ costly punishment (Bernhard et al., 2020; McAuliffe et al., 2015).

5.2 Method

Participants

The final sample comprised 90 preschool children (M = 61 months, SD = 8.7 months, range: 47-79 months; 37 female). One additional child had to be excluded due to language problems. For determining sample size based on an expected effect size, we relied on previous literature on the interrelation of normative expressions (Smith & Warneken, 2016), on the relation of normative views and resource allocation (Paulus et al., 2018), and on

person-centered analyses (Newton et al. 2016). A power analysis revealed a required sample size of 81 to detect a relation of r = .35 with α = .05 and a power of .90. For person-centered analysis, a minimum sample size of 87 was determined following previous research (Newton et al., 2016). Children attended preschools in Germany. Most children were White and of middle socioeconomic status. Participants were recruited in preschools that agreed to facilitate data collection. All caregivers received an invitation letter for the study that they could hand back signed, if willing to participate. Children, whose caregivers had provided informed consent, were asked whether they want to participate in the study. The local ethics committee approved the study. Children received little gifts for participating.

Materials

The study comprised three different tasks, a first-person sharing task, a third-person task, and a moral self-concept interview task.

Sharing task. For assessing children's sharing behavior, we relied on tokens (colored stones) as valuable resources that could be exchanged for stickers or balloons at the end of the session (cf. Sheskin et al., 2014). Thereby, we assured that children shared identical resources - any preference for particular resources within a trial is therefore unlikely - while preventing saturation effects of identical resources.

Third-person task. For assessing children's normative expressions, children observed scenarios with 30-cm-tall hand puppets as protagonists. Four different hand puppets played by the experimenter served as protagonists, while the four recipients (one for each protagonist) were represented by photos of puppets. Colorful erasers served as resource for the puppets' sharing behavior. Children evaluated the protagonists' behavior on a 5-point smiley scale ranging from *very bad (1)* to *very good (5)*.

Moral self-concept. For assessing children's moral self-concept, we employed three different pairs of identical hand puppets of the child's gender in a puppet interview.

Procedure

We tested all children individually in a quiet room in the child's preschool. Sessions were videotaped for later coding. First, we assessed children's sharing behavior, afterwards their normative expressions regarding fairness, and finally their moral self-concept. The whole procedure lasted around 30 minutes.

Measures

Sharing task. In order to assess sharing behavior, the experimenter provided the child with valuable resources (tokens) that he/she could share with another child. First, the experimenter presented the variety of gifts that the tokens could be exchanged for in the end and explained the procedure: The more tokens the child will have in the end, the more gifts he/she can choose to take home; the less tokens the child will have, the less gifts he/she can choose. To remind participants of the value of the tokens, the experimenter asked "What happens in the end, if you have a lot of tokens?". Children who didn't reply or replied incorrectly were corrected. Next, the experimenter introduced a gender- and age-matched recipient, who was presented as visiting another preschool and therefore not being present, using a photo of the recipient ("Nina"/"Niko"). Two sharing trials followed, with four tokens used in the first and six tokens used in the second trial. We offered a different number of tokens in the two trials in order to assess children's sharing behavior in a more general setting by relying on more than one trial type. The experimenter put two envelopes in front of the participating child (with the photo of the recipient lying on one envelope), allocated all tokens to the child (four in the first trial; six in the second trial), and explained: "These tokens belong to you now, these are yours. If you want, you can share these tokens with Nina/Niko. The tokens that you want to give to Nina/Niko, you put in this envelope [pointing on envelope]. The tokens that you want to keep, you put in this envelope [pointing on envelope]. You can give her/him one, two, three, four, (five, six) or no token." Then, the participant was given the possibility to share. Afterwards, all tokens were stored in the respective envelopes and envelopes were put aside.

Third-person task. Children's normative expressions were assessed using several third-person scenarios in which the child observed puppets who shared or didn't share resources. At the beginning of the task, every child received another eight tokens that stayed on the child's envelope during the remaining session. The experimenter stated that these tokens belong now to the child. The tokens served as currency for the costly punishment later on. Next, the experimenter introduced the 5-point smiley scale that the child used later for evaluating the puppets' behavior. Two practice questions ensured that the child knew how to use the smiley scale. Thereafter, the scenarios for assessing children's normative expressions began.

The experimenter first introduced four protagonist hand puppets by their name and stated that they all like erasers, the resource of the upcoming sharing scenarios. The task comprised two conditions: sharing and not-sharing. In the sharing condition, the protagonist

puppet (Equal Puppet) shared erasers equally with a recipient puppet (3-3). In the not-sharing condition, the protagonist puppet (Selfish Puppet) kept all erasers and gave none to the recipient puppet (6-0). Each condition consisted of two trials that differed only in the punishment measure (non-costly vs. costly), which was presented last in each trial. We thus assessed children's evaluation in two trials per condition, but their non-costly and costly punishment in one trial per condition. We decided for this procedure in order to be able to examine both types of punishment (non-costly and costly) independently and to compare them. When assessing both types of punishment within one trial, they would have influenced each other. E.g., if a puppet is already punished non-costly, there is little reason to additionally punish the same puppet when it involves costs in the next step. At the same time, keeping all other questions constant across the two trials of one condition allowed us to examine those measures across two trials and this procedure set the same circumstances for both punishment measures. Overall, the task thus consisted of four trials, with each protagonist puppet playing one trial.

The general procedure for one trial was the following: The experimenter stated that they will now play a game with the respective protagonist puppet. Additionally, she introduced the recipient puppet (represented by a photo), who was told to also like erasers and to go to the same preschool as the protagonist puppet, but cannot be here today. Next, the experimenter allocated six identical erasers to the protagonist puppet and explained: "He can decide what to do with the erasers. He can give some to X [the recipient; pointing on photo] and he can keep some. He can decide." The erasers were put on two envelopes, one envelope for the protagonist and one for the recipient. Next, the protagonist, played by the experimenter, slowly distributed the erasers onto the envelopes while verbally stating his behavior: "Hmm… I think, I will give 3 erasers to Lukas and I will keep 3 erasers. Yes, that's how I do it. I will give 3 erasers to Lukas and I will keep 3 erasers." (sharing condition; for not-sharing: 0-6).

Next, we assessed children's evaluation of the puppet's behavior and their justification for the evaluation. We aimed to assess children's evaluation and punishment based on the behavior of the protagonist (i.e., keeping all erasers for himself and not sharing any), not based on the outcome of the behavior (i.e., one puppet having 6 erasers, one puppet having 0 erasers). Therefore, the following procedure served to equalize the amount of resources of both puppets, irrespective of the protagonist's behavior before. After the protagonist puppet had all items distributed, the experimenter explained to the child that on their way home from preschool, each of them (protagonist and recipient puppet) found some

erasers. In the sharing condition, both found 5 erasers. In the not-sharing condition, the protagonist found 2 and the recipient found 8 erasers. This procedure ensured that each puppet had in the end the same amount of resources. The experimenter drew children's attention to the equal outcome and again to the puppet's previous behavior (sharing, not-sharing). In order to assess children's normative indices, children now answered the following questions: First, children evaluated the behavior of the protagonist in two steps. They first answered, whether it was good or bad, and then refined their evaluation on the smiley scale. Additionally, in order to assess children's reasoning, they were asked to justify their evaluation. Second, the experimenter asked whether the protagonist should get into trouble for what he did. If children stated "yes", they were asked whether a little or a lot of trouble.

Finally, we assessed whether children engaged in non-costly and costly punishment. The following procedure differed between the two trials within one condition. In one trial, a non-costly punishment option followed, while in the other, a costly punishment option followed. In the non-costly punishment trial, the experimenter offered to take the protagonist puppet an item away for what he did before, if the child wants that. In case the child said yes, the experimenter took one item away and repeated the question. This procedure was repeated, until the child did not want to take away any more items. In the costly punishment trial, the child had to give away one of his/her tokens for every eraser he/she wanted to be taken from the puppet. Besides of that, the procedure was the same.

Each condition (sharing; not-sharing) consisted of two trials. The first trial of each condition included the non-costly punishment option, the second trial the costly punishment option. After finishing the two trials with the non-costly punishment option, the experimenter reminded the child about the value of the tokens that were employed for the costly punishment. The order of the two conditions (sharing; not-sharing) was randomized within the first two trials (ending with the non-costly punishment option) and the last two trials (ending with the costly punishment option).

Moral self-concept. In order to assess children's moral self-concept, we employed a puppet interview. The interview builds on the Children's Moral Self Puppet Scale by Sengsavang and Krettenauer (2015) but focuses only on prosocial behavior (Christner et al., 2020). The experimenter played a pair of identical puppets in each trial. One puppet expressed a positive statement (e.g., "I like to share my pencils") while the other stated the opposite (e.g., "I don't like to share my pencils."). Next, the child was asked which puppet he/she is more alike. When the child decided for one puppet, the experimenter asked: "Are you a little or a lot like

this puppet?" Children's scores for each trial ranged from *a lot like the non-prosocial puppet (1)* to *a lot like the prosocial puppet (5)*. If the child saw him-/herself in the middle of both puppets, the reply received a score of *3*. If the child did not decide between "a little" or "a lot", the reply received a score of 1.5 or 4.5, depending on the chosen puppet. The interview consisted of 16 items, with three items addressing each of the three domains of prosocial behavior (sharing, helping, comforting), three items addressing social desirable behavior in order to control for children's social desirability response bias, and four distractor items. Items of the different subscales were presented in mixed order. Order and side of the puppet stating the positive/negative statement was counterbalanced across trials. Three different puppet pairs were employed in randomized order.

Coding

Sharing Behavior. Children's number of shared tokens across the two trials was taken as a measure of sharing behavior. We thereby measured children's general tendency to share, which not only depends on one trial type.

Evaluation. Children's evaluation of the protagonist's behavior was rated on the smiley scale from 1-5. We computed a difference score by subtracting the evaluation of the selfish puppet from the evaluation of the equal puppet. The higher the difference score, the better children evaluate the behavior of the equal compared to the selfish puppet.

Justification. The justification for their evaluation were coded into six categories adapted from previous developmental studies (Dahl & Turiel, 2019; Malti et al., 2009; Wörle & Paulus, 2018). *Norm-based* justifications expressed that sharing is considered as a norm or a clear evaluation of the behavior (e.g. "because it's fair", "because that's very good"). *Emotion-based* justifications referred to the feelings of the recipient or protagonist (e.g., "because he will feel happy"). *Relationship-based* justifications focused on the importance of sharing for relationships (e.g., "because that's not good for the friendship"). *Hedonistic* justifications included self-serving or egoistic answers (e.g., "because then he doesn't get punished"). *Action-based* justifications refer to answers that focus on the process or outcome of the distribution (e.g., "because he gave him three"). Justifications that did not fit into these categories or "I don't know" were coded as *others*. Because some children referred to more than one category in their justification, we scored for each child for each trial, whether each justification category is used (1) or not (0). For each type of justification, we then used the number of trials in which it was used as final measure (0-4). A second independent coder

rated 22% of all cases to determine inter-rater-reliability. Cohen's kappa was good for all categories, with *k*s ranging from 0.76 to 1.00.

Hypothetical punishment. Children's answers on whether the puppet should get into trouble were coded as *no trouble (0), a bit trouble (1), a lot trouble (2)* following Killen, Mulvey, Richardson, Jampol, and Woodward (2011).

Punishment. The number of items that children were actually willing to take away from the puppet served as a measure of children's punishment, separately for non-costly and costly punishment (cf. Robbins & Rochat, 2011). For hypothetical, non-costly, and costly punishment, we computed difference scores by subtracting the respective measure for the equal puppet from the measure for the selfish puppet. The higher the difference score, the more children think the selfish puppet should get trouble or be punished compared to the equal puppet. These difference scores served as a measure for children's normative expressions.

Moral Self-Concept. Given that sharing, helping, and comforting represent distinct behavioral facets of children's prosocial behavior (Dunfield & Kuhlmeier, 2013) and given that we exclusively assessed children's sharing, we focused on the moral self-concept regarding sharing behavior. We computed children's mean rating across the sharing items as their moral self-concept score.

Social Desirability (Control Variable). The proportion of puppet interview items on social desirable behaviors that were answered in the most socially desirable way served as an index for children's social desirable response bias.

5.3 Results

Sharing Task

Children shared on average 0.87 out of 4 tokens in the first trial (*SD* = 0.96) and 2.03 out of 6 tokens in the second trial (*SD* = 1.54). Across the two trials, children shared on average 2.9 tokens out of 10 (*SD* = 2.06).

Moral Self-Concept

One child was excluded from all analyses on the moral self-concept due to experimenter error. Children's moral self-concept had an average level of 4.02 (*SD* = 0.93).

Third-Person Task

In order to investigate children's normative stance regarding equal sharing, we compared their evaluation, their hypothetical punishment ("Should he get into trouble?"), and their actual punishment (non-costly and costly) between the Equal-Puppet and Selfish-Puppet.

Evaluation, justification, and hypothetical punishment. Children rated their evaluation and hypothetical punishment for each puppet in two trials. Preliminary analyses revealed no significant effect of the factor trial for any measure for any puppet, *p*s > .113. We thus analyzed the mean evaluation and hypothetical punishment regarding each puppet across trials. We computed linear mixed models separately for predicting children's evaluation and hypothetical punishment. The full model included condition (Equal; Selfish), children's age (in months), and the interaction between condition and age. Additionally, we included participant as a random factor, because each participant saw both conditions. To test the significance of the full model, we compared it to a null model that only included the random effect of participant. To test the significance of individual factors, we compared the full model to a reduced model lacking the respective factor using likelihood ratio tests.

For evaluation, the full model was significant, $\chi^2(3) = 240.26$, $p < .001$. Comparing the full model with a reduced model revealed no significant interaction of condition and age, $\chi^2(1) = 2.97$, $p = .085$ (yet showing a tendency that the older the children, the better they evaluated the Equal-Puppet). We thus dropped the interaction to get interpretable main effects. Comparing the remaining model with the reduced models lacking each factor individually revealed a significant main effect of condition, $\chi^2(1) = 237.19$, $p < .001$, but no main effect of age, $\chi^2(1) = 0.55$, $p = .458$. Overall, children evaluated the Equal-Puppet better ($M = 4.59$, $SD = 0.68$) than the Selfish-Puppet ($M = 1.84$, $SD = 0.96$). Children justified their evaluation mostly norm-based or action-based for both puppets (see Table 9).

For hypothetical punishment, the full model was significant, $\chi^2(3) = 61.26$, $p < .001$. Comparing the full model with a reduced model revealed no significant interaction of condition and age, $\chi^2(1) = 2.56$, $p = .110$. We thus dropped the interaction to get interpretable main effects. Comparing the remaining model with the reduced models lacking each factor individually revealed a significant main effect of condition, $\chi^2(1) = 58.52$, $p < .001$, but no main effect of age, $\chi^2(1) = 0.20$, $p = .654$. Overall, children rated that the Selfish-Puppet should get more trouble ($M = 0.70$, $SD = 0.68$) than the Equal-Puppet ($M = 0.07$, $SD = 0.33$).

Non-costly and costly punishment. In order to investigate children's actual punishment, we computed linear mixed models with punishment (the number of items taken away) as outcome variable. The full model included condition (Equal, Selfish), punishment type (non-

costly, costly), age in months, and the three-way-interaction as predictors. Additionally, we included the random effect of participant because each child saw both conditions and employed both punishment types. The procedure for statistical inference followed the procedure described above.

The full model was a better fit compared to the null model, $\chi^2(7) = 92.56$, $p < .001$. Comparing the full model with a reduced model revealed no significant three-way-interaction, $\chi^2(1) = 0.05$, $p = .818$. We thus dropped the three-way interaction from the model. Comparing a model including all possible two-way-interactions with reduced models revealed a significant interaction of condition and punishment type, $\chi^2(1) = 9.33$, $p = .002$. The other two-way-interactions were not significant, *p*s > .131, and thus dropped from further analyses. In order to follow up on the interaction of condition and punishment type, we computed separate models for non-costly and costly punishment. We found a significant main effect of condition for both non-costly punishment, $\chi^2(1) = 21.57$, $p < .001$, and costly punishment, $\chi^2(1) = 6.45$, $p = .011$. Age showed a marginal significant effect on non-costly punishment, $\chi^2(1) = 3.67$, $p = .055$, and costly punishment, $\chi^2(1) = 3.40$, $p = .065$. Both non-costly and costly, children tended to punish more with increasing age. Figure 10 displays children's punishment in the two conditions separately for non-costly and costly punishment. Concerning non-costly punishment, children punished the Selfish-Puppet more ($M = 2.59$, $SD = 2.79$) compared to the Equal-Puppet ($M = 1.23$, $SD = 2.55$). This effect was weaker when children had to give up own resources for punishing. But also concerning non-costly punishment, children punished the Selfish-Puppet more ($M = 0.53$, $SD = 1.20$) compared to the Equal-Puppet ($M = 0.28$, $SD = 1.02$).

Table 9. Frequencies of justifications: Number of children who used each type of justifications for each puppet in 0 trials, in 1 trial, or in 2 trials.

	Equal Puppet			**Selfish Puppet**		
	0	**1**	**2**	**0**	**1**	**2**
Norm-based	55	13	22	54	16	20
Emotion-based	81	8	1	84	6	0
Relationship-based	85	3	2	84	5	1
Hedonistic	85	4	1	83	6	1
Action-based	50	12	28	45	23	22
Other	74	8	8	72	9	9

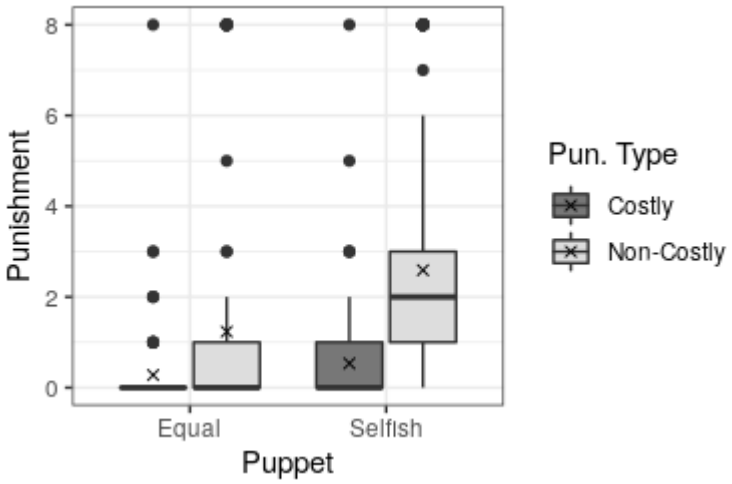

Figure 10. Punishment for each Puppet (Equal, Selfish) divided by Punishment Type (Non-Costly, Costly). Crosses depict means across participants.

Interrelations Between Variables

For descriptive purposes, Table 10 presents a zero-order correlation matrix. We computed Spearman correlations because some variables were not normally distributed.

Table 10. Zero-order correlation matrix with two-tailed Spearman correlations.

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2	0.22*	-						
3	0.04	0.20^{+}	-					
4	-0.04	-0.06	0.53***	-				
5	0.18^{+}	0.06	0.31**	0.44***				
6	0.11	0.06	0.05	0.24*	0.27**	-		
7	-0.01	-0.02	0.28**	0.07	0.06	0.03		
8	0.20^{+}	0.30**	0.05	-0.07	-0.12	0.01	-0.12	
9	0.08	0.06	0.13	0.17	0.11	-0.01	0.13	-0.05

Note. (1) Sharing Behavior; (2) Moral Self-Concept; (3) Evaluation Difference; (4) Trouble Difference; (5) Non-costly Punishment Difference; (6) Costly Punishment Difference; (7) Norm-based Justification; (8) Social Desirability; (9) Age in months. ***p < .001; **p < .01; *p < .05; $^{+}$p < .1.

Normative stance. As presented in Table 10, normative expressions were interrelated. The difference in evaluation was highly correlated with children's judgement of how much the puppet should get into trouble and the non-costly punishment. That means, the better children evaluated the Equal compared to the Selfish puppet, the more trouble they judged the Selfish puppet should get compared to the Equal puppet and the more they actually punished the Selfish puppet compared to the Equal puppet. Children's difference in

hypothetical punishment, meaning their judgement about how much trouble a puppet should get, and their actual punishment, both non-costly and costly, were all positively interrelated. Children's use of normative justifications was positively related to their evaluation difference, meaning children who used a norm-based justification differentiated in their evaluation more between the Equal and Selfish puppet.

In order to examine the structure of the normative expressions in detail, we computed an exploratory factor analysis (EFA) using principal axes factoring on the difference scores of the evaluation, assigned trouble (hypothetical punishment), non-costly punishment, and costly punishment. Due to violation of the Kaiser-Meyer-Olkin (KMO) criterion and detection of an ultra-Heywood case, norm-based justifications were not included. Using the four difference scores, the Bartlett's test was significant, $\chi^2 = 42.90$, $p < .001$, suggesting that a factor analysis is appropriate. The KMO was 0.55, being acceptable for proceeding with a factor analysis. Inspection of a scree plot, eigenvalues, and a parallel analysis suggested a two-factor solution. We decided for oblique rotation (oblimin) because we expected the factors to be correlated. Table 11 shows the resulting factor loadings. The first factor seems to represent the cognitive representation of a normative stance, which comes into effect in children's evaluation of a behavior and their judgment about how much trouble someone should get. The second factor seems to represent children's behavioral enforcement of normative stances, which comes into effect in children's actual punishment behavior. The two factors showed a correlation of .23.

Table 11. Results of the exploratory factor analysis on the measures of a normative stance. Factor loadings with oblique rotation.

	Normative representation	Norm enforcement
Evaluation difference	**.74**	-.09
Trouble difference	**.67**	.13
Non-costly punishment difference	.19	**.55**
Costly punishment difference	-.11	**.62**
Eigenvalues	1.72	1.17
% of variance	26%	18%

Relations with behavior. In order to examine which factors relate to sharing behavior, we computed a stepwise linear regression with children's sharing behavior as outcome variable and the moral self-concept, the underlying factors of a normative stance (normative

representation, norm enforcement), and norm-based justifications as predictors. The final model included only the moral self-concept as predictor, β = .24, p = .026, 95% CI [0.07, 0.98], R^2 = .06. In order to investigate whether this relation is independent of children's social desirability response bias, we computed a multiple regression with social desirability and the moral self-concept as predictors of sharing behavior, R^2 = .07, p = .039. The effect of the moral self-concept became a bit weaker and not significant anymore, β = .20, p = .076, 95% CI [-0.05, 0.91]. Social desirability was no significant predictor, β = .14, p = .214, 95% CI [-0.48, 2.13], though. This finding suggests that the moral self-concept and social desirability explain shared variance of sharing behavior.

Latent Profile Analysis

In order to better understand individual differences in prosocial behavior and normative expressions, we employed a person-oriented analysis approach that aims at identifying groups of participants that show a similar response pattern across variables (cf. Newton et al., 2016). We computed a latent profile analysis (LPA) on children's sharing behavior, their moral self-concept, and the two factors of their normative stance (normative representation, norm enforcement) using the R package tidyLPA (Rosenberg et al., 2018). Because the occurrence of norm-based justifications was intertwined with children's evaluation (norm-based mostly if sharing evaluated rather good or not-sharing rather bad), we did not include the justifications separately. Following previous recommendations (Nylund et al., 2007), we determined the optimal number of profiles based on model fit indices and Bootstrap Likelihood Ratio Tests (BLRT; see Table 12). Akaike information criterion (AIC), Bayes information criterion (BIC), and sample-adjusted BIC (SABIC) inform about the model fit, with smaller values indicating better model fit. The entropy informs about classification certainty, with higher values indicating higher certainty. The BLRT tests whether adding one more profile provides a significantly better fit. Besides of these statistical parameters, parsimony and theoretical clarity can be considered for model selection (Sullivan et al., 2019). The statistical indices pointed to inconsistent solutions. We decided for three profiles based on the following considerations: First, a simulation study by Nylund et al. (2007) highlighted the superiority of BLRT and BIC over other fit indices for selecting the number of classes. Second, considering model parsimony and interpretability calls for rather less than more profiles. Figure 11 displays the mean scores of children's sharing behavior, moral self-concept, and their normative stance for the three latent profiles:

The first subgroup of children is characterized by sharing very little while showing a weak to medium normative stance about sharing. The second subgroup is characterized by sharing a lot while showing a weak normative stance. The third subgroup is characterized by having a strong normative stance while also being somewhat generous. Means on the original scale and the sample size of children belonging to the three latent profiles are provided in

Table 13.

Table 12. Fit indices of Latent Profile Analyses for different numbers of profiles.

Number of profiles	**AIC**	**BIC**	**SABIC**	**Entropy**	**BLRT p-value**
1	1022.26	1042.17	1016.92	1.00	NA
2	1008.99	1041.34	1000.32	0.79	0.010
3	**1000.15**	**1044.94**	**988.14**	**0.75**	**0.010**
4	995.94	1053.18	980.60	0.76	0.099
5	975.08	1044.76	956.40	0.81	0.010
6	971.06	1053.18	949.04	0.85	0.149

Note. AIC = Akaike Information Criterion; BIC = Bayes Information Criterion; SABIC = Sample-adjusted BIC; BLRT = Bootstrap Likelihood Ratio Test

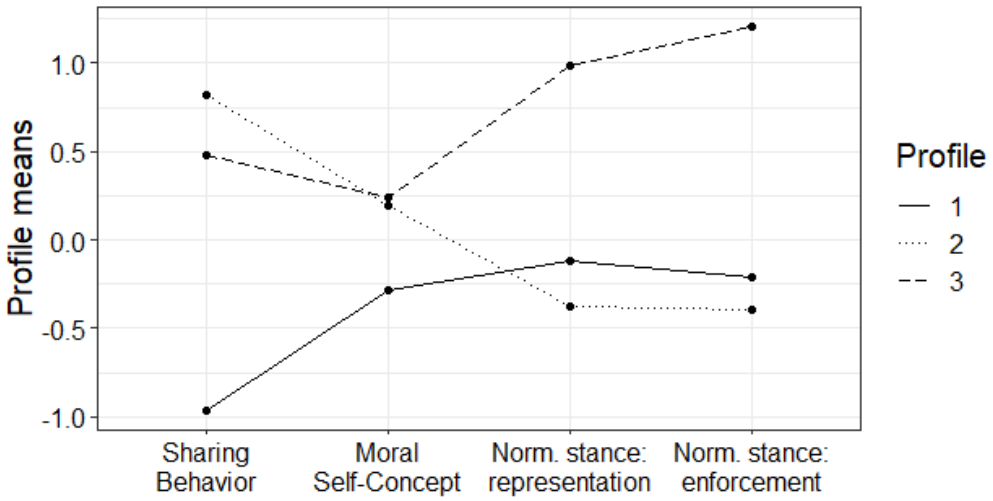

Figure 11. Means of the three latent profiles on the standardized variables sharing behavior, moral self-concept, and the two factors of children's normative stance.

Table 13. Sample size and mean scores of the two latent profiles on the original scales and difference scores (not-sharing vs. sharing).

Profile	% of sample	Sharing Behavior	Moral Self-Concept	Eval. Diff.	Trouble Diff.	NC Punish. Diff.	C Punish. Diff.
1	40%	0.72	3.76	2.65	0.60	0.75	0.11
2	42%	4.51	4.18	2.57	0.33	0.62	0.03
3	18%	3.88	4.26	3.59	1.44	4.06	0.81

Note. NC Punish. = non-costly punishment; C Punish. = costly punishment

5.4 Discussion

The current study examined the internal cohesion and structure as well as the behavioral relevance of a variety of normative expressions of fairness in the preschool years. A first key finding is that preschool children's normative expressions seem to be based on two distinct factors: the cognitive representation of a norm and its behavioral enforcement by punishing a transgressor. Interestingly, already preschoolers engaged in punishment even when it was costly. This suggests that children's expressions of their normative stances on a verbal and a behavioral level may represent different forms of early emerging normativity. A second key finding was that these normative expressions of fair sharing, such as evaluation and punishment, were unrelated to preschoolers' sharing behavior. Instead, children's moral self-concept correlated positively with the number of items shared with another child. This finding contributes to a vivid debate on the relation between moral stances and actual behavior, and underscores the relevance of the moral self-concept (Hardy & Carlo, 2011). The third central finding was that – based on their level of normative expressions and behavior – three distinct subgroups of children could be identified, highlighting that for some children, normative expressions and behavior are aligned while for others, they are rather dissociated. We will discuss the theoretical implications of our findings in turn in the following paragraphs.

The Structure of Preschool Children's Normative Expressions

Children's normative stance regarding sharing became evident across all forms of expression (evaluation including justifications, hypothetical punishment, non-costly punishment, costly punishment). This finding aligns with an established line of research supporting that children consider fair treatment of others to be obligatory and have a normative stance towards equal distribution (e.g., Damon, 1977; Elenbaas, 2019; Rakoczy et al., 2016; Smetana, 2013). Children's justifications support the notion that children's evaluations serve to express a

normative stance, as almost half of the children justified their evaluation using norm-based language and the evaluation difference correlated positively with norm-based justifications.

The current study extends previous research by systematically exploring the interrelations between preschoolers' normative expressions. Importantly, we examined normative expressions as difference scores between a generous and a selfish puppet, meaning they reflected children's specific norm of sharing rather than a general tendency of evaluating behavior as good or taking items away. The alignment of normative expressions points towards the idea that they all express a general disposition of appreciating fairness. Yet, two separate factors of normative expressions were identified: the representation of a norm, including evaluation and hypothetical punishment, and norm enforcement, including non-costly and costly punishment. Normative expressions thus share some variance, but still seem to constitute two separable and only moderately related areas. As punishing can be considered an invasive action in itself, even though for the good, it requires the exertion of a norm on another person. In addition, active norm enforcement might depend on individual temperamental characteristics such as shyness, which has also been found to be related to active sharing behavior (Tan et al., 2020). The cognitive representation of a norm likely results from reflecting and reasoning about normative issues. The variety of normative expressions thus all seem to reflect similar fairness-related tendencies, even though composing two distinct factors. Translating the debate about the relation of views and behavior to the domain of normativity, this finding points to a dissociation of reasoning-based and behavioral expressions within the wealth of normative expressions itself. Overall, our study goes beyond previous work by showing that early in development the normative domain in itself is to some extent coherent, but also systematically structured.

It should be noted that children even punished the egoistic puppet when punishing involved costs. This result extends previous research, which reported costly punishment to become employed in a third-person scenario around the age of 6 years (Bernhard et al., 2020; McAuliffe et al., 2015). It highlights the early developmental roots of punishment behavior and suggests that the high motivation to see a fairness norm to be fulfilled emerges in the preschool years. At the same time, it should be noted that even though there was a clear effect for costly punishment, its extent was overall rather low. One difference compared to previous studies is that we employed a continuous instead of binary measure of punishment. This might be more sensitive to detect already early tendencies in differentially punishing one behavior compared to another. Marginally significant age effects for both non-costly and costly punishment suggest that children tend to punish more with increasing age, in line

with previous research (Bernhard et al., 2020; McAuliffe et al., 2015; Robbins & Rochat, 2011). Moreover, the correlation between selective non-costly and costly punishment supports the notion that both rely on similar processes, that is, a concern of fairness. Both non-costly and costly punishment thus seem to be a fundamental part of children's developing fairness (Tomasello & Vaish, 2013).

The results revealed that the variety of normative expressions share some variance while constituting two distinct factors. What can we conclude about the nature of early normative development given this finding of different aspects of normativity? On the one hand, taking an essentialist stance on early normative development, one could argue that all the different normative expressions are subserved by one and the same underlying normative stance. This normative stance is then differently expressed depending on the nature of the situation. There is some evidence for this as, most relevant, children's hypothetical punishment showed the strongest relation to the other normative variables. Yet, on the other hand, some relations were rather weak and some even absent. An alternative view, drawing on philosophical considerations, could hold that different forms of normative expressions might stand in a "family resemblance" relation without sharing one comprehensive essence (see Wittgenstein, 1953). That is, the different normative expressions might not be related based on a shared essence that connects all its expressions. Instead, different normative expressions might share some overlapping features that are common to some but not all expressions. This assembly of overlapping resemblances of normative expressions might characterize the meaning of a normative view early in development. In the course of development, these normative expressions might become increasingly aligned. In this view, emerging normative understanding could be best considered as a multi-faceted construct. While this fundamental theoretical question on the nature of early normativity cannot be resolved by a single empirical investigation, our study advances this debate by highlighting the differentiated structure of early normative expressions.

Normative Views and Sharing Behavior in the Preschool Years

A vivid debate revolves around the question whether children's normative views are related to actual behavior (Blake, 2018; Turiel, 2003). The current study contributes to this debate by a more differentiated assessment of normative expressions, rendering one normative aspect more likely and others less likely related to behavior. In other words, instead of asking whether or not normative expressions relate to behavior, the current study advances the debate by assessing which aspects of normative expression relate to behavior.

Children's moral self-concept was the main predictor of sharing behavior, that means, the stronger children's moral self-concept, the more resources they shared with another child. This finding supports theoretical notions that the moral self-concept is an important ingredient in the development of moral behavior, and might bridge the gap between moral stances and actual behavior (Hardy & Carlo, 2011; Krettenauer et al., 2013; Lapsley & Narvaez, 2004b). It extends previous research on the moral self-concept in older children or its relevance for other-rated behavior (Christner et al., 2020; Kochanska et al., 2010; Sengsavang & Krettenauer, 2015) to actual sharing behavior in the preschool years. This finding highlights the relevance of a moral self-concept in preschool children and the need to further explore its early development (Hardy & Carlo, 2011; Krettenauer, 2013). Controlling for social desirability rendered the relation between the moral self-concept and behavior weaker, though. Because prosocial behavior is indeed socially desirable, the moral self-concept and social desirability might conceptually overlap and therefore explain shared variance of prosocial behavior. Nevertheless, the meaningful relation between the moral self-concept and prosocial behavior suggest that children's early experiences provide a foundation for forming adequate representations of their own prosociality (Thompson, 2012). One has to note that our finding is of correlational nature. It remains open to which extent the moral self-concept guides behavior (Blasi, 1983) and to which extent children's moral self-concept results from their own behavior (Brummelman & Thomaes, 2017). Most likely, as for other self-concept domains, there are developmental dynamics with bi-directional or reciprocal effects (Guay et al., 2003). Future longitudinal research should clarify the direction of the relation between the moral self-concept and behavior in more detail.

While children's moral self-concept was positively related to their behavior, it did not relate to other normative expressions. This pattern of results suggests that the moral self-concept does not stem from the general appreciation of a certain behavior to be obligatory. Instead, the moral self-concept might stem from personal experiences of own behavior or other's feedback based on own moral behavior as being in line with moral norms (Brummelman & Thomaes, 2017). With increasing age, children's prosocial behavior seems to become increasingly aligned with their normative stance and guided by further factors such as moral emotions (Malti et al., 2009; Smith et al., 2013). Yet, the importance of the moral self-concept for prosocial behavior seems thereby not to be replaced. Instead, previous research suggests that the moral self-concept becomes coordinated with other factors that guide prosocial behavior, such as emotion expectancies (Christner et al., 2020; Krettenauer

et al., 2013). Already from preschool years on, the moral self-concept thus seems to be a central aspect of prosocial development.

In line with theories that judgments are not directly related to prosocial behavior (Blake, 2018; Gerson & Damon, 1978), children's view that one should share was not correlated with their own sharing. This result extends previous findings (Kogut, 2012; Smith et al., 2013; Tan et al., 2020) by demonstrating that a variety of normative expressions and behavior not only deviate on a group level but also on an individual level, and that not only evaluative but also behavioral normative expressions are unrelated to behavior. Notably, this finding seems to be in contrast to research showing that preschoolers normative expressions align with own resource distribution behavior (Paulus et al., 2018). However, in that line of research, children's own resources were not at stake. Instead, it focused on the alignment of resource distribution between two recipients (e.g., rich and poor) and the respective normative stance. Moreover, it is noteworthy that although some children were even willing to engage in costly punishment (that is, give up own resources in order to punish unfair others), this normative behavior did not relate to children's own fairness and sharing. Taking these findings together suggests that when sharing is costly, preschool children's genuine normative expressions are not predominantly guiding behavior.

Systematic Patterns of Individual Differences

The person-centered analysis complements the variable-centered results by examining different patterns of the interrelations of early normative expressions and behavior. While previous studies focused on whether children in general hold a normative stance about sharing or resource distribution (Cooley & Killen, 2015; Rakoczy et al., 2016; Wörle & Paulus, 2018), the current findings inform about the consistency in individual differences across different areas of fairness-related normative and prosocial development. Interestingly, we identified three subgroups of children based on the pattern of their normative expressions, including the moral self-concept, and sharing behavior.

The first subgroup tended to share very little and likewise had a low moral self-concept and expressed a weak normative stance about sharing. Their normative expressions and behavior thus seem to align on a low level. Children of this subgroup seem to care rather little about others' well-being and showed little fairness considerations. The second subgroup tended to share a lot while expressing a weak normative stance. These children's sharing thus seems to be not driven by the view that sharing is obligatory. Instead, other factors likely guide their prosocial behavior. For example, previous research highlights the

role of attachment and sensitive caregiving for children's prosociality (Beier et al., 2019; Newton et al., 2016). Additionally, preschooler's sharing behavior seems to be positively related to sympathy and the understanding of the emotional consequences of sharing (Malti et al., 2009). Factors like these might compensate the low normative stance, causing children to share nevertheless. The third subgroup of children tended to share quite a lot while expressing a strong normative stance. These children's sharing behavior is interrelated with their strong view that sharing is obligatory. While for some children normative views and behavior are intertwined, aligning either on a low or high level, they seem to differ for others. For some children, having a normative stance about sharing thus seems to be no prerequisite for sharing. Questions for future research remain to examine how these subgroups differ, which early experiences make children's prosocial behavior more susceptible to normative stances compared to other factors, and to investigate the temporal dynamics of the relation between normative stances and behavior on an individual level.

Limitations and Conclusion

When interpreting the current findings, we should consider some limitations of the study. First, the study investigated one type of prosocial behavior, namely sharing, and the respective normative dimension. Given the appreciation of equal sharing by preschool children, this seemed to be a good starting point for our study. Yet, it remains an open question whether relations regarding other fairness principles or domains of prosocial behavior, for example, comforting and helping (Dunfield & Kuhlmeier, 2013), would show the same pattern. Second, as indicated above, the findings about interrelations between the moral self-concept, prosocial behavior, and normative expressions are of correlational nature. Although theoretical models propose some directionality (e.g., Hardy & Carlo, 2011), experimental evidence or longitudinal studies are needed to draw stronger conclusions about the directions of effects. Moreover, the study relied on a Western sample. As normative stances seem to depend on cultural transmission (Robbins & Rochat, 2011; Salali et al., 2015), the generalizability of the findings remains to be investigated.

Taken together, by integrating a variety of normative expressions about sharing with children's moral self-concept and own sharing behavior, the study provides a broad examination of children's fairness-related functioning. Overall, preschoolers demonstrated a normative stance regarding fairness across different forms of expression, which separately reflect the cognitive representation of a norm and its behavioral enforcement. But the intensity of these normative expressions seems not consistently to be aligned with their own

behavior. Instead, the study highlights the behavioral relevance of the moral self-concept in preschool years. Overall, it contributes to our understanding of early normative development and highlights how our normative stances originate in the preschool years.

6 Study 5:

Emotion understanding and the moral self-concept as motivators of prosocial behavior in middle childhood

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Abstract

The moral self-concept reflects the view of oneself in terms of moral behavior and has been proposed to predict actual behavior. Theories also suggest emotions and emotion knowledge to predict prosocial behavior, but the interplay between the moral self-concept and emotions is largely unknown. This interplay is especially important to study in middle childhood, a relevant period for the ontogeny of the moral self-concept and when emotions regarding prosocial behavior are suggested to change. The current study explored the nature of the relation between the moral self-concept, prosocial behavior, and consequential emotions (Experiment 1) or anticipated emotions (Experiment 2) regarding prosocial behavior in 5- to 9-year-olds (together N=169). Moreover, we investigated whether emotions mediate the relation between the moral self-concept and prosocial behavior. Overall, the moral self-concept was positively related to prosocial behavior. In addition, emotional consequences as well as anticipated emotions explained age differences in sharing behavior. Moreover, the results hint to an indirect effect of the moral self-concept on sharing behavior through the anticipation of negative feelings when not-sharing. Interestingly, children who first reflected about the affective consequences of prosocial behavior seemed to share more. In line with theories, the results demonstrate that both the moral self-concept and emotions are relevant motivators of prosocial behavior in middle childhood.

6.1 Introduction

Prosocial behavior has numerous beneficial implications for individuals and society. Prosocial behavior contributes to a peaceful coexistence, it is affectively rewarding (Aknin et al., 2018), and it even leads to positive social and academic outcomes in the long run (Caprara et al., 2000; Flynn et al., 2015). Sharing resources is one major aspect of prosocial behavior, since it involves giving up resources for the benefit of others and emerges already in the first years of life (Carpendale et al., 2013). Understanding the developmental pathway and influencing factors of sharing is therefore an important endeavor.

Research highlighting the role of the *moral self* or *moral identity* contributes substantially to this purpose. Originally introduced by Blasi (1983), the concept of moral identity gained increasing attention in social and developmental psychology (for review see Hardy & Carlo, 2011). Moral identity describes the concept of oneself as a moral person (Aquino & Reed, 2002). It builds on the integration of morality into the self and is proposed to motivate moral behavior, depending on how self-important this identity is. The term *moral self* is typically employed to include earlier instances of explicitly reported moral behavior

tendencies (Kochanska et al., 2010; Krettenauer, 2013). For the purpose of this study, we use the term *moral self-concept* for referring to children's view of themselves with regard to moral behaviors and to include both explicit as well as implicit facets.

A separate line of theories emphasizes the role of emotions for prosocial behavior (e.g., Eisenberg, 2000; Lemerise & Arsenio, 2000). Emotions are for example proposed to signal the personal relevance of events, to influence the prioritization of behavior alternatives, and thus to explain individual differences in behavioral tendencies. Consequently, developmental research has tried to clarify the emotional correlates and mechanisms related to prosocial behavior (e.g., Denham, 1986; Ongley & Malti, 2014; Sabato & Kogut, 2019).

The current study consists of two experiments that aimed at assessing the development of the interrelation between the moral self-concept, consequential and anticipated emotions, and prosocial action in middle childhood. In the following, we first review research on the moral self-concept. Then, we focus on the role of emotions in prosocial behavior. Finally, we introduce our research question and experimental approach in detail.

Moral Self-Concept and Prosocial Behavior

The moral self-concept is assumed to motivate moral behavior from early on (Blasi, 1983). However, while a variety of studies reported the moral self-concept as a predictor of prosocial behavior in adolescence (e.g., Hardy, Walker, Olsen, Woodbury, & Hickman, 2014) and adulthood (for review see Hertz & Krettenauer, 2016), only little research addressed the emergence of this relation in childhood. Kochanska (2002) suggests that from around four years, children have an internally consistent moral self-concept that reflects children's view of themselves as a "good" person based on their history of compliance with parental rules. This self-concept is supposed to regulate future moral behavior. Indeed, Kochanska (2002) demonstrated that around 4.5 years, boys' moral self-concept correlated positively with rule internalization. Children's moral self-concept at 5.5 years predicted competent social functioning as rated by parents and teachers at 6.5 years (Kochanska et al., 2010). Sengsavang and Krettenauer (2015) explored two dimensions of the moral self-concept, namely preference for prosocial behavior and avoidance of antisocial behavior. The moral self-concept operationalized accordingly related negatively with aggressive behavior as reported by parents in 4- to 12-year-olds. Research on the relation between the moral self-concept and prosocial behavior in middle childhood is, however, absent. Previous studies on

the moral self-concept in middle childhood investigated relations with antisocial behavior or moral emotions (Krettenauer et al., 2013; Sengsavang & Krettenauer, 2015), while research on the relation with competent social functioning or prosocial behavior focused on younger children or adolescents (M. Johnston & Krettenauer, 2011; Kochanska et al., 2010). Yet, middle childhood is deemed to be an important period for the ontogeny of the moral self (Kingsford et al., 2018). Cognitive advances allow for self-evaluative processes and higher-order representations of oneself (Harter, 2007). From a theoretical perspective, the capacity to withhold egoistic desires in the face of opposing moral desires is also supposed to show a pronounced development around the age of 7-8 (Krettenauer, 2013). Around that age, the moral self-concept is therefore suggested to reflect the ability of prioritizing moral concerns over preferred others. One aim of the current study is therefore to close this gap in the literature and investigate the relation of the moral self-concept and prosocial behavior in middle childhood.

Prosocial behavior describes behavior that benefits another person without directly benefitting the actor him-/herself (Paulus, 2014). From around 1 to 2 years of age, children show early forms of prosocial behavior such as comforting others who are in distress and instrumentally helping others (for review see Brownell, 2013). Developmental research typically differentiates between three types of prosocial behavior, namely sharing, helping, and comforting. These behaviors may result from different motives and seem to be not consistently correlated in early childhood (Dunfield, Kuhlmeier, O'Connell, & Kelley, 2011; Paulus, 2014). With respect to sharing, children from 3 years on appreciate equality during resource distribution and expect this principle from others (e.g., Elenbaas, 2019; Rakoczy, Kaufmann, & Lohse, 2016). Nevertheless, they tend to favor themselves in sharing situations up to around 7 years. With increasing age, children typically share equally and sharing equally becomes affectively rewarding (Kogut, 2012; Smith et al., 2013). Middle childhood is therefore an interesting period to examine factors underlying these developmental changes in sharing behavior.

Previous research differentiated between an explicit and implicit moral self-concept based on dual process models of cognition (Lapsley & Hill, 2008; Zaki & Mitchell, 2013). The explicit moral self-concept is supposed to reflect cognitively controlled processes and is typically measured through questionnaires or interviews (e.g., Aquino & Reed, 2002; Kochanska, 2002). The implicit moral self-concept is assumed to reflect more automatic processes and is typically measured through an Implicit Association Test (IAT; e.g., Perugini & Leone, 2009; Pletti, Decety, & Paulus, 2019). However, both mechanisms might be at

work simultaneously. Self-reported motives seem to reflect cognitive constructs, while implicit motives seem to be based on the inherent pleasure of actions (McClelland et al., 1989). Consequently, the current study included explicit and implicit measures of the moral self in children.

Consequential Emotions and Anticipated Emotional Consequences of Prosocial Behavior

When considering emotions regarding prosocial behavior, it is important to distinguish between emotional consequences of prosocial behavior and anticipated emotions. Even though predictions about future affective states originate from actual affective experiences in the past, they tend to differ (Dunn et al., 2008; Wilson & Gilbert, 2005). Moreover, Malti and Krettenauer (2013) suggested that the relative importance of consequential compared to anticipated emotions might change with age. While younger children might rely more on consequential emotions that are linked with behavior through associative learning, older children might rely more on anticipated emotions that require perspective-taking skills. This is particularly important when identifying the emotions related to the moral self-concept, because the self-relevance of an action might manifests itself more in the one type of emotions than the other. In the following, we will review two separate lines of research investigating the emotional consequences of prosocial behavior on the one hand and anticipated emotions regarding prosocial behavior on the other hand.

Let us first consider the emotional consequences of prosocial behavior. Next to the positive effects for the beneficiary, prosocial actions are proposed to lead to greater happiness for the benefactor as well (Aknin et al., 2018; Bierhoff, 2002). Empirical studies supported this link: Adults felt happier after spending money on others than after spending money on themselves (Dunn et al., 2008). From the age of 9-10 years on, children reported higher satisfaction after sharing half of some candies, consistent with a fairness norm, than after sharing less than half (Kogut, 2012). Likewise, toddlers and preschoolers display positive emotions when acting prosocially (Aknin, Hamlin, et al., 2012; Ross, 2017). Importantly, this pleasurable experience might increase prosocial behavior in the future, based on motivational theories on action selection (De Wit & Dickinson, 2009). According to these, prosocial behavior would be associated with the positive emotional state, and thus the positive outcome might directly trigger prosocial behavior in the future. That means, the better a person will feel after acting prosocially, the more likely she will engage in future prosocial action.

A separate line of research focuses on emotions that people anticipate when acting prosocially. Research on expected emotions in hypothetical scenarios typically report that from around school-age, 6 to 8 years, children expect positive emotions to follow prosocial behavior and negative emotions to follow antisocial behavior (e.g., Keller, Lourenço, Malti, & Saalbach, 2003; Nunner-Winkler & Sodian, 1988). Interestingly, Paulus and Moore (2017) demonstrated that 3- to 6-year-old preschoolers anticipate to feel better after acting generously. These emotion anticipations might directly trigger prosocial behavior. Based on ideomotor theory of action control, anticipated consequences of actions guide action control. In particular, recent theories suggest that anticipated emotional consequences are crucial for behavior control (Eder et al., 2015; Ridderinkhof, 2017). Applying this line of thought to our research question, the more positive a person will anticipate to feel after acting prosocially and the more negative after omitting prosocial action, the more likely future prosocial action. Indeed, preschoolers' anticipated emotions after acting generously influenced future generous behavior (Paulus & Moore, 2017). Indeed, a meta-analysis highlights that anticipated emotions and prosocial behavior are related across childhood (Malti & Krettenauer, 2013). In sum, research thus supports a link between prosocial behavior and both consequential and anticipated positive feelings for the benefactor.

Previous studies on consequential and anticipated emotions differed in methodological aspects such as the abstractness of the described behavior (concrete behavior vs. hypothetical scenario) and the comparability between participants (emotion about same behavior for all participants vs. emotion about self-chosen behavior). Paulus and Moore (2017) revealed that 3- to 6-year-olds anticipate to feel happy after sharing and less happy after not-sharing in a concrete scenario. Other studies on hypothetical scenarios revealed negative emotion attributions about not acting prosocially from around 7-8 years (Nunner-Winkler & Sodian, 1988). Consequential emotions following self-chosen behavior appeared to be positive after sharing half only from nine years on (Kogut, 2012). These findings thus suggests that children first expect to feel positive after sharing, while negative emotions about not-sharing increase with age. We planned to extend this literature by comparing anticipated and consequential emotions in experimental designs in an age, when emotions are supposed to undergo a profound change. The study examined emotions as one mechanism underlying developmental changes in sharing behavior. In particular, we investigated whether increasing emotional relevance of sharing and not-sharing can explain increased sharing behavior with age.

Interrelations Between the Moral Self, Emotions, and Prosocial Behavior

Starting from these bases, the current study aimed to integrate research on moral emotions, the moral self-concept, and prosocial behavior. One question concerned the nature of the relation between the moral self-concept and prosocial behavior, that means, how do these processes relate to each other. Emotions are a promising candidate in this context due to their evaluative and motivational component (Scherer, 1987): Emotions signal the significance of an event and motivate the direction of future action. By bringing research on emotions together with research on the moral self-concept, the current study aimed at investigating whether emotions mediate the relation between moral self-concept and behavior. In other words: Could the "warm glow" that has been shown to follow from prosocial behavior (Dunn et al., 2008) be related to the moral self-concept (e.g., by noting that one lives up to one's own standard) (Experiment 1)? Or could the anticipation of positive emotions that has been shown for sharing behavior (Paulus & Moore, 2017) be related to the moral self-concept (Experiment 2)?

According to self-determination theory, acting according to one's values is intrinsically motivating and pleasurable (Ryan & Deci, 2000). Based on that, prosocial actions should be intrinsically motivating for people with strong internalized moral values, as reflected in their strong moral self-concept, and should raise positive feelings. Since anticipated emotions are constructed based on previous experiences, we would likewise expect that people with a strong moral self-concept anticipate positive feelings when they expect to act prosocially. This idea is supported by research showing that children's moral self-concept and emotions following a hypothetical immoral action are related (Krettenauer et al., 2013). We thus expected that children with a strong moral self-concept both feel better after acting prosocially and anticipate to feel better after such a behavior.

Importantly, we expect these emotions regarding prosocial behavior in turn to be linked to actual behavior. On the one hand, motivational theories on action selection suggest that the experience following a behavior gets directly associated with the behavior and thus influences the likelihood of this behavior in the future (De Wit & Dickinson, 2009). On the other hand, ideomotor theory of action control suggests that anticipated emotional consequences are crucial for behavior control (Eder et al., 2015; Ridderinkhof, 2017). We extend previous research by differentiating between these two accounts in the domain of prosocial behavior and, most importantly, by investigating the link to the moral self-concept. We thus aimed to investigate, whether the relation between the moral self-concept and

prosocial behavior is mediated by consequential or anticipated emotions regarding prosocial behavior.

Current Studies

To address our research question, we assessed preschool and school-aged children, since prosocial behavior seems to become emotionally relevant especially in middle childhood: Emotions regarding moral transgressions shift from positive to negative (Nunner-Winkler & Sodian, 1988), and children within these ages show increasing pleasure from actual prosocial behavior (Kogut, 2012). Additionally, this developmental period has been suggested to be an important phase for the development of the moral self-concept (Kingsford et al., 2018; Krettenauer, 2013). In both experiments, participants completed a sharing task in which they had the opportunity to allocate items to themselves or others. We decided to focus on sharing, since prosocial behavior manifests itself often in distributing resources and the assessment of sharing behavior is comparable across age groups using the same method (e.g., Smith, Blake, & Harris, 2013). Next, we assessed the emotional relevance of sharing. For that purpose, participants in Experiment 1 were requested to share half or none of the items and to report their emotional state afterwards. Participants in Experiment 2 were asked to imagine sharing half or none of the items and to report their anticipated emotional state. Lastly, we assessed the explicit and implicit moral self-concept (only explicit self-concept in Experiment 2) by means of an established puppet interview (e.g., Reese et al., 2007; Sengsavang & Krettenauer, 2015) and an implicit association test (IAT) similar to IATs that have been used with preschool children in previous work (Cvencek et al., 2011). We addressed our research question in two experiments. Experiment 1 examined the role of emotions following sharing, Experiment 2 addressed the role of anticipated emotions. In order to be able to compare consequential and anticipated emotions, we kept both experimental procedures similar except for order and details of the emotion rating task (see below). Analyses across experiments thus allowed us to compare both types of emotions and to address relations between variables that were assessed equally in both experiments in a larger sample.

We hypothesized that the moral self-concept predicts prosocial behavior, based on theories stressing the motivational mechanism of moral identity (Aquino & Reed, 2002; Blasi, 1983). Second, the stronger the moral self-concept, the better children would feel after sharing compared to not-sharing (Experiment 1). Likewise, the stronger the moral self-concept, the better children anticipate to feel after sharing compared to not-sharing

(Experiment 2). These hypotheses are based on self-determination theory, suggesting that actions, which are consistent with one's values (i.e. moral actions when the moral self-concept is strong), are intrinsically motivating and lead to greater well-being (Ryan & Deci, 2000). Third, we had two hypotheses regarding the relation of the emotional significance of sharing and prosocial behavior. Based on theories proposing that the experiences following a behavior guide future action (De Wit & Dickinson, 2009), we hypothesized that consequential emotions relate to prosocial behavior (Experiment 1), meaning the more positive participants feel after sharing compared to not-sharing, the more items they decide to share themselves. Based on the recent ideomotor approaches to emotion and action control (e.g., Eder et al., 2015; Ridderinkhof, 2017), we hypothesized that anticipated emotions relate to prosocial behavior (Experiment 2). Finally, in our mediation hypothesis, we investigated whether either consequential or anticipated emotions mediate the relation between moral self-concept and sharing behavior.

Regarding developmental changes, we expected preschoolers to rather favor themselves when sharing resources and school-aged children to share on average half (Smith et al., 2013). We hypothesized that this behavioral development can be explained by age differences in emotions, as we expected both consequential and anticipated emotions about not-sharing to become more negative from preschool to school-aged children based on increasing moral motivation (Nunner-Winkler, 2007) or more differentiated outcome expectancies (Krettenauer, 2012). At the same time, we expected the relation between emotions (consequential and anticipated) and prosocial behavior to be stable across age groups based on the notion that emotion attributions reflect behavioral dispositions (Malti & Krettenauer, 2013). Finally, we hypothesized the relations of the moral self-concept with emotions (consequential and anticipated) and behavior to increase with age based on increasing experience with own behavior and others' reactions to that (Brummelman & Thomaes, 2017) and based on an advanced self-concept (cf. Harter, 2007). These advancements cause a more realistic and differentiated self-evaluation, which we hypothesize results in increasing relations with the moral self-concept between 5 and 9 years. We expected similar effects for consequential and anticipated emotions based on the assumption that anticipated emotions stem from previous consequential emotions. At the same time, we aimed to clarify whether children's developmental pathway differs between consequential and anticipated emotions. Data and the analysis script for both experiments are available at https://osf.io/uvjqc/.

6.2 Experiment 1

6.2.1 Method

Participants

The final sample included 86 children. The sample comprised a group of preschool children (n = 42, *M* = 6;4 (years;months), *SD* = 3.84 months, range: 5;9-6;11; 22 female) and a group of school-aged children (n = 44, *M* = 8;5, *SD* = 2.89 months, range: 8;1-8;11; 19 female). We determined the sample size based on a power analysis using G*Power (Erdfelder et al., 1996). In order to detect an effect size of $f^2 = 0.11$ in a multiple linear regression with $\alpha = 0.05$ and a power level of 0.80, a sample size of 74 participants is necessary. We estimated this effect size for the relation of the moral self-concept and prosocial behavior based on the results by Kochanska et al. (2010) on adaptive functioning. In addition, a sample size of 78 seems to be sufficient to detect medium-sized paths in a mediation model using percentile bootstrapping with the same alpha and power level (Fritz & MacKinnon, 2007). We excluded one additional 6-year-old and one additional 8-year-old child due to parental interference or missing data. Participants were typically developing children living in the surroundings of a large European city. Children's caregivers provided informed written consent for participation. The university's ethics committee had the experiment approved. Children received a present for participation.

Procedure

We examined all children individually in the university laboratory or the child's preschool. Sessions were videotaped. Children first completed the sharing task, next they completed the implicit and finally the explicit moral self-concept measure. The whole procedure lasted around 30 minutes.

Measures

Sharing task. The sharing task entailed three conditions for assessing sharing behavior as well as associated emotional states: Free Sharing, Sharing Half, and Sharing Nothing. Free Sharing served to assess children's spontaneous prosocial behavior, while Sharing Half and Sharing Nothing served to assess children's emotional significance of sharing. We decided to rely on these three trial types rather than children's emotional state after their free sharing decision, because this was confounded with the amount they shared. We could have therefore not investigated the relation of the moral self-concept to sharing behavior and emotions separately. Asking for a specific action (sharing half, sharing nothing) reduced the autonomy

of participants, but this factor was orthogonal to the sharing condition. Importantly, this procedure thus allowed to compare the emotional relevance of sharing between participants in an experimentally controlled design.

At the beginning, the child selected the two out of three types of items that he/she liked most (e.g. stickers and erasers). These served as resources during the entire sharing task. Every sharing condition (Free Sharing, Sharing Half, Sharing Nothing) was presented with each selected type of items, resulting in two trials per condition (e.g. animal stickers and erasers in each condition). Within each trial, the child received four identical items (e.g. four cow stickers or four pineapple-shaped erasers). The introduction of the first trial (Free Sharing) was as follows: "All these stickers/erasers now belong to you, they are yours. If you want, you can share these items with another child. We are collecting toys for Niko/Nina (gender-matched, showing photo of the child and donation box) who has no stickers/erasers. So, you can now share one, two, three, four, or none of the items with Niko/Nina, and pack the remaining ones into this envelope and take them home (envelop and box placed at the same distance in front of the child)." Once the child had allocated all items, the experimenter verbally stated the distribution and asked: "How do you feel about that?" The child rated his/her emotional state regarding the distribution as described below. In the Sharing Half and Sharing Nothing trials, the experimenter also first allocated all items to the child, stated that they belong to him/her, and then expressed how the child will distribute them: "You will now share X items and keep Y items for yourself." Subsequently, the child implemented the distribution and rated his/her emotional state. The sharing task always started with Free Sharing trials in order to prevent anchoring effects based on the proposed amounts of the predetermined trials. We randomized Sharing Half and Sharing Nothing trials afterwards.

Emotion rating. The emotion rating assessment was adopted from previous developmental studies (e.g., Paulus & Moore, 2017; Williams, O'Driscoll, & Moore, 2014). After each trial, participants rated their emotional state regarding the sharing decision by means of the Facial Affective Scale (Perrott et al., 2004). The pictorial rating scale consists of nine emotionally expressive faces, ranging from *extremely sad* (1) to *extremely happy* (9). Children first were familiarized with the scale and requested to indicate four emotions to ensure that they were competent in using it. Following previous research, we computed difference scores by subtracting the mean emotion after Sharing Nothing from the mean emotion after Sharing Half individually for each subject. Thereby, a response tendency in any direction is cancelled out, resulting in the relative emotional significance of sharing. The more positive the

emotional differentiation score, the more positive emotions participants reported after Sharing Half versus Sharing Nothing.

Participants rated at the beginning of the session their current emotional state. Initially, we thought to account for the participant's mood. Yet, since the question about the emotional state after each trial directly referred to the decision and not the general feeling at that moment, we decided to disregard this emotion rating in further analyses.

Explicit moral self-concept. The self-concept assessment builds on previous developmental studies employing puppet interviews (e.g., Kochanska, 2002). More specifically, we relied on a short version of a child-friendly moral self-concept interview that we had developed by adapting the Children's Moral Self Puppet Scale (CMSPS) by Sengsavang and Krettenauer (2015), and the self-concept measures by Marsh, Ellis, and Craven (2002). In each trial, the child saw a pair of identical puppets sitting side by side, played by the experimenter. One puppet expressed a preference for prosocial behavior, while the other puppet said the opposite (e.g. "I like to share my pencils." – "I don't like to share my pencils."). Next, the experimenter asked the child: "What about you?" The child answered by stating which behavior he/she prefers and thus which puppet he/she is more alike. The experimenter asked subsequently: "Are you a little or a lot like this puppet?" Replies ranged on a 5-point scale from *a lot like the non-prosocial puppet* (1) to *a lot like the prosocial puppet* (5). In case a child expressed that he/she is in the middle of both puppets, the answer received a score of three. The final Puppet Interview comprised 16 items overall, presented in mixed order. Nine items addressed the preference of prosocial behavior, with three items tapping into the domains of helping, sharing, and consoling each. Additionally, four items on the verbal and physical ability self-concept (Marsh et al., 2002) served as distractors. Appendix A provides a list of all items. The order as well as the side of the puppet stating the positive/negative statement was counterbalanced. Across trials, three different pairs of identical puppets alternated while their order was counterbalanced.

We decided to focus on the subset of sharing items in our main analyses, due to the focus on sharing in our behavioral task. The mean across these items reflects the explicit moral self-concept score.

Implicit moral self-concept. We assessed the implicit moral self-concept by use of an Implicit Association Test (IAT) based on Perugini and Leone (2009). Following previous work (e.g., Cvencek et al., 2011), we constructed a child-friendly version of the IAT. Simplified words guaranteed children's understanding of categories and items. The categories *Moral* and *Immoral* were replaced by *Good* and *Bad*, consisting of the items

"helping, sharing, consoling", and "hitting, pushing, stealing", respectively. By composing the Good and Bad category of prosocial and antisocial words, we ensured to assess the moral self-concept rather than implicit self-esteem. The categories *Self* (Items: I, my, myself) and *Others* (Items: others, they, them) remained the same as in the IAT by Perugini and Leone (2009). Further adaptations included auditory instead of written stimuli, color-coded response buttons, and reduced number of trials. The exact procedure is described in Appendix B. For calculating a final score of implicit association, we applied the improved scoring algorithm by Greenwald, Nosek, and Banaji (2003).

Control variables. In order to control for effects of *Social Desirability*, we included three items regarding socially desirable behaviors from the CMSPS (Sengsavang & Krettenauer, 2015) in our puppet interview (e.g. "I always say 'please' when asking for something."). The proportion of items answered in the most socially desirable way counted as social desirability response bias.

6.2.2 Results

Children shared on average 1.72 out of the four items in the free sharing trials (SD = 0.86). This behavior was comparable in younger (M = 1.56, SD = 0.89) and older children (M = 1.86, SD = 0.80), $t(84) = -1.66$, $p = .100$, d = 0.36. One-sample t-tests comparing sharing behavior against equal distribution (2 items) revealed that younger children shared significantly less than half, $t(41) = -3.20$, $p = .003$, $d = 0.49$, while older children shared around half, $t(43) = -1.13$, $p = .266$, $d = 0.17$. The explicit moral self-concept was stronger in younger (M = 4.54, SD = 0.57) than older children (M = 4.17, SD = 0.76), $t(80.07) = 2.53$, $p = .013$, $d = 0.54$. Descriptive statistics of the emotion ratings are depicted in Figure 12. The emotion difference between Sharing Half and Sharing Nothing was greater in older (M = 1.98, SD = 2.37) than younger children (M = 0.05, SD = 1.53), $t(73.90) = 4.51$, $p < .001$, $d = 0.96$. While emotions after Sharing Half and Sharing Nothing differed in older children, $t(43) = 5.56$, $p < .001$, $d = 1.11$, they did not differ in younger children, $t(41) = 0.23$, $p = .821$, $d = 0.04$.

Table 14 depicts a full correlation matrix using Pearson correlation. In order to address our hypotheses on relations between the variables, we computed hierarchical regression analyses. In Step 1, we entered control variables (e.g., social desirable response bias) and all main effects. In Step 2, we entered relevant two-way interactions. Results of all regression analyses are presented in Table 15.

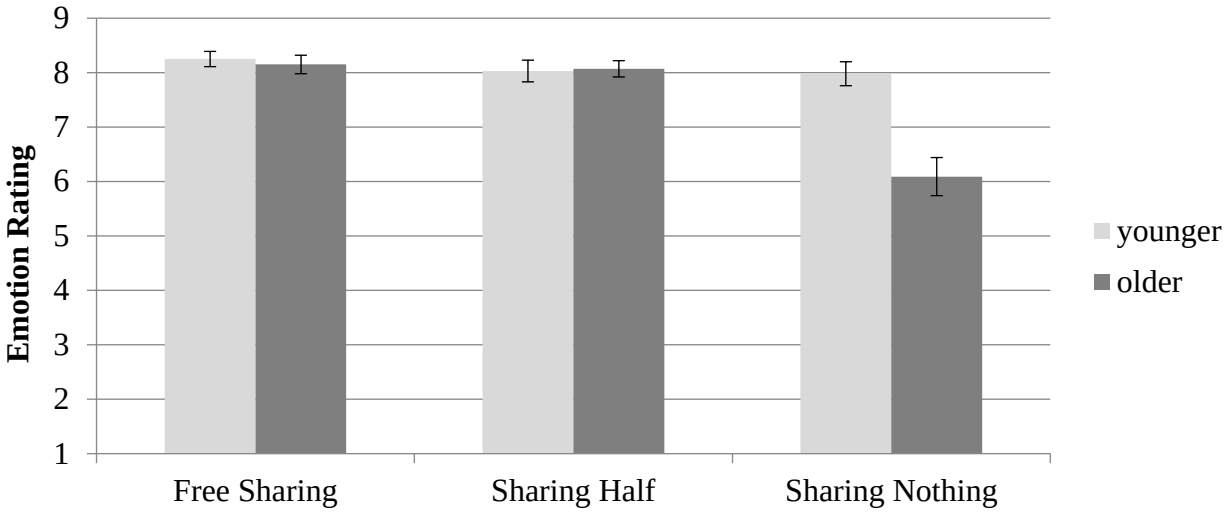

Figure 12. Mean emotion ratings after Free Sharing, Sharing Half, and Sharing Nothing trials divided by Age Group. Error bars represent standard errors of the means.

Table 14. Full correlation matrix of all variables in Experiment 1.

	1	**2**	**3**	**4**	**5**	**6**	**7**
2	-0.13	-					
3	0.11	-0.01	-				
4	-0.02	0.09	0.36***	-			
5	0.07	0.08	0.07	0.32**	-		
6	0.06	-0.05	-0.33**	-0.86***	0.21*	-	
7	0.34**	-0.13	0.02	-0.18	0.01	0.19^{+}	
8	-0.26*	0.04	0.18^{+}	0.44***	0.02	-0.44***	-0.29**

Note. (1) Explicit moral self-concept: Sharing; (2) Implicit moral self-concept; (3) Free sharing behavior; (4) Mean emotion differentiation; (5) Mean emotion after sharing half; (6) Mean emotion after sharing nothing; (7) Social desirable response tendency; (8) Age Group [0: younger; 1: older]. ***p < .001; **p < .01; *p < .05; $^{+}$p < .1.

In order to address our first hypothesis, the relation between the moral self-concept and behavior, we computed two hierarchical linear regressions: one regarding the explicit and one regarding the implicit self-concept. In the model regarding the explicit moral self-concept, only age group significantly predicted sharing behavior, that means, older children shared more than younger children. In the model regarding the implicit moral self-concept, no variable significantly predicted sharing behavior. Age group did interact neither with the explicit nor the implicit self-concept in predicting sharing behavior.

Next, we addressed the relation between the moral self-concept and emotions. Again, only age group but no moral self-concept measure predicted the emotion differentiation, that means, emotions of older children differed more between sharing and not-sharing than

emotions of younger children. Age group and the explicit or implicit moral self-concept did not interact in predicting the emotion differentiation.

Regarding the relation between emotions and behavior, regression analyses revealed a strong effect of emotion differentiation on sharing behavior, which was not explained by age differences. That means, the better children felt after sharing versus not-sharing, the more they actually shared when they had the chance to. Age group and the emotion differentiation did not interact in predicting sharing behavior.

Since we did not find the relevant predictions of sharing behavior and emotion differentiation from the moral self-concept, we omitted the planned mediation analysis to test emotions as a mediator between the self-concept and behavior. In order to investigate whether emotion differentiation explains the age effect on sharing behavior, we computed a mediation analysis. Correlation analyses revealed a significant relation between age group and emotion differentiation as well as between emotion differentiation and sharing behavior, and regression analyses suggested the age effect on sharing behavior to vanish when controlling for emotion differentiation. To test the significance of the indirect effect, we used a percentile bootstrapping approach with 10000 samples using the R-package lavaan (Rosseel, 2012). The confidence interval was above zero, 95% CI [0.10, 0.46], meaning emotion differentiation significantly mediated the relation between age and sharing behavior. That means older children shared on average more based on the affective benefits of sharing for them.

Exploratory Analyses

In order to investigate descriptively whether children's reported emotions following the requested trials are comparable to children's emotions following free sharing decisions, we examined children's first free sharing decision in more detail and split children based on this decision. In particular, we split children into groups of children who shared nothing ore less than half (0-1 items; younger: n = 19; older: n = 12), children who shared half (2 items; younger: n = 18; older: n = 23), and children who shared more than half (3-4 items; younger: n = 5; older: n = 9). Figure 13 displays the emotion ratings for the three trial types (First Free Sharing, Sharing Half, Sharing Nothing) for each age group. For younger children, emotion ratings in all three groups were comparable for the three trial types. For older children, emotion ratings depended on children's own sharing behavior, but the emotion ratings about freely chosen and the respective requested decisions (Sharing Half, Sharing Nothing) were similar. Children who decided to share less than half reported similar emotion ratings in the

three trial types. Their emotion pattern therefore resembles the pattern of younger children. Children who decided to share half or more than half felt about that similarly to when they were requested to share half (but better than when they were requested to share nothing).

Table 15. Hierarchical linear regressions of the moral self-concept (explicit, implicit) and emotion differentiation on free sharing behavior as well as of the moral self-concept on emotion differentiation. For the models, R^2 and p-values are reported; for the individual predictors, standardized beta-values and p-values are reported.

	Sharing Behavior				***Emotion Differentiation***			
	Step 1		***Step 2***		***Step 1***		***Step 2***	
	β	*p*	*β*	*p*	*β*	*p*	*β*	*p*
Social Desirability	.03	.825			-.09	.411		
Explicit Self-Con.	.17	.152			.13	.243		
Age Group	**.23**	.046			**.45**	.000		
Expl. SC x Age Group			.55	.450			-.07	.922
R^2, p	0.06	.160	.07	.221	**0.21**	.000	**0.21**	.001
Implicit Self-Con.	-.02	.851			.07	.469		
Age Group	.18	.101			**.44**	.000		
Impl. SC x Age Group			.05	.791			.14	.405
R^2, p	0.03	.256	.03	.427	**0.20**	.000	**0.20**	.000
Emotion Different.	**.35**	.003						
Age Group	.03	.825						
Em. Diff. x Age Group			-.02	.947				
R^2, p	**0.13**	.003	**.13**	.009				

6.2.3 Discussion

Experiment 1 aimed at investigating the relation between the moral self-concept and prosocial behavior in middle childhood, in particular the role of affective consequences of sharing. The results provide evidence that middle childhood is an important phase for the development of emotions regarding prosocial behavior. We found that older children differentiated emotionally more between sharing and not-sharing than younger children. Moreover, this affective benefit of sharing for older children explained the general tendency of older children to share more.

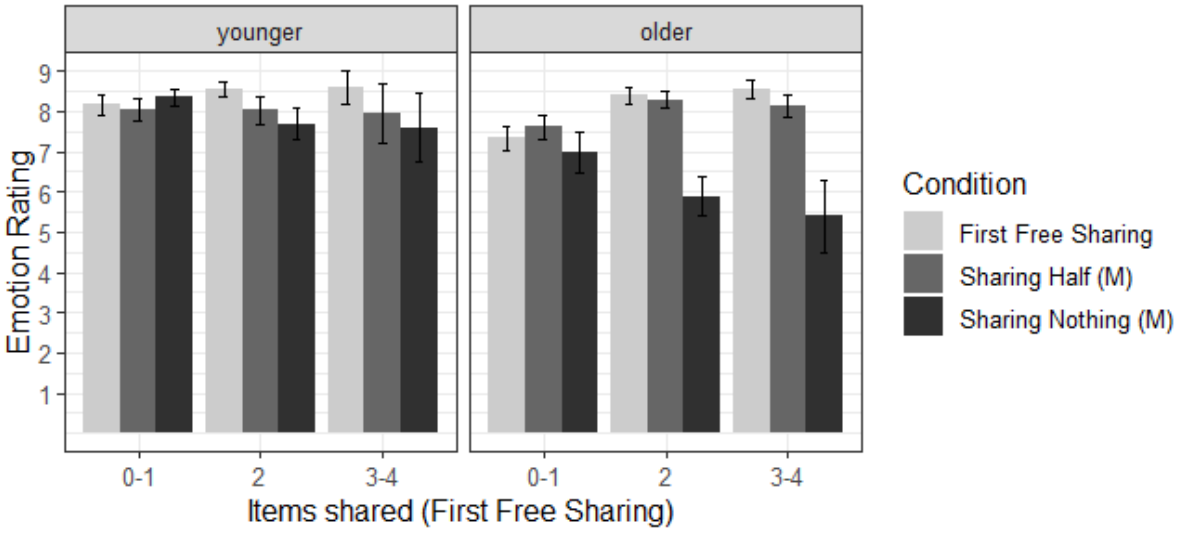

Figure 13. Emotion ratings after First Free Sharing and mean emotion ratings after Sharing Half and Sharing Nothing depending on the amount children shared in the First Free Sharing trial and divided by Age Group. Error bars represent standard errors of the means.

Interestingly, the results revealed no relation between the explicit or implicit moral self-concept and prosocial behavior. The missing link between the explicit moral self-concept and prosocial behavior is surprising giving previous literature (e.g., Kochanska et al., 2010). This point will be discussed in greater detail in the general discussion. The missing link between the implicit moral self-concept and prosocial behavior suggests that children at that age have not yet formed an implicit self-concept that is meaningfully related to prosocial behavior. The conclusion that chronically accessible moral schemas might not yet be consolidated also explains the missing link with emotions about prosocial behavior. Research on other domains revealed early relations between implicit identity-concept and attitudes, e.g., regarding gender-identity and gender preferences (Cvencek et al., 2016). However, while gender is a very dominant feature, children might be less aware of the extent to which they behave prosocially. This awareness might increase with age based on experiences with own behavior and feedback of others (Bem, 1972; Brummelman & Thomaes, 2017). Thus, implicit representations of oneself as a child who acts prosocially might need more time to consolidate.

While the first experiment found no interrelation between consequential emotions and the moral self-concept, it left open the question whether anticipated emotions play a role in this context. Indeed, current theories on human action control suggest that the anticipation of emotional consequences plays an important role in action selection (e.g., Eder et al., 2015; Ridderinkhof, 2017). This was investigated in the second experiment. In this experiment, we

exclusively focused on the explicit self-concept. This decision was based on our expectation that the implicit moral self-concept relates to consequential rather than anticipated emotions, since consequential emotions are less cognitively controlled. Since we did not find the expected relations in Experiment 1, we decided to drop the implicit measure in Experiment 2.

6.3 Experiment 2

6.3.1 Method

Participants

The final sample included 83 children. The sample comprised a group of preschool children (n = 40, *M* = 6;1 (years;months), *SD* = 3.06 months, range: 5;9-6;10; 15 female) and a group of school-aged children (n = 43, *M* = 9;1, *SD* = 6.62 months, range: 8;3-9;10; 21 female). Considerations about sample size were the same as for Experiment 1. We excluded one additional 8-year-old child due to missing data. All participants were typically developing children living in the surroundings of a large European city. Child's caregiver provided informed written consent for participation. The university's ethics committee had the experiment approved. Children received a present for participation.

Procedure

The procedure and order of tasks was the same as in Experiment 1, except that we omitted the Implicit Association Test and we switched the order of Free Sharing and Sharing Half/Nothing trials, with Free Sharing trials presented last (see below). The whole procedure lasted around 20 minutes.

Measures

Sharing task. The sharing task closely followed the one from Experiment 1, with the difference that Imagined Sharing and Not-Sharing trials replaced the actual Sharing and Not-Sharing trials. This resulted in the following three conditions: Imagined Sharing (sharing half), Imagined Not-Sharing (sharing nothing), Free Sharing. Free Sharing trials were identical as in Experiment 1. In the Imagined Sharing and Not-Sharing trials, the experimenter allocated four items in front of the child and asked: "Imagine, you would have shared X items and kept Y items for yourself. How would you feel about that?" The experimenter illustrated the distribution by placing the items accordingly next to the envelope/box. After each trial, the experimenter retrieved all items. Imagined Sharing and

Imagined Not-Sharing trials were presented first (in randomized order), Free Sharing trials were presented last. In this way, we aimed to assess emotions that were actually anticipated and not biased by an emotion that just followed a sharing behavior.

Emotion rating, explicit moral self-concept, and control variables. The procedure, scales, and analysis plans were the same as in Experiment 1.

6.3.2 Results

In the free sharing trials, children shared on average 2.02 items (*SD* = 0.68). On average, younger children shared less items (*M* = 1.66, *SD* = 0.66) than older children (*M* = 2.35, *SD* = 0.51), *t*(81) = -5.32, *p* < .001, *d* = 1.17. One-sample t-tests revealed that younger children shared significantly less than half, *t*(39) = -3.21, *p* = .003, *d* = 0.51, while older children shared more than half, *t*(42) = 4.52, *p* < .001, *d* = 0.69. The explicit moral self-concept was comparable in younger (*M* = 4.03, *SD* = 0.91) and older children (*M* = 4.33, *SD* = 0.53), *t*(61.5) = -1.80, *p* = .077, *d* = 0.40. Figure 14 presents descriptive statistics of the emotion ratings. The emotion difference between imagined sharing and not-sharing was considerably greater in older (*M* = 5.28, *SD* = 1.99) than younger children (*M* = 0.59, *SD* = 3.01), *t*(66.8) = 8.32, *p* < .001, *d* = 1.85. While anticipated emotions about sharing and not-sharing differed in older children, *t*(42) = 17.44, *p* < .001, *d* = 3.71, they did not differ in younger children, *t*(39) = 1.23, *p* = .225, *d* = 0.28.

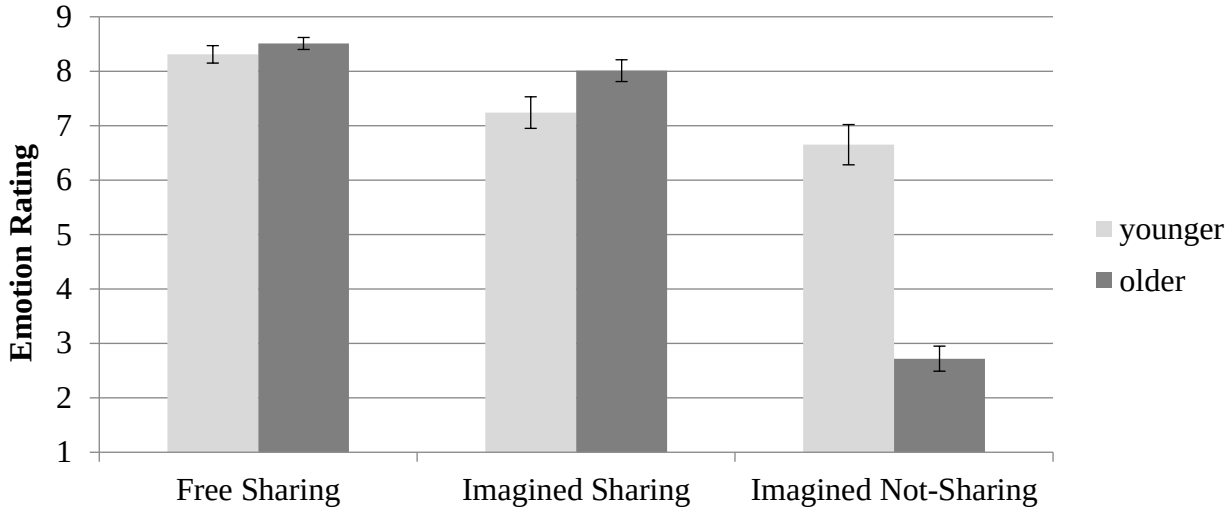

Figure 14. Mean emotion ratings after Free Sharing, Imagined Sharing, and Imagined Not-Sharing trials divided by Age Group. Error bars represent standard errors of the means.

Table 16 depicts a full correlation matrix using Pearson correlations. We computed hierarchical linear regressions following the procedure from Experiment 1.

Table 17 presents the results.

Regarding the relation between the moral self-concept and behavior, the model revealed only a significant effect of age group. That means, older children tended to share more than younger children. The same pattern of results emerged when predicting the emotion differentiation. Only age group significantly predicted the anticipated emotion differentiation, meaning older children differentiated more between Imagined Sharing and Not-Sharing.

When considering emotion differentiation as a predictor of sharing behavior, the regression analyses revealed a strong positive effect of emotion differentiation on sharing behavior. That means, the better children anticipated to feel after sharing compared to not-sharing, the more they actually shared afterwards. Age differences did not account for this effect but explained additional variance in sharing behavior. The effects of age group and emotion differentiation did not interact.

Since we did not find the relevant predictions of sharing behavior and anticipated emotion differentiation from the moral self-concept while controlling for age differences, we omitted the planned mediation analysis. Instead, given the current pattern of results, we computed an alternative exploratory meditation analyses focusing specifically on emotions that children anticipated when omitting prosocial behavior. We decided for this analysis based on the finding that the relation between the moral self-concept and emotion differentiation primarily resulted from the emotions regarding not-sharing (see Table 16). In addition, also previous studies reported a stronger role for negative than positive emotions (Ongley & Malti, 2014; Paulus & Moore, 2017). Figure 15 presents the results of the mediation analysis. While controlling for the influence of social desirability and age, the moral self-concept predicted emotions regard not-sharing, which in turn predicted prosocial behavior. The indirect effect, computed using percentile bootstrapping with 10000 samples, was marginally significant, 95% CI [0.007, 0.148], suggesting that the stronger children's moral self-concept, the worse they expected to feel when they would not share, thus the more they shared.

Additionally, we computed a mediation analysis to investigate the underlying mechanism of the age effect. We tested whether anticipated emotion differentiation mediate the age effect on sharing behavior, since correlational analyses revealed a relation between age group and emotion differentiation, between emotion differentiation and sharing behavior, as well as between age group and sharing behavior. Percentile bootstrapping with 10000 samples revealed a significant indirect effect, 95% CI [0.05, 0.48], meaning that older children expected to feel better after sharing compared to not-sharing, and thus shared

subsequently more. Hence, the expected affective benefits of sharing mediated a significant proportion of the age effect on sharing behavior. Nevertheless, age was related to sharing behavior beyond the effect of emotion differentiation.

Table 16. Full correlation matrix of all variables in Experiment 2.

	1	**2**	**3**	**4**	**5**	**6**
2	0.21^{+}	-				
3	0.30**	0.49***	-			
4	0.11	0.09	0.61***	-		
5	-0.31**	-0.56***	-0.89***	-0.18	-	
6	0.26*	-0.26*	-0.25*	0.01	0.32**	-
7	0.20^{+}	0.51***	0.68***	0.24*	-0.71***	-0.48***

Note. (1) Explicit moral self-concept: Sharing; (2) Free sharing behavior; (3) Mean emotion differentiation; (4) Mean anticipated emotion regarding sharing; (5) Mean anticipated emotion regarding not-sharing; (6) Social desirable response tendency; (7) Age Group [0: younger; 1: older]. ***p < .001; **p < .01; *p < .05; $^{+}$p < .1.

Table 17. Hierarchical linear regressions on free sharing behavior and anticipated emotion differentiation. For the models, R^2 and p-values are reported; for the individual predictors, standardized beta-values and p-values are reported.

	Sharing Behavior				***Anticip. Emotion Diff.***			
	Step 1		***Step 2***		***Step 1***		***Step 2***	
	β	*p*	*β*	*p*	*β*	*p*	*β*	*p*
Social Desirability	-.09	.480			.03	.801		
Explicit Self-Con.	.14	.183			.16	.074		
Age Group	**.44**	.000			**.66**	.000		
Expl. SC x Age Group			-1.08	.099			-.88	.108
R^2, p	**0.28**	.000	**.30**	.000	**0.50**	.000	**.51**	.000
Anticip. Emotion Diff.	**.27**	.037						
Age Group	**.32**	.014						
Ant. Em. x Age Group			-.20	.401				
R^2, p	**0.30**	.000	**.30**	.000				

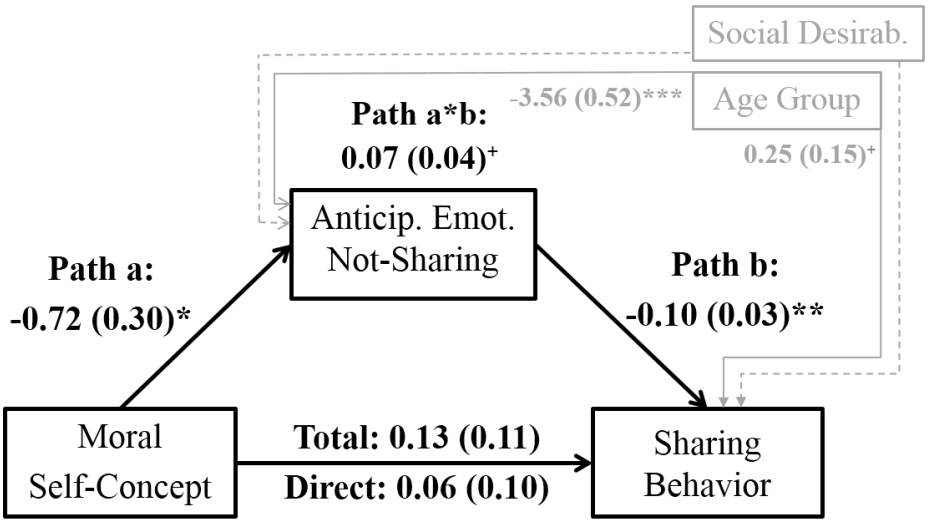

Figure 15. Indirect effect of the moral self-concept on sharing behavior through anticipated emotions regarding not-sharing with parameter estimates (standard errors). Variables in grey depict control variables. Dashed arrows represent non-significant relations. ***p < .001; **p < .01; *p < .05; $^{+}$p < .1.

6.3.3 Discussion

Experiment 2 aimed at investigating the role of anticipated emotions regarding prosocial behavior for the relation between the moral self-concept and behavior. In particular, we examined the relation between anticipated emotions and prosocial behavior, between the moral self-concept and prosocial behavior, and whether anticipated emotions mediate the latter relation. As in Experiment 1, the findings revealed that older children differentiated emotionally more between sharing and not-sharing compared to younger children. Moreover, younger children shared less items than older children did. Faced with this typical age effect, one remaining question is: Which cognitive or affective processes that develop with age lead to an increase in sharing behavior? The current experiment suggests one, namely anticipated emotions regarding (not-)sharing. In addition, exploratory analyses suggest that anticipated emotions regarding not-sharing in particular tend to mediate the relation between the moral self-concept and behavior. Nevertheless, age explained sharing behavior beyond the effect of anticipated emotions, suggesting that other mechanisms are guiding sharing behavior across middle childhood as well. We will follow up on this point and the other findings in the general discussion.

6.3.4 Analyses Across Experiments

In order to address the relation between the moral self-concept and prosocial behavior with a larger sample size, and in order to investigate the effect of anticipating emotions compared

to consequential emotions on prosocial behavior, we computed *t*-tests and regressions across both experiments (N = 169).

An independent sample t-test of children's sharing behavior between the two experiments revealed that children shared more items in Experiment 2 (M = 2.02, SD = 0.68) than in Experiment 1 (M = 1.72, SD = 0.86), $t(161) = 2.55$, $p = .012$, $d = 0.39$. Experiment 1 and 2 differed next to the different types of investigated emotions mainly in their task order (anticipated/consequential emotions regarding sharing assessed before/after free sharing). This means, children who first thought about how they would feel when they (won't) share subsequently shared more compared to children who did not think about the emotional consequences of possible actions beforehand.

The emotion differentiation between sharing and not-sharing was smaller for consequential emotions in Experiment 1 (M = 1.04, SD = 2.21), compared to anticipated emotions in Experiment 2 (M = 3.02, SD = 3.45), $t(138.9) = -4.42$, $p < .001$, $d = 0.69$. This difference was mostly driven by the more negative emotions regarding anticipated not-sharing in Experiment 2, (M = 4.61, SD = 2.77) compared to the emotions following not-sharing in Experiment 1 (M = 7.01, SD = 2.15), $t(154.6) = 6.27$, $p < .001$, $d = 0.97$. The moral self-concept was comparable in the two experiments, $t(167) = 1.53$, $p = .128$, $d = 0.24$.

Table 18 presents the results of hierarchical linear regressions. In Step 1, we entered social desirability, experiment (as a factor for the different emotion manipulation in Experiment 1 and 2), the moral self-concept, and age group. In Step 2, we entered relevant two-way interactions and in Step 3 the three-way interaction. The experimental manipulation, the moral self-concept, and age group remained significant predictors of sharing behavior, but they did not interact. Thus, across both experiments, the moral self-concept was related to prosocial behavior beyond the effects of experimental manipulation and age.

6.4 General Discussion

The current study assessed the interrelation and joint impact of the moral self-concept and emotions on children's prosocial behavior. This allowed us to investigate the nature of the relation between the moral self-concept and prosocial behavior. Overall, the moral self-concept was positively related to prosocial behavior in middle childhood. Likewise, both consequential and anticipated emotions regarding sharing predicted prosocial behavior positively. From a developmental view most important, both types of emotions accounted for age differences in sharing behavior. Exploratory analyses suggest that the avoidance of

Table 18. Hierarchical linear regressions on free sharing behavior across experiments. For the models, R^2 and p-values are reported; for the individual predictors, standardized beta-values and p-values are reported.

	Sharing Behavior					
	Step 1		***Step 2***		***Step 3***	
	β	*p*	*β*	*p*	*β*	*p*
Social Desirability	-.04	.594				
Experiment	**.21**	.004				
Explicit Self-Concept	**.18**	.022				
Age Group	**.30**	.000				
Experiment x Expl. SC			-.35	.464		
Experiment x Age Group			.14	.290		
Expl. SC x Age Group			-.13	.788		
Exp. x Expl. SC x Age Group					-1.33	.120
R^2, p	**0.16**	.000	**.17**	.000	**.19**	.000
$\triangle R^2$, p			.01	.618	.01	.120

negative emotions when not behaving prosocially mediates the relation between the moral self-concept and behavior. Moreover, asking children first to anticipate the affective consequences of (not-)sharing increased subsequent sharing behavior. The findings speak to several current theoretical debates and suggest a number of conclusions.

One key developmental question concerns why selfish behavior decreases with age (e.g., Fehr, Bernhard, & Rockenbach, 2008; Kogut, 2012; Smith et al., 2013). The current study highlights the role of emotions regarding prosocial behavior for this development. Both consequential and anticipated emotions regarding sharing mediated age effects on behavior. That is, the better children anticipated to feel or actually felt after sharing than not-sharing, the more items they shared themselves. This finding supports the notion that emotions guide behavior (Barrett, 1998; Tangney et al., 2007) and corroborates current theoretical proposals that the anticipation of emotional consequences affects future behavior (Eder et al., 2015; Ridderinkhof, 2017). Even though anticipated and consequential emotions tend to differ (Gautam et al., 2017; Wilson & Gilbert, 2005), the functional outcome, namely their effect on sharing behavior, appears to be similar. Interestingly, the relation between emotions and sharing behavior relied mostly on negative emotions that result from not sharing. This finding extends previous work regarding anticipated emotions (Gummerum et al., 2010; Ongley & Malti, 2014; Paulus & Moore, 2017) by highlighting one developmental factor that could explain developmental differences in children's sharing behavior.

Emotions regarding prosocial behavior seem to undergo profound changes in middle childhood. Older children both anticipated to feel better and actually felt better after sharing compared to not sharing, while younger children did not differentiate. These findings parallel the literature on emotion attributions (e.g., Keller, Lourenço, Malti, & Saalbach, 2003; Nunner-Winkler & Sodian, 1988). One possible explanation for this emotion pattern is that children first know about moral rules in an informational sense, without experiencing it as a personal obligation to follow them. Thus, they might not feel worse after acting against the rule (Nunner-Winkler, 2007). Our finding corresponds to work by Smith and colleagues (2013) who reported that younger children knew that sharing equally would be required, but actually shared less than half. In the course of middle childhood, cognitive and personal motivational aspects seem to become integrated, leading to an obligatory understanding of moral norms and negative emotions following norm transgressions (Nunner-Winkler, 2007). Our finding that emotions were related to actual sharing behavior supports a motivational interpretation of the emotion patterns.

Importantly, children's sharing behavior differed between the two experiments, such that children who first reflected on their future affective state shared more. This effect might result from the emotion differentiation that differs between consequential and anticipated emotions: When anticipating the emotional consequences, children differentiated more between sharing and not-sharing compared to when they reported their emotions after having shared or not-shared. This difference was driven by the not-sharing trials, which elicited more negative anticipated rather than experienced emotions. While our results add to the debate on the role of reflection for children's development (e.g., Allen & Bickhard, 2018), the pattern might be explained by two, potentially overlapping, mechanisms: First, research on affective forecasting reports that people tend to overestimate the intensity of future emotional reactions (Wilson & Gilbert, 2005). For example, Gautam, Bulley, von Hippel, & Suddendorf (2017) reported the intensity bias specifically regarding negative emotions in preschool children. Thus, children in the current study might have overestimated how bad they would feel when they would not share. Second, children who were requested to keep all items might have adapted their emotional state (more positive) to reduce cognitive dissonance between their behavior and attitude regarding the behavior (Festinger, 1957). However, when interpreting findings across experiments, we have to keep in mind that the participant assignment to conditions (consequential, anticipated emotions) was not completely random, as the conditions were set up as two different experiments. Nevertheless,

the finding that reflecting on own affective consequences seems to increase sharing behavior is an interesting starting point for possible interventions on children's prosocial behavior.

Central to our research question, the results contribute to literature that proposes the moral self-concept as a predictor of moral behavior (e.g., Blasi, 1983; Hardy & Carlo, 2011). Analyses across both experiments with a larger sample size and thus more statistical power revealed a relation beyond the effect of age and social desirability (which was not present in the single experiments). This finding contributes to previous research on the development of the moral self-concept (for overview see Krettenauer, 2013; Thompson, 2012). It suggests that the moral self-concept is meaningfully, but weakly related to prosocial behavior in middle childhood. Notably, previous work demonstrated relations between the moral self-concept and behavior in early childhood (Kochanska, 2002; Kochanska et al., 2010; Sengsavang & Krettenauer, 2015). However, these studies did not focus on active prosocial behavior but on parental report or compliance. Our study adds to this literature by demonstrating the behavioral relevance of the moral self-concept in childhood. Post-hoc analyses indicate that the missing effects in the individual experiments stem from a lack of power. A sensitivity analysis revealed that with the given sample sizes in the individual experiments, an alpha level of 0.05 and a power of 0.80, we were able to detect effect sizes of $f^2 = 0.09$ in the multiple regressions. However, the regression analysis across experiments revealed an effect size of the moral self-concept of $f^2 = 0.03$. Given the sample size across experiments, the analysis across experiments had a power of 0.65 to detect an effect of this size. Overall, the findings thus indicate a relation between the moral self-concept and prosocial behavior in childhood albeit smaller than initially expected.

Regression analyses revealed that the moral self-concept did not predict experienced (Experiment 1) but anticipated emotional consequences (Experiment 2). Emotions following prosocial behavior thus seem to be independent, while anticipated emotions seem to be related to the moral self-concept in middle childhood. This finding extends previous research by supporting a relation between the moral self-concept and emotions regarding prosocial behavior earlier than previously concluded, although it should be noted that the effect became marginal when additionally controlling for age. Recent studies repeatedly found a link between moral emotions and the moral self-concept in adolescence and adults (M. Johnston & Krettenauer, 2011; Lefebvre & Krettenauer, 2019). Using hypothetical scenarios, Krettenauer et al. (2013) reported a significant link in 12-year-olds, but not 8-year-olds. Our finding suggests the relation between anticipated emotions and self-concept in real-life scenarios to be present already in middle childhood.

The current findings are highly informative for theories on the link between moral emotions and moral self-concept development. From a functionalist approach, emotions serve as signals to the environment and to oneself, signaling the significance of an event and guiding subsequent actions (Barrett, 1998; Vaish, 2018). In the process of building a self-concept, children may rely on their emotional experience to learn about their values and to decide for future actions. Alternatively, emotions could be the consequence of acting consistent or inconsistent with one's values, as already reflected in the moral self-concept (Blasi, 1999b; Sheldon & Elliot, 1999). Our results suggest that the formation of the moral self-concept does not build on emotional experiences, since the moral self-concept and actual emotional consequences of prosocial behavior were independent in middle childhood. Rather, the moral self-concept was related to anticipated emotions. Anticipating emotions about future behavior is an active process, which results in a cognitive representation of an emotion (Krettenauer, 2012). When constructing this anticipated emotion, children might rely on various information: They might integrate their impression about how one should behave, together with their impression about how important it is for them to act in a certain way, that is, their self-concept. Through this constructive process, the moral self-concept might influence anticipated emotions, and consequently prosocial behavior. By revealing a relation between the moral self-concept and anticipated emotions, our findings thus support the notion that anticipated emotions in middle childhood not only reflect expected outcomes, but inconsistencies with personal values (Krettenauer, 2012). Thus, our results are suggestive for the idea that the moral self-concept promotes sharing behavior through the avoidance of anticipated negative emotions.

Based on self-determination theory, integrating morality into one's sense of self should result in internal moral motivation, which would result in prosocial behavior being satisfactory. However, the finding that mostly negative emotions linked the moral self-concept and behavior speaks for a relatively more external ("introjected") motivation, building on the pressure to avoid negative feelings (Ryan & Deci, 2000). This finding supports the developmental model by Krettenauer (2013), who suggests that only by late childhood (individually variable between children), the moral self-concept reflects the integration of moral behavior into the self, allowing for internal motivation. In addition, the result is in line with previous developmental research that suggests external motives as dominant for refraining from antisocial behavior during childhood (Sengsavang et al., 2015). The moral self-concept during childhood thus seems to reflect a child's view of him-/herself with regard to prosocial behavior that might receive its motivational power through striving

for approval or a positive self-esteem (even though the motivation seems to be context-dependent, see Sengsavang et al., 2015). A more advanced self-concept with age, built on more abstract terms and self-evaluative stances, might allow for an integration of morality into the self and thus for a motivation emanating from the self. In line with that notion, internal moral motivation seems to increase across childhood (Sengsavang et al., 2015) and adulthood (Krettenauer & Victor, 2017).

As discussed above, particularly anticipated emotions seem to be related to the early moral self-concept. Besides that, findings for anticipated emotions resembled findings for consequential emotions. The developmental pattern of both types of emotions was similar, such that younger children on average emotionally differentiated neither between actual nor anticipated sharing and not-sharing, while older children did so for both. Children thus seem to start considering sharing as emotionally relevant in their cognitively constructed anticipated emotions and in their actually experienced emotions to a similar time point. Future longitudinal studies would be valuable to corroborate this conclusion.

While the current study is informative for theories on prosocial behavior, it also has limitations. The samples were drawn from a Western, individualistic population. Previous research revealed that in particular sharing behavior differs between cultures from middle childhood on (Callaghan & Corbit, 2018). Additionally, in Eastern compared to Western cultures, the self is construed more in relation to its social context and a consistent self-concept seems to be less valued (Markus & Kitayama, 1991; Suh, 2002). The self-concept might thus be less critical for behavior in collectivistic compared to individualistic cultures. Further research is necessary to examine the generalizability of our results to other cultures. In addition, we restricted our study to one domain of prosocial behavior, namely sharing. Future investigations regarding helping or comforting behavior would inform about the generalizability of the present results and contribute to literature suggesting different prosocial domains (Dunfield, 2014; Paulus, 2018). Furthermore, the current study leaves the nature of the emotions that predict prosocial behavior open. The relation between emotions and the moral self-concept speaks for a self-relevant aspect contained in the emotions, thus, guilt avoidance might be one mechanism underlying the relation between negative emotions and behavior (Vaish, 2018). Likewise, the negative emotions might stem, for example, from an awareness of a sharing norm or from an awareness of the recipient's feelings. Future research should thus investigate and specify the emotions that predict behavior in detail. In addition, age was positively related to sharing behavior beyond the effect of emotions (Experiment 2). Further mechanisms that underlie these age effects should

be addressed by future research. Predictors of the individual differences in emotions remain a topic for future research as well. Addressing the role of parent-child interaction, for example parents' talk about emotions with the child, might be an interesting line of research. Moreover, the explicit self-concept measure focused on behavioral preferences, as in previous research with children (e.g., Kochanska, 2002; Sengsavang & Krettenauer, 2015). However, since children start to integrate their actions into a higher-order representation in middle childhood, the development of a more generalized moral self-concept measure would be helpful for future research. Additionally, prosocial behavior in older children might manifest itself in different situations than in younger children. Nevertheless, assessing the moral self-concept the same way in all children allowed us to draw conclusions about the development across both ages and revealed meaningful associations.

To conclude, the current study informs theoretical proposals on the importance of cognitive and affective mechanisms, namely the moral self-concept and emotions, for prosocial behavior. It extends previous literature by showing that the moral self-concept is related to prosocial behavior, in particular through the avoidance of negative emotions. Additionally, increasing emotional differentiation regarding sharing and not-sharing in middle childhood accounts for age differences in sharing behavior. Finally, the study suggests that asking children to reflect on the affective consequences of (the omission of) prosocial behavior enhanced children's prosocial behavior, thus providing a basis for future interventions.

Appendices

Appendix A

Table 19. Items of the adapted Children's Moral Self Puppet Scale.

Scale	Item
D	I like to play ball.
M-S	I like to share my pencils.
D	I enjoy looking at books.
M-C	I like to console a child, even if it was mean to me once.
D	I would like to be strong.
M-H	I like to help folding the laundry.
M-S	I take care that everyone gets the same amount.
D	I like it when people read me a story.
M-H	I like to help setting the table at home.
S	I always wash my hands before dinner.
M-C	I stop playing my favorite game to console a crying child.
M-S	I like to let other children play with my toys.
S	I always say "please" when asking for something.
M-H	I like to help doing the dishes.
M-C	I console a child, even when it has started the fight itself.
S	I am never angry.

Note. D: Distractors; S: Social Desirability; M-S: Moral-Sharing Subscale; M-C: Moral-Consoling Subscale; M-H: Moral-Helping Subscale.

Appendix B

Procedure of the Implicit Association Test in Experiment 1

The adaptations of our child-friendly IAT relied on previous work (cf. Cvencek, Greenwald, & Meltzoff, 2011). First, we used simplified words for the category labels and items. Second, auditory stimulus words were presented by a female speaker in order to eliminate the need for reading. The auditory stimulus co-occured with a white circle on the screen to keep the participant's focus of attention. Pictures depicted the category reminders in the top corners of the screen, with a happy/sad smiley representing *good/bad* and a photo of the participant/another child representing *self/others*. The photo of another gender- and age-matched child was taken from the Radboud Faces Database (Langner et al., 2010). Additionally, a yellow and blue colored stripe marked the left and right side of the screen, and the response buttons had the respective color-codes to simplify the association of side and button. The experimenter highlighted the current response assignment before each block. The procedure followed the original IAT by Greenwald, McGhee, and Schwartz (1998) but with reduced number of trials, resulting in the following 7 blocks: Good/bad discrimination (12 trials), self/others discrimination (12 trials), first paired (24 trials), second paired (24 trials), good/bad discrimination reversed (24 trials), first reversed paired (24 trials), second reversed paired (24 trials). The number of trials in the reversed good/bad discrimination block was doubled to reduce the impact of task order, as recommended by Nosek, Greenwald, and Banaji (2005), thus resulting in 24 trials. During the inter-trial-interval of 400ms, a fixation cross appeared in the center of the screen. In case of an erroneous response, a red "?" appeared below the stimulus until the correct response was provided. The IAT was performed using Presentation® software (Version 18.1, Neurobehavioral Systems, Inc., Berkeley, CA, www.neurobs.com). The 'd' and '#' buttons of a standard German keyboard were employed as response buttons.

7 Study 6:

How does the moral self-concept relate to prosocial behavior? Investigating the role of emotions and consistency-preference

Christner, N., Pletti, C., & Paulus, M. (under review). How does the moral self-concept relate to prosocial behavior? Investigating the role of emotions and consistency-preference.

Abstract

The moral self-concept has been proposed as a central predictor of prosocial behavior. In two experiments (one preregistered), we explored the nature of the relation between the moral self-concept and prosocial behavior. Specifically, we investigated the role of emotions associated with prosocial behavior (consequential or anticipated) and preference for consistency. The results revealed a relation between the moral self-concept and sharing behavior. The moral self-concept was linked to anticipated and consequential emotions regarding sharing. Importantly, anticipated and consequential emotions about not-sharing mediated the relation between self-concept and behavior. Yet, the relation was independent of preference for consistency. Overall, our study demonstrates the interplay between cognitive and emotional processes in explaining prosocial behavior. More specific, it underlines the link between the moral self-concept and prosocial behavior and highlights the role of emotions about the omission of prosocial behavior.

7.1 Introduction

Prosocial behavior benefits a society in several ways and has therefore been topic of many investigations. By definition, prosocial actions benefit others (Penner et al., 2005). Moreover, prosocial behavior seems to be beneficial in itself: Moral acts in everyday life, when committing them or when being the benefactor, have been found to increase happiness (Hofmann et al., 2014). Consequently, recent investigations examined the motives behind prosocial behavior (Böckler et al., 2016; Paulus, 2018) and explored how to promote it (Flook et al., 2015).

A growing body of research highlights the role of *moral identity* for prosocial behavior (Hardy & Carlo, 2011). A strong moral identity implies that moral traits (e.g., being fair, helpful, generous) are perceived as central to one's self-concept and thus as essential for defining oneself (Aquino & Reed, 2002). The moral self-concept is assumed to correlate positively with prosocial behavior (Blasi, 1983), a view which is supported by several empirical findings (Aquino, McFerran, & Laven, 2011; Reynolds & Ceranic, 2007; Winterich, Aquino, Mittal, & Swartz, 2013; for review see Hertz & Krettenauer, 2016). A strong moral identity has been associated with actual behavior across different contexts, such as charity, volunteerism, or cheating (e.g., Reynolds & Ceranic, 2007; Winterich et al., 2013). For example, Aquino and Reed (2002) asked people to imagine a person with certain moral characteristics, to rate how central these characteristics are for themselves, and how strongly they demonstrate having these characteristics. The more people reported having

these characteristics is central to them, the more often they reported having volunteered within the last two years and the more food they donated to a charity that gives food to the needy.

While most studies examined the explicit moral self-concept, which is assumed to reflect cognitively accessible representation of oneself (e.g., Aquino & Reed, 2002), a few studies reported findings between the implicit moral self-concept and prosocial behavior (e.g., Johnston, Sherman, & Grusec, 2013). The implicit moral self-concept is usually assessed using an implicit association test (IAT). It is suggested to reflect more automatic schemas and early processes (e.g., Pletti, Decety, & Paulus, 2019). In addition, explicit, self-reported motives seem to reflect cognitively represented goals, whereas implicit motives seem to stem from affective experiences with actions (McClelland, Koestner, & Weinberger, 1989). To account for both mechanisms, the current study addressed the relation of the explicit and implicit moral self-concept with prosocial behavior.

To date, little is known about the psychological mechanisms underlying the relation between the moral self-concept and prosocial behavior. Knowledge about the mediating mechanisms would finetune our theories on the moral self-concept. Blasi's (1983) self model explains the link between moral identity and behavior by people's striving for self-consistency. If morality is central to the self, moral behavior is required to act self-consistently. Colby and Damon's (1992) research aligns with this model and posits the integration of moral goals and self goals as key to moral identity. Social-cognitive accounts consider cognitive, affective, and self-processes as interwoven, forming a coherent personality on the basis of cognitive-affective moral schemas (Lapsley & Narvaez, 2004a). Integrating this research, it remains an open debate how identity is linked to moral actions (Hardy & Carlo, 2011), with striving for self-consistency being one prominent candidate.

A related line of theorizing addresses the role of emotions for the link between moral identity and behavior (Hardy & Carlo, 2011; Stets & Carter, 2012). Emotions are considered important when trying to explain moral behavior (Blasi, 1999b; Lapsley & Narvaez, 2004a; Stets & Carter, 2012). Emotions reflect an evaluation of events that are considered as relevant and they direct future behavior (Scherer, 2000). Here, it is important to differentiate between emotional consequences and predictions about future emotional states. Emotional consequences are directly experienced emotional states, which likely comprise bodily phenomena, emotional experience, and appraisal of the situation (Scherer, 2000). Anticipated emotions are predictions about future emotional states and thus reflect expectations on a more cognitive level. While anticipated emotions likely build on previous

affective experiences, the two types of emotional appraisals tend to differ (Wilson & Gilbert, 2005). For example, a majority of participants expect that spending money on personal issues would make them happier compared to spending money on others, while the opposite is actually the case (Dunn et al., 2008).

Looking at emotional consequences, research demonstrated that prosocial actions increase the benefactor's happiness (Aknin et al., 2018; Bierhoff, 2002). Behavioral studies (Dunn et al., 2008; Nelson et al., 2016) and neurophysiological studies (Harbaugh et al., 2007; Moll et al., 2006) support this link, suggesting that prosocial behavior is rewarding in itself. Based on associative theories on action selection, these positive emotional experiences might trigger prosocial behavior in the future (De Wit & Dickinson, 2009). Furthermore, in everyday life, prosocial actions and happiness seem to enhance each other (Aknin et al., 2012; Snippe et al., 2018). Emotions following prosocial behavior thus seem to influence future prosocial behavior.

Moreover, the anticipation of emotions is considered important for behavior. Recent approaches of ideomotor theory suggest that anticipated emotional consequences guide action selection (Eder et al., 2015; Ridderinkhof, 2017). Likewise, theories on decision making emphasize the role of anticipated emotions for guiding choices (Mellers et al., 1999; Zeelenberg et al., 2008). Accordingly, the more positive someone would expect to feel after behaving prosocially, the more likely he/she will behave prosocially, for instance deciding fairly in economic games (Haselhuhn & Mellers, 2005). Anticipated emotions might thus be one driving factor for prosocial action.

Taking together research on the moral self-concept, prosocial behavior and emotions, we address the following question: What drives the relation between the moral self-concept and prosocial behavior? The current study examines the role of emotional consequences of prosocial behavior and anticipated emotions. Self-determination theory suggests that actions, which are consistent with one's values, are intrinsically motivating and lead to well-being (Ryan & Deci, 2000). Prosocial behavior should accordingly be more pleasurable for people with a strong moral self-concept. This, in turn, could enhance future prosocial behavior, thus mediating the link between moral self-concept and prosocial behavior. Likewise, we would expect people with a strong moral self-concept to anticipate feeling better after prosocial behavior, since anticipated emotions build on previous affective experiences. The link between the moral self-concept and behavior could be equally driven by negative emotions regarding the omission of prosocial behavior. Positive emotions about

acting or negative emotions about not-acting might represent two sides of the emotional appraisal of prosocial behavior.

A third potential mechanism that we address is striving for self-consistency. People with a strong moral self-concept might behave prosocially in order to act self-consistently (Blasi, 1983), This notion aligns with cognitive dissonance theory, suggesting that humans aim to minimize dissonance (Festinger, 1957), which particularly occurs when a behavior is inconsistent with one's self-concept (Aronson (1969). Notwithstanding this basic need, individuals differ in the extent to which they prefer consistency (for review, see Guadagno & Cialdini, 2010). Despite the key claim of Blasi (1983), linking moral identity with prosocial behavior through self-consistency, empirical research on this notion is – surprisingly – absent so far. We thus tested the hypothesis that the relation between the moral self-concept and behavior is especially strong when one's preference for consistency is high.

Current Studies

The current studies aimed to clarify the relation between the moral self-concept and prosocial behavior. For that purpose, we assessed two adult samples. Participants in both experiments completed a sharing task in which they could donate money to charities or keep money for themselves. To assess the emotional relevance of sharing, we requested participants in Experiment 1 to donate half or nothing and to report their emotional state afterwards. In Experiment 2, we asked participants to imagine that they would donate half or nothing and to report their anticipated emotional state. We decided for donating half as the sharing option based on people's general tendency to avoid inequality (Dawes et al., 2007). This choice is also supported by a previous study employing a similar donation task, in which participants donated on average around half (28€ out of 50€) (Böckler et al., 2016). To address the role of self-consistency, participants completed a questionnaire on their preference for consistency in Experiment 2 (Collani & Blank, 2013). Finally, we assessed the explicit and implicit moral self-concept by means of an established questionnaire (Aquino & Reed, 2002) and an IAT (only in Experiment 1).

Based on moral identity theories (Aquino & Reed, 2002; Blasi, 1983), we hypothesized that the moral self-concept correlates positively with prosocial behavior. Second, following self-determination theory (Ryan & Deci, 2000), we hypothesized that the stronger the moral self-concept, the better people feel after sharing compared to not-sharing (Experiment 1), and the better people anticipate to feel after sharing compared to not-sharing (Experiment 2). Third, and for the purpose of the current study most important, we examined

two hypotheses regarding the relation between emotions and behavior. Based on associative theories on action control (e.g., De Wit & Dickinson, 2009), we expected that emotional consequences are related to prosocial behavior (Experiment 1). Based on ideomotor approaches (e.g., Eder et al., 2015; Ridderinkhof, 2017), we expected that anticipated emotions are related to prosocial behavior (Experiment 2). We examined whether consequential or anticipated emotions mediate the relation between moral self-concept and prosocial behavior. Fourth, based on Blasi's self model (1983), we hypothesized the relation between the self-concept and behavior to be stronger, the higher individual's preference for consistency (Experiment 2).

7.2 Experiment 1

7.2.1 Methods

Participants

Overall, 82 adults (*M* = 25.9 years, *SD* = 9.3, 58 female) participated in the experiment (see Supplemental Material for details on sample size determination). We excluded one additional participant from final analyses because of missing data. Participants provided informed consent before the testing and the local ethics committee approved the experiment. We recruited participants from local students pool and by word of mouth in a large European city. They received a compensation of 5€ or one subject hour in addition to their earnings from the sharing task.

Procedure

We tested participants individually in the university laboratory. Participants first completed the sharing task, then the implicit and explicit moral self-concept measures, and finally questionnaires on social desirability and belief in a just world. Finally, participants received their compensation and were debriefed about the study purpose. The session lasted around 45 minutes.

Measures

Sharing task. The task was adapted from the donation task by Böckler, Tusche, and Singer (2016). The current version for assessing sharing behavior as well as associated emotional states entailed three conditions: Free Sharing (FS), Sharing (sharing half; SH), and Not-Sharing (sharing nothing; SN). We employed FS for assessing spontaneous prosocial behavior, and SH and SN trials to assess the emotional significance of sharing. We chose

this procedure because participants' emotional states after FS were confounded with the shared amount. Investigating emotional states after FS would have not allowed us to examine the relation of the moral self-concept with sharing behavior and emotions regarding sharing separately. The procedure we chose allowed us to compare a general emotional stance towards sharing between participants.

In each trial, participants could distribute 50€ between a charity and themselves. In FS trials, participants decided how much money to donate (0-50€; "Which amount would you be willing to donate to support this organization?"). In SH and SN trials, participants were informed about a mandatory allocation (25€ in Sharing, 0€ in Not-Sharing, "You donate …€ and keep …€ for yourself."). Eight charities served as recipients, addressing diverse social issues. Each charity was part of each sharing condition, resulting in eight trials per condition (thus, 24 trials overall). At the beginning of each trial, the charity's goal was introduced. The sharing task started with FS trials to prevent any influence from the predefined trials. SH and SN trials were randomized afterwards. We informed participants that one trial out of all would be randomly chosen and implemented, meaning the donation would be realized and participants would receive 20% of the not-donated money.

Emotion rating. Participants rated their emotional state after each trial on a continuous scale ranging from *extremely sad* (0) to *extremely happy* (400) ("How do you feel about that decision?"). The portrait version of the 5-point Self-Assessment Manikin for rating Valence (Bradley & Lang, 1994; Suk, 2006) served as anchors. We computed difference scores for each subject by subtracting the mean emotional state after Not-Sharing from the mean emotional state after Sharing. This procedure served to assess the relative emotional significance of sharing while controlling for general response tendencies.

At the beginning of the session, participants indicated their current emotional state. We initially planned to control for participants' mood. However, we decided to disregard this rating since the emotion question after each trial directly referred to the decision rather than the current feeling in general.

Explicit moral self-concept. We assessed the explicit moral self-concept using the Self-Importance of Moral Identity questionnaire (Aquino & Reed, 2002; translation by Pohling et al., 2018). The questionnaire includes 10 items, all answered on a 7-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (7). Half of the items reflect the centrality of moral characteristics for the participant's self (Internalization), while the other half reflect to what extend the participant demonstrates having these characteristics (Symbolization). To prevent misunderstandings of the questionnaire arising in a pilot study,

the experimenter explained additionally to the written instruction to answer the items from one's own perspective. Cronbach's alpha of the moral self-concept scale in our sample was α = .80 (Internalization: α = .76; Symbolization: α = .68).

Implicit moral self-concept. We assessed the implicit moral self-concept with an IAT (Perugini & Leone, 2009). The target categories were *Moral*/*Immoral* and *Self*/*Others*. The procedure mostly followed the original IAT (for more details, see Supplemental Material). We relied on the improved scoring algorithm by Greenwald, Nosek, and Banaji (2003).

Control variables. Since the explicit moral self-concept measure appears to suffer from *Social Desirability Response Bias* (Aquino & Reed, 2002), participants completed the respective questionnaire by Satow (2012). We extended the questionnaire with five distractor items. The proportion of answers given in the most desirable way counted as response bias.

To account for a confounding effect in the adults' implicit moral self-concept, we assessed participant's *Personal Belief in a Just World* using the questionnaire by Dalbert (1999). To clarify, since the congruent blocks of the IAT contain me/moral words on one side and others/immoral words on the other, reaction time differences may not only stem from a strong association of me and moral but also from a strong association of others and immoral, which may even superimpose the congruency effects of the moral side. Since the personal belief in a just world includes the prevailing perception of the social environment as being orderly and just, we collected this parameter as a control variable for analyses regarding the implicit moral self-concept.

7.2.2 Results

Table 20 presents descriptive statistics of key variables. Figure 16 depicts descriptive statistics of the emotion ratings. Sharing condition had a strong effect on the associated emotions, $F(2, 243) = 195.2$, $p < .001$, $\eta^2 = .616$, with FS decisions eliciting the most positive emotions, followed by SH, followed by SN.

Table 20. Means and standard deviations for key variables in Experiment 1.

Variable	*M* (scale max)	*SD*
Free sharing behavior	31.41€ (50)	12.27
Moral self-concept	5.07 (7)	0.77
Emotion rating following free sharing	302 (400)	56.2
Emotion rating following sharing	182 (400)	69.1
Emotion rating following not-sharing	98 (400)	72.9
Emotion difference	84.63 (400)	73.96

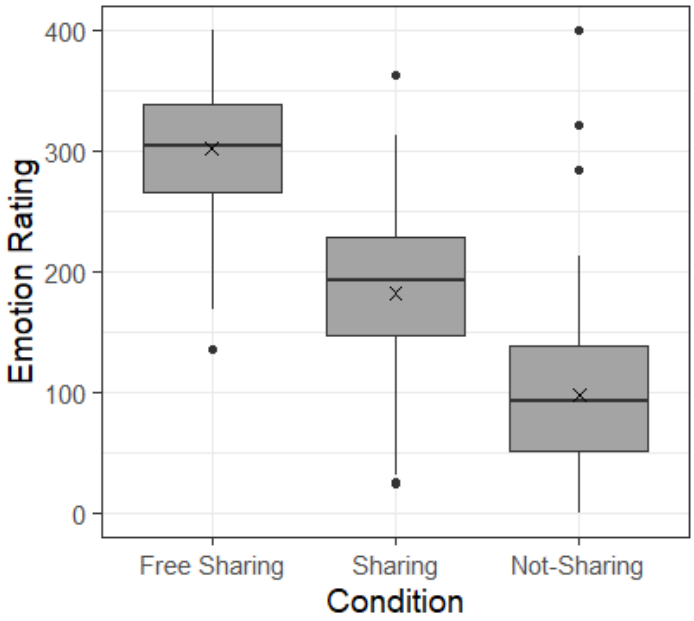

Figure 16. Emotion ratings after Free Sharing (FS), Sharing (SH), and Not-Sharing (SN) trials in Experiment 1. Crosses represent mean ratings across participants. Hinges of the boxes represent the first and third quartiles. Lower/upper whiskers extend to the smallest/largest value within the inter-quartile range * 1.5 from the hinges.

Table 21 displays a full correlation matrix for descriptive purpose. One participant was excluded from all analyses regarding the implicit moral self-concept, since more than 10% of the IAT trials had a latency of less than 300ms (Greenwald, Nosek, & Banaji, 2003). In order to examine the effect of the moral self-concept on FS behavior and emotion differentiation, we computed hierarchical linear regression analyses (see Table 22). We computed separate models for the explicit and implicit self-concept in order to investigate the individual effects and to account for respective control variables. Additionally, we computed individual regressions for the two subscales of the explicit self-concept (Internalization and Symbolization). When examining effects of the explicit moral self-concept, we entered social desirability in Step 1 and the moral self-concept in Step 2. As hypothesized, the explicit moral self-concept predicted FS behavior beyond the effect of social desirability. Thus, the stronger the moral self-concept, the more participants decided to donate across trials. When predicting emotion differentiation, adding the explicit moral self-concept to the model also resulted in an increase of explained variance. That means, the stronger the moral self-concept, the better participants felt after sharing half versus sharing nothing. Internalization and Symbolization similarly contributed to both the effect on sharing behavior and emotions. Additionally, emotion differentiation predicted FS behavior as expected, meaning the better people felt after sharing half versus sharing nothing, the more

they decided to share. When computing effects of the implicit moral self-concept, we entered belief in a just world in Step 1 and the implicit self-concept in Step 2. The implicit moral self-concept was neither linked to free sharing behavior, nor emotion differentiation. The control measure of belief in a just world, however, predicted sharing behavior. In the Supplemental Material, we report an examination of the degree to which effects were driven disproportionally by single participants.

Table 21. Correlation matrix of all variables in Experiment 1.

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2	0.84***	-							
3	0.91***	0.56***	-						
4	0.25*	0.28*	0.17	-					
5	0.27*	0.27*	0.22^{+}	-0.09	-				
6	0.25*	0.22*	0.23*	0.16	0.23*	-			
7	-0.15	-0.11	-0.16	0.06	-0.36***	0.48***			
8	-0.40***	-0.33**	-0.38***	-0.10	-0.58***	-0.56***	0.46***		
9	0.19^{+}	0.09	0.22*	0.12	0.03	-0.03	-0.15	-0.11	-
10	0.15	0.12	0.15	0.08	0.22*	-0.03	-0.13	-0.09	0.16

Note. (1) Explicit moral self-concept; (2) Explicit moral self-concept Internalization; (3) Explicit moral self-concept Symbolization; (4) Implicit moral self-concept; (5) Free sharing behavior; (6) Mean emotion differentiation; (7) Mean emotion after Sharing; (8) Mean emotion after Not-Sharing; (9) Social desirable response tendency; (10) Belief in just world. ***p < .001; **p < .01; *p < .05; $^{+}$p < .1.

Results of the mediation analysis using the SPSS macro PROCESS (Hayes, 2013) are presented in Figure 17. Consistent with the mediation hypothesis, the explicit moral self-concept predicted emotion differentiation and FS behavior. Moreover, emotion differentiation predicted FS behavior. When controlling for emotional differentiation additional to social desirability, the predictive effect of the self-concept on behavior was slightly decreased but still significant, β = .23, p = .0499. Significance of the indirect mediation effect, computed by percentile bootstrapping with 10000 samples, did not reach significance, 95% CI [-.37, 2.78]. That means, even though taking into account the emotional differentiation reduced the predictive effect of self-concept on behavior, emotional differentiation did not significantly mediate the relation between self-concept and behavior.

Table 22. Hierarchical linear regressions of the moral self-concept (explicit, implicit) and emotion differentiation on free sharing behavior as well as of the moral self-concept on emotion differentiation. For the models, R^2 and p-values are reported; for the individual predictors, standardized beta-values and p-values are reported.

	Sharing Behavior				***Emotion Differentiation***			
	Step 1		***Step 2***		***Step 1***		***Step 2***	
	β	*p*	*β*	*p*	*β*	*p*	*β*	*p*
Social Desirability	.03	.757	-.02	.875	-.03	.790	-.08	.464
Explicit Self-Concept			**.27**	.016			**.27**	.017
R^2, p	0.00	.757	0.07	.050	0.00	.790	0.07	.055
$\triangle R^2$, p			**0.07**	.016			**0.07**	.017
Social Desirability	.03	.757	.01	.932	-.03	.790	-.05	.642
MSC Internalization			**.27**	**.016**			**.23**	**.043**
R^2, p	0.00	.757	.07	.051	0.00	.790	.05	.123
$\triangle R^2$, p			**.07**	**.016**			**.05**	**.043**
Social Desirability	.03	.757	-.01	.907	-.03	.790	-.08	.455
MSC Symbolization			.22	.055			**.25**	**.030**
R^2, p	0.00	.757	.05	.150	0.00	.790	.06	.090
$\triangle R^2$, p			.05	.055			**.06**	**.030**
Belief in just world	**.23**	.037	**.24**	.031	-.02	.854	-.03	.767
Implicit Self-Concept			-.11	.325			.16	.155
R^2, p	**0.05**	.037	0.07	.071	0.00	.854	0.03	.356
$\triangle R^2$, p			0.01	.325			0.03	.155
Emotion Differentiat.	**.23**	.036						
R^2, p	**0.05**	.036						

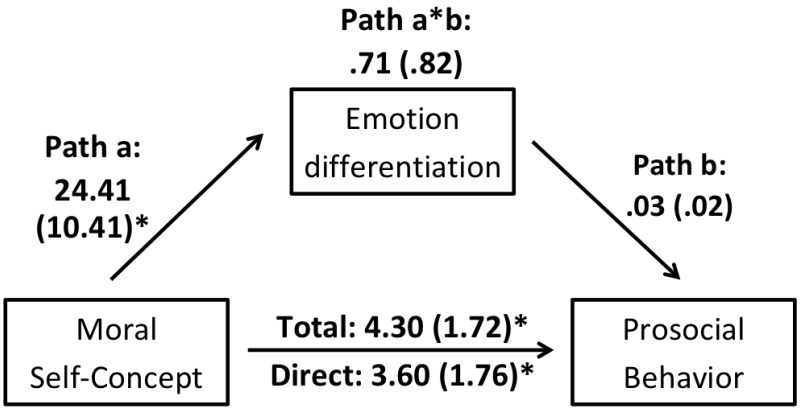

Figure 17. Mediation model for the mediator *emotion differentiation* with regression coefficients. Values in brackets indicate standard errors. *p < .05.

Exploratory Analyses

As presented in Table 21, both emotions regarding sharing and not-sharing correlated negatively with FS behavior. Exploratory analyses revealed that the negative relation with emotions regarding sharing stems from those participants, who wanted to give more than half (see Supplemental Material for details).

We relied on the emotion differentiation as a measure of participants' general emotional stance towards prosocial behavior. However, these effects might rely on emotions about sharing or emotions about not-sharing. The correlation analyses suggested that the effects of the emotion differentiation relied mostly on negative emotions about not-sharing rather than positive emotions about sharing. To follow up, we computed a mediation analysis with emotions following not-sharing as a mediator of the relation between the explicit self-concept and behavior (see Figure 18). When controlling for emotions after not-sharing, the predictive effect of the self-concept on behavior vanished. Percentile bootstrapping with 10000 samples confirmed a significant indirect mediation effect, 95% CI [0.75, 6.49]. That means, emotions about sharing nothing significantly mediated the relation between self-concept and behavior.

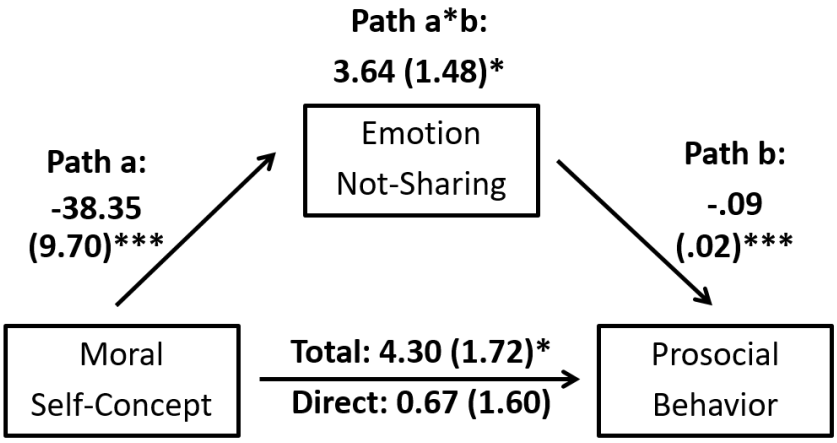

Figure 18. Mediation model for the mediator emotions after not-sharing with regression coefficients. Values in brackets indicate standard errors. *p < .05; ***p < .001.

7.2.3 Discussion

Experiment 1 investigated the role of emotions following prosocial behavior for the relation between the moral self-concept and behavior. As expected, the explicit moral self-concept correlated positively with the amount donated to charities. Additionally, the better people felt after sharing half compared to sharing nothing, the more they decided to share themselves. Extending separate research on the moral self-concept and emotions, we found a relation between the explicit moral self-concept and emotional consequences of prosocial

behavior: The stronger the participants' explicit moral self-concept, the more they emotionally differentiated between sharing and not-sharing. Importantly, the exploratory mediation analysis suggests that particularly emotions about not-sharing mediate the relation between self-concept and behavior. We will expand on the theoretical relevance of these findings in the general discussion.

The implicit and explicit, particularly internalization, moral self-concept correlated positively, suggesting that both address different aspects of an underlying moral self-concept. Nevertheless, effects of the implicit and explicit self-concept differed, relating to dual process theories (Lapsley & Hill, 2008). The finding that sharing behavior was only related to the explicit self-concept fits to meta-analytical evidence suggesting that explicit measures of moral identity are more strongly related to behavior than implicit measures (Hertz & Krettenauer, 2016). It is, however, different from previous research suggesting that an implicit measure predicts actual responses to moral situations (Johnston et al., 2013; Perugini & Leone, 2009). Our findings could result from the explicit nature of the prosocial behavior and emotion measure. Both requested the participant to make a decision (i.e. how much to donate or how he/she felt). Such respondent behavior, in contrast to behavior enacted in absence of situational cues, could be driven by self-reported rather than implicit motives, which might be respectively reflected in the explicit or implicit self-concept (McClelland et al., 1989). For prosocial behaviors of that type, such as donating goods when confronted with the opportunity, we conclude that the explicit moral self-concept is most relevant.

Experiment 1 provided support for the relation between the moral self-concept and prosocial behavior and clarified one potential mechanism, namely consequential emotions. Alternative theories suggest other mechanisms, namely anticipated emotions and the preference for consistency, which we investigated in Experiment 2. We dropped the implicit moral self-concept measure and the respective control questionnaire on Belief in a Just World. This decision resulted from our expectation that the implicit self-concept is rather related to consequential than anticipated emotions, as consequential emotions are less cognitively controlled. Because Experiment 1 did not reveal the expected relations, we only investigated the explicit moral self-concept in Experiment 2.

7.3 Experiment 2

We preregistered our methods, hypotheses, and planned analyses of Experiment 2 on "aspredicted.org" (https://aspredicted.org/blind.php?x=z9sj57).

7.3.1 Method

Participants

The final sample comprised 88 participants with a mean age of 26.7 years (*SD* = 11.0, 62 female; see Supplemental Material for details on sample size determination). We conducted the study in a large European city and the local ethics committee approved it. Participants gave informed consent prior to the testing. They were compensated with 3€ or 0.5 student subject hour in addition to their share from the task.

Procedure

We tested participants individually in the University's laboratory. They first completed the sharing task and afterwards questionnaires on preference for consistency, social desirable response tendency, the moral self-concept, and demographic information. Finally, they received their compensation and were debriefed about the study's purpose. The procedure lasted around 20 minutes.

Measures

Sharing task. The sharing task closely followed the one from Experiment 1. The main difference was that Imagined Sharing and Not-Sharing trials replaced the Sharing and Not-Sharing trials, resulting in the following three conditions: Imagined Sharing (sharing half; ISH), Imagined Not-Sharing (sharing nothing; ISN), Free Sharing (FS). ISH and ISN served to assess participants emotion when anticipating that they would share or not share. Hence, participants were asked to imagine that they would be giving 25€ or 0€ to the respective charity. FS trials were identical as in Experiment 1. The order of conditions differed from Experiment 1: ISH and ISN trials were presented first (randomized order) and FS trials last. We thereby aimed to assess actually anticipated emotions that are not biased by a previous sharing decision.

Emotion rating, explicit moral self-concept, social desirability. The measures were identical as in Experiment 1. Cronbach's alpha of the moral self-concept scale was α = .83 (Internalization: α = .84; Symbolization: α = .73).

Preference for Consistency. Preference for consistency was measured with the questionnaire by Collani and Blank (2013), which is based on the scale by Cialdini, Trost, and Newsom (1995). It consists of seven items answered on a 5-point scale ranging from *strongly disagree* (1) to *strongly agree* (5), with higher scores reflecting a stronger preference for consistency. Three items address private consistency and two items each

address public consistency and consistency of others. Cronbach's alpha of the overall scale was α = .47. This is rather low, but almost comparable to previous work reporting alphas between .54 and .71 (Collani & Blank, 2013).

7.3.2 Results

Table 23 presents descriptive statistics of key variables. Mean ratings of the anticipated emotions for each condition are displayed in Figure 19. Condition had a significant effect on the emotions, $F(2,261) = 233.2$, $p < .001$, $\eta^2 = .641$. Anticipated emotions were rated most positively for FS decisions, followed by ISH, and least positive for ISN.

Table 23. Means and standard deviations for key variables in Experiment 2.

Variable	*M* (scale max)	*SD*
Free sharing behavior	27.86€ (50)	12.56
Moral self-concept	4.94 (7)	0.88
Preference for consistency	3.56 (5)	0.48
Anticipated emotion for free sharing	310 (400)	52.9
Anticipated emotion for imagined sharing	215 (400)	78.8
Anticipated emotion for imagined not-sharing	96 (400)	62.9
Emotion difference	118 (400)	94.9

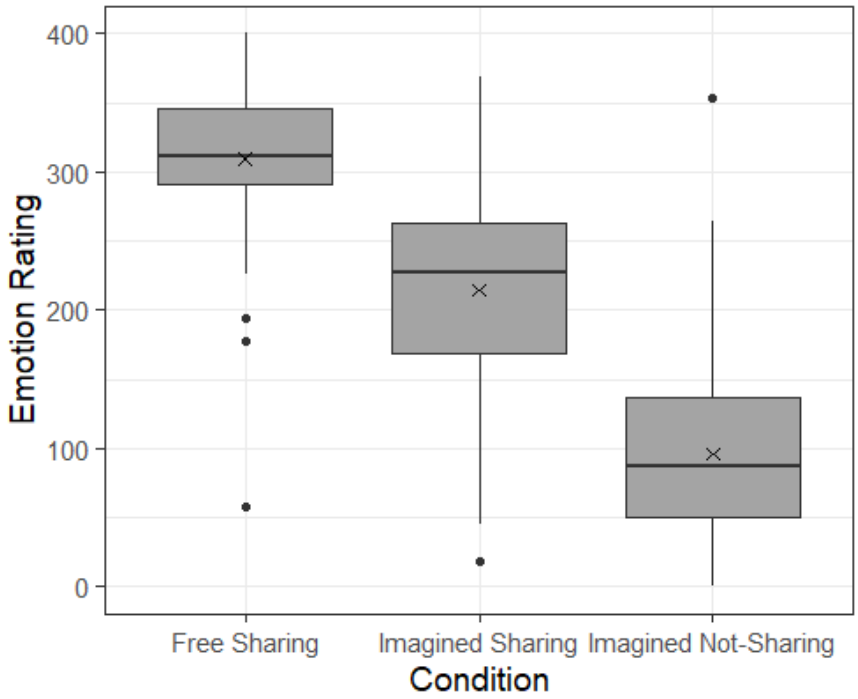

Figure 19. Anticipated emotion ratings for Free Sharing (FS), Imagined Sharing (ISH), and Imagined Not-Sharing (ISN). Crosses represent mean ratings across participants. Hinges of the boxes represent the first and third quartiles. Lower/upper whiskers extend to the smallest/largest value within the inter-quartile range * 1.5 from the hinges.

For descriptive purpose, correlations of all variables are presented in Table 24. Our analysis procedure followed Experiment 1. Table 25 presents the hierarchical regression results. As expected, the moral self-concept explained sharing behavior and the emotion differentiation beyond social desirability. The association with FS behavior was mostly driven by the Internalization, while the association with the anticipated emotion differentiation was driven similarly by Internalization and Symbolization. Linear regression analyses revealed no significant effect of the anticipated emotional differentiation on FS behavior. We therefore omitted the mediation analysis.

Table 24. Correlation matrix of all variables in Experiment 2.

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
2	0.85***	-						
3	0.88***	0.49***	-					
4	0.48***	0.46***	0.37***	-				
5	0.22*	0.26*	0.12	-0.01				
6	0.33**	0.28**	0.29**	0.18	0.17	-		
7	0.15	0.09	0.16	0.10	-0.25*	0.75***		
8	-0.32**	-0.31**	-0.24*	-0.14	-0.57***	-0.57***	0.12	
9	0.00	0.04	-0.04	0.01	0.08	0.05	-0.08	-0.17

Note. (1) Explicit moral self-concept; (2) Explicit moral self-concept Internalization; (3) Explicit moral self-concept Symbolization; (4) Preference for Self-Consistency; (5) Free sharing behavior; (6) Mean anticipated emotion differentiation; (7) Mean anticipated emotion for sharing; (8) Mean anticipated emotion for not-sharing; (9) Social desirable response tendency. ***p < .001; **p < .01; *p < .05; $^{+}$p < .1.

To investigate whether preference for consistency moderates the relation between the moral self-concept and sharing behavior, we entered the moral self-concept, preference for consistency, and the interaction term of both as predictors for FS behavior. The interaction term was not significant, b = -4.71, p = .078. Likewise, considering only the most relevant subscale exploratively, namely preference for private consistency, revealed no moderating effect, b = -1.92, p = .351. Thus, preference for consistency had no effect on the relation between self-concept and behavior.

Table 25. Hierarchical linear regressions of the explicit moral self-concept and emotion differentiation on free sharing behavior as well as of the moral self-concept on emotion differentiation. For the models, R^2 and p-values are reported; for the individual predictors, standardized beta-values and p-values are reported.

	Sharing Behavior				***Anticipated Emotion Diff.***			
	Step 1		***Step 2***		***Step 1***		***Step 2***	
	β	*p*	*β*	*p*	*β*	*p*	*β*	*p*
Social Desirability	.08	.472	.08	.460	.05	.669	.05	.646
Moral Self-Concept			**.22**	**.041**			**.33**	**.002**
R^2, p	.01	.46	.06	.095	.00	.669	**.11**	**.006**
$\triangle R^2$, p			**.05**	**.041**			**.11**	**.002**
Social Desirability	.08	.472	.07	.520	.05	.669	.04	.736
MSC Internalization			**.26**	**.016**			**.28**	**.009**
R^2, p	.01	.46	**.07**	**.041**	.00	.669	**.08**	**.028**
$\triangle R^2$, p			**.06**	**.016**			**.08**	**.008**
Social Desirability	.08	.472	.08	.443	.05	.669	.06	.578
MSC Symbolization			.13	.239			**.30**	**.005**
R^2, p	.01	.46	.02	.385	.00	.669	**.09**	**.018**
$\triangle R^2$, p			.02	.239			**.09**	**.005**
Emotion Differentiat.	.17	.103						
R^2, p	0.03	.103						

Exploratory Analyses

As presented in Table 24, both anticipated emotions regarding sharing and not-sharing correlated negatively with sharing behavior. As in Experiment 1, the negative relation with emotions regarding anticipated sharing stems from those participants, who wanted to give more than half (see Supplemental Material for details).

We followed up on the results by separating effects based on the anticipated emotions regarding sharing and not-sharing. The moral self-concept correlated negatively with anticipated emotions regarding not-sharing, and these in turn correlated negatively with sharing behavior. We therefore computed a mediation analyses with anticipated emotions regarding not-sharing as mediator (see Figure 20). Percentile bootstrapping with 10000 samples revealed a significant indirect mediation effect, 95% CI [0.22, 5.06].

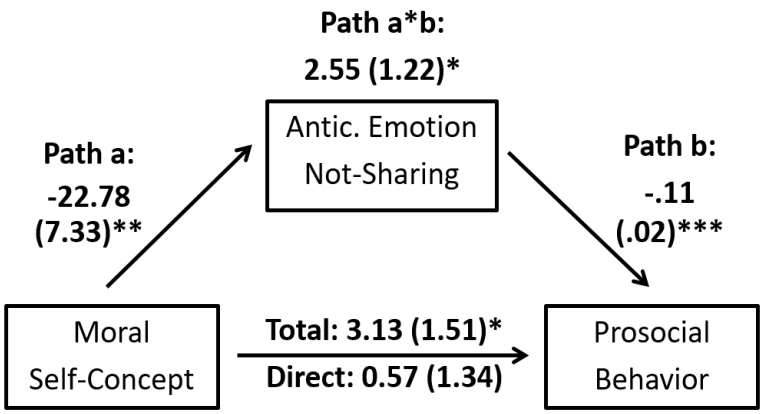

Figure 20. Mediation model for the mediator anticipated emotions regarding not-sharing with regression coefficients. Values in brackets indicate standard errors. *p < .05; **p < .01; ***p < .001.

7.3.3 Discussion

Experiment 2 investigated the role of anticipated emotions and preference for consistency for the relation between the moral self-concept and prosocial behavior. As in Experiment 1, the findings support the link between the moral self-concept and behavior. Additionally, the stronger the moral self-concept, the more positive emotions participants expected to feel after sharing compared to not-sharing. Surprisingly, the results revealed no relation between participants' sharing behavior and anticipated emotional consequences, measured as the difference in emotions regarding sharing and not-sharing. However, when taken singularly, both anticipated emotions regarding sharing half and regarding not-sharing correlated negatively with sharing behavior. Considering emotional states for sharing and not-sharing individually thus supports the notion that anticipated affective consequences guide behavior (Eder et al., 2015; Ridderinkhof, 2017). The negative relation between sharing behavior and emotions about sharing half stems mostly from participants who decided to share on average more than half. The amount that participants were asked to imagine in the sharing condition (25€ out of 50€) was therefore too little for participants who wished to share more, resulting in the negative correlation between sharing behavior and anticipated emotions about sharing. Importantly, the anticipated emotions regarding not-sharing mediated the relation between the moral self-concept and prosocial behavior, thereby corroborating the role of emotions for linking self-concept and behavior.

The current study did not reveal a moderating effect of preference for consistency on the relation between the moral self-concept and prosocial behavior. This finding challenges the classical notion that people with a strong moral identity act accordingly in order to be self-consistent (Blasi, 1983). Interestingly, preference for consistency strongly correlated

positively with the moral self-concept. Being consistent therefore might be perceived as moral in itself. In addition, one can distinguish between two types of consistency (Blasi, 1980): Consistency between one's self and one's behavior versus consistency of one's self or behavior across situations. While the theoretical claim on moral identity focuses on the former, the questionnaire employed in this experiment might have tapped into the latter. Future studies with other measures on the preference for self-consistency would be valuable to clarify the role of self-consistency.

7.3.4 Exploratory Analyses Across Experiments

To compare consequential and anticipated emotions regarding prosocial behavior, we computed analyses across experiments (see Supplemental Material for details). The emotion differentiation was larger for anticipated (Experiment 2) compared to consequential emotions (Experiment 1). This difference resulted from emotions regarding sharing, with anticipated emotions regarding sharing being more positive compared to consequential emotions following sharing. The relation between emotion differentiation and sharing behavior was comparable in both experiments.

We decided to use emotional differentiation as a measure for emotions regarding prosocial behavior in order to have an emotion rating that is comparable across participants. However, to account for the reduced autonomy in the predetermined conditions in both experiments, we examined participants' emotions after free sharing behavior across experiments, since the procedure for these trials was identical: Participants decided how much to share and reported afterwards, how they felt about that decision. Pearson's correlation analysis revealed a positive correlation with sharing behavior, meaning the more participants decided to share, the better they felt afterwards, $r(168) = 0.34$, $p < .001$. Interestingly, the moral self-concept moderated this relation, that means, the stronger the moral self-concept, the stronger the relation between the shared amount and positive feelings afterwards, $b = .932$, $p = .007$.

7.4 General Discussion

While previous studies provided growing evidence for a relation between the moral self-concept and behavior (Hertz & Krettenauer, 2016; Jennings et al., 2015), the current study focused on the nature of this relation. The results demonstrate that the moral self-concept as well as emotional consequences of sharing correlate positively with sharing behavior. In particular emotions following not-sharing and anticipated emotions regarding not-sharing mediated the relation between the moral self-concept and prosocial behavior. That means,

the stronger the moral self-concept, the worse participants felt after not-sharing and expected to feel after not-sharing, and hence the more they shared. The relation between the moral self-concept and prosocial behavior was independent of participants' preference for consistency. The current findings inform theoretical models on the nature and the psychological mechanisms of the moral self-concept, and demonstrate a close interplay between cognitive and emotional processes in human prosocial behavior.

First of all, in line with our hypotheses and the relevant theories (e.g., Aquino & Reed, 2002; Blasi, 1983; Hardy & Carlo, 2011), the moral self-concept predicted prosocial behavior in both experiments. In line with previous studies, mostly the internalization of the moral self-concept, meaning the centrality of moral traits to one's self, promoted this relation (e.g., Aquino, McFerran, & Laven, 2011; Reed & Aquino, 2003). The study thus contributes to the growing evidence on a positive relation between the moral self-concept and prosocial behavior.

Emotions regarding actions seem to be intertwined with the self-concept, such that actions not following one's self-concept lead to negative emotions. This pattern is evident for consequential and anticipated emotions and supports theoretical notions on the close interplay between self-concept and emotions (Epstein, 1973; Kunnen et al., 2001). This link is further corroborated by the finding on participants' emotions about their own sharing decision: The stronger the moral self-concept, the better participants felt about sharing more. The consistent findings across experiments resonates with the assumption that anticipated emotions build on previously experienced emotions (Baumeister et al., 2007), although both types of emotions conceptually differ. Emotions after prosocial behavior might reflect (in-)consistency with one's values, as reflected in the moral self-concept (Blasi, 1999b; Sheldon & Elliot, 1999; Tracy & Robins, 2004). Anticipating future emotions is a cognitive process that likely integrates previous affective experiences, but also how important a behavior is for one's self. The moral self-concept might thus be linked to anticipated emotions through previous experiences or by directly affecting the construction of the anticipated emotion. Overall, the findings corroborate the notion that prosocial behavior is more emotionally rewarding for people with a strong moral self-concept.

Considering the link between sharing behavior and emotional differentiation between sharing and not-sharing, we found a significant relation for consequential emotions and a non-significant, positive trend for anticipated emotions. This non-significant trend relates to the finding that participants, who shared most, tended to feel less positive in the sharing condition relatively to participants, who shared half, because sharing half was too little for

them. Importantly, emotions about not-sharing mediated the relation between the moral self-concept and sharing behavior in both experiments. This supports both associative theories focusing on action outcomes (e.g., De Wit & Dickinson, 2009) and ideomotor approaches (e,g., Ridderinkhof, 2017) on action control. The predominant role of negative emotions about prosocial omissions compared to positive emotions about prosocial action aligns with developmental research on children's moral emotions. In 4- to 12-year-olds, particularly negatively valenced emotions about prosocial omission, not positively valenced emotions in prosocial contexts, explained children's sharing behavior (Ongley & Malti, 2014). The predominant role of negative emotions suggests guilt avoidance as one mechanism for prosocial action selection (Tangney et al., 2007). Even though our emotion measure did not differentiate between different types of emotions of the same valence, the relation of emotion ratings with the moral self-concept hints to a self-conscious emotion such as guilt. Nevertheless, determining the exact nature of the negative emotional state and replicating these exploratory results remains topic for future research. So far, emotions about omitting prosocial behavior seem to link the moral self-concept to actual behavior.

Remarkably, our findings do not show that striving for self-consistency links moral identity to moral action (Blasi, 1983) Preference for consistency did not affect the relation between these two constructs. One could argue that striving for self-consistency might not be a consciously represented motivation, but directly tied to the emotional appraisal in a given situation. Dissonance theory posits that acting inconsistent with oneself leads to an unpleasant state (Aronson, 1969). However, this leaves us with the challenge to find other measures to test peoples striving for self-consistency in order for this to be a testable claim.

In general, the findings are in line with the theoretical notion that moral goals and own goals are aligned in case of a strong moral self-concept (Colby & Damon, 1992), because not following one's goal is regarded as unpleasant (Sheldon & Elliot, 1999). In addition, the alignment of affective processes with the moral self-concept and the similar effects of experienced and anticipated emotions support the idea of cognitive-affective moral schemas, which allow for a coherent personality and guide reactions to the environment (Lapsley & Narvaez, 2004a). Importantly, the findings corroborate the notion that emotions link the moral self-concept to behavior. What remains open to debate is the question, which processes these emotions reflect. The finding that emotional states linked the moral self-concept to prosocial behavior strongly suggests that emotions regarding prosocial omission reflect inconsistencies between behavior and self-concept (Aronson, 1969; Sheldon & Elliot, 1999). An alternative proposal comes from identity theory, which states that emotions might

reflect inconsistency between one's moral identity and how one thinks others perceive oneself in a moral situation (Stets & Carter, 2012). Investigating emotions in prosocial contexts in more detail might help to clarify this point.

Some limitations and open questions have to be noted. In order to assess emotional consequences of sharing, we adopted established measures relying on explicit evaluations of emotional states. It would be valuable to replicate the results with physiological measures of affective consequences, such as reward-related brain activity during sharing tasks (cf. Harbaugh et al., 2007). Additionally, requiring a specific behavior (Sharing, Not-Sharing) reduced participants' autonomy, which in turn might have rendered their emotional states more negatively (Deci & Ryan, 2000). But the reduced autonomy was comparable for both conditions (Sharing, Not-Sharing), thereby allowing us to make comparisons between conditions. Furthermore, we focused exclusively on sharing. Future studies on other forms of prosocial behavior (helping, comforting) would inform about the generalizability of our results. Developmental theories suggest different domains within prosocial behavior (Dunfield, 2014; Paulus, 2018). The centrality of each domain and the content of what is considered morally relevant might differ between individuals (Blasi, 1983). Accordingly, emotions would be expected to be related most strongly to the central moral self-concept domains.

Overall, the current study adds to research on the importance of the moral self-concept and emotions for prosocial behavior. It extends previous research by showing that the effect of the moral self-concept on behavior can be explained by anticipated emotions and emotional consequences of omitting prosocial behavior. The study thus corroborates the relation between the moral self-concept and prosocial behavior and deepens our understanding of this link by suggesting a mechanism that might drive this relation.

Data Availability Statement

Data and analysis script are openly available in the Open Science Framework at https://osf.io/q7pdm/?view_only=906d836583264a3f95ff68ebf4874865.

Supplemental Material

Experiment 1

Methods: Sample Size Determination

We determined the sample size based on the analyses by Fritz and MacKinnon (2007). A sample size of at least 78 participants is required to detect a mediation effect with medium-sized paths and power of 80% with percentile bootstrapping. We expected a medium-sized path between the moral self-concept and emotions based on the findings by Johnston and Krettenauer (2011), reporting a relation of r = .30/r = -.46 between the moral self-concept and emotions when regarding/disregarding a moral norm. We expected medium-sized paths between emotions and prosocial behavior based on the findings by Stets and Carter (2006), addressing charitable donations and reporting a relation of r = .61 between the decision to donate and the associated emotion.

Methods: IAT Procedure

The target categories of the IAT were *Moral* (Items: honest, faithful, sincere, modest, altruist) / *Immoral* (Items: cheater, dishonest, deceptive, arrogant, pretentious) and *Self* (Items: I, my, myself) / *Others* (Items: others, they, them). The procedure followed the original IAT by Greenwald, McGhee, and Schwartz (1998), resulting in 7 blocks: Moral/immoral discrimination (20 trials), self/others discrimination (20 trials), first paired (20 trials), second paired (40 trials), moral/immoral discrimination reversed (40 trials), first reversed paired (20 trials), second reversed paired (40 trials). The number of trials in the reversed moral/immoral discrimination block was doubled to reduce the impact of task order, as recommended by Nosek, Greenwald, and Banaji (2005), thus resulting in 40 trials. During the intertrial-interval of 400ms, a fixation cross was displayed in the center of the screen. In case of an erroneous response, a red "X" was presented below the stimulus until the correct response was provided. We employed the Presentation® software (Version 18.1, Neurobehavioral Systems, Inc., Berkeley, CA, www.neurobs.com). The 'd' and '#' buttons of a German keyboard served as response buttons.

Results: Exploratory Analyses

Both emotions regarding sharing and not-sharing correlated negatively with sharing behavior. In order to examine whether the negative relation with emotions regarding sharing stems from those participants, who wanted to give more than half (the amount of Sharing trials), we computed separate correlations for participants sharing on average more than half

(n = 57) or maximum half (n = 25). The relation between emotions regarding sharing and sharing behavior was negative for participants who shared on average more than half, $r(55) = -.60$, $p < .001$, but the relation was positive for participants who shared on average maximum half, $r(23) = .45$, $p = .024$. These correlations differed significantly, $z = 4.66$, $p < .001$.

Results/Discussion: Influential Participants

In order to determine the degree to which effects of the regression analyses were driven disproportionally by single participants, we computed Cook's Distance (D) for the regression models. D was not larger than 1 for all cases. Following the classical criterion suggested by Cook and Weisberg (1982), this is acceptable. At the same time, when following another criterion suggested by Fox (1997), that is, when excluding all participants with $D > 4/(n-k-1)$, most results turned marginally or non-significant. This indicates that the effects in our sample seem to depend on few participants that use the full spectrum of possible responses. Or, on the other side of the same coin, that the majority of our participants occupied only a small area of the response spectrum. However, because all participants' responses were part of the regular and normative scale range, we had no a priori reason to exclude them from the sample. As all participants are part of the population we are interested in, which is characterized by individual differences that we try to explain, we interpret the entire model. Yet, further research with a more diverse sample is valuable to corroborate the findings.

Experiment 2

Methods: Sample Size Determination

Sample size was determined as in Experiment 1. Required sample size according to the preregistration (71) and according to Experiment 1 (78) slightly differ, because we originally planned to use bias-corrected bootstrapping for analyzing the indirect mediation effect. However, we finally decided to rely on percentile bootstrapping based on the new recommendations by Yzerbyt, Muller, Batailler, and Judd (2018), who reported inflated Type I error rates for bias-corrected bootstrapping.

Results: Exploratory Analyses

Both anticipated emotions regarding sharing and not-sharing correlated negatively with sharing behavior. We again investigated, whether the negative relation with emotions

regarding anticipated sharing stems from those participants, who wanted to give more than half. Indeed, the negative relation between emotions regarding sharing and sharing behavior was evident for participants who shared on average more than half (n = 54), $r(52) = -.29$, $p = .033$, but not for participants who shared on average maximum half (n = 34), $r(32) = .02$, $p = .908$.

Analyses Across Experiments

In order to compare consequential and anticipated emotions regarding prosocial behavior, we computed independent sample *t*-tests across experiments. The emotion differentiation was larger for anticipated (Experiment 2) compared to consequential emotions (Experiment 1), $t(163.0) = 2.60$, $p = .010$, $d = .40$. This difference resulted from emotions regarding sharing, with anticipated emotions regarding sharing (Experiment 2) being more positive compared to consequential emotions following sharing (Experiment 1), $t(168) = 2.85$, $p = .005$, $d = .44$. Emotions regarding not-sharing, the moral self-concept, and sharing behavior were comparable in both experiments, ps > .064. The type of experiment did not moderate the relation between the emotion differentiation and sharing behavior, $p = .506$, meaning the relation was comparable in both experiments. The more positive anticipated compared to consequential emotions about sharing half might result from the overestimation of anticipated affective consequences, an effect that is typically reported as impact bias in research on affective forecasting (Wilson & Gilbert, 2005). Alternatively, this finding might result from an order effect, such that after having shared themselves (Experiment 1), participants might feel less positive about sharing half because they prominently remember their own sharing behavior, which in most cases differed from exactly half.

8 Study 7:

Prevention for oneself or others? Psychological and social factors that explain social distancing during the COVID-19 pandemic

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Abstract

Identifying the underlying psychological and social factors of social distancing is crucial to foster preventive behavior during a pandemic effectively. We investigated the relative contribution of self-focused (fear of infection, fear of punishment) and other-focused factors (moral judgment, moral identity, empathy for unspecific others, empathy for loved ones) in an online study in Germany (N = 246) while COVID-19 was climaxing. Importantly, other-oriented factors were related to social distancing behavior beyond self-oriented factors. Moral judgment and empathy for loved ones remained the dominant factors while controlling for all aspects. These findings underline the relevance of interpersonal considerations when engaging in preventive behavior.

8.1 Introduction

The pandemic caused by the SARS-CoV-2 virus is a worldwide health threat and causes major changes in everyday life (Blom et al., 2020; Windsteiger et al., 2020). Until there is a cure or vaccine for the disease, the most effective way to prevent a collapse of the healthcare system, which would lead to many deaths, appears to be social distancing (Greenstone & Nigam, 2020). Social distancing means keeping physical distance from others, including family and loved ones. This seemingly easy method seems rational in the current situation. Yet, the required behavior is exactly the opposite of human tendencies when confronted with a crisis. When being threatened, humans naturally tend to seek social contact and proximity to others (Dezecache et al., 2020; Mikulincer & Shaver, 2003). Therefore, it is important to investigate which psychological and social factors raise the acceptance of social distancing and thus facilitate handling a global health crisis.

The World Health Organization (2020) recommends social distancing to slow the spread of the SARS-CoV-2 virus. Most governments implemented methods to reduce physical contact between their citizens, which largely apply up until today, such as cancelling public events. Many countries forbade gatherings of two or more people from different households (Robert Koch Institute, 2020; World Health Organization, 2020). For example, violating these rules in Germany could have led to a fee of 150€ or more (e.g., Bayerische Staatskanzlei, 2020). Most citizens have adhered to the restrictions from early on, but there was considerable variance in acceptance (Betsch, Korn, Felgendreff, Eitze, Schmid, Sprengholz, Wieler, Schmich, Stollorz, Ramharter, Bosnjak, Omer, Thaiss, De Bock, von Rüden, Bruder, et al., 2020).

By distancing oneself from potentially infectious others, social distancing lowers one's own risk of getting infected. Moreover, in regions that fine deviation from social distancing, adhering to social distancing is preventing oneself from punishment. In that sense, social distancing can be regarded as selfish behavior, with fear of getting infected or fear of punishment being a driving force. Indeed, several researchers identified fear of an infection as a key predictor of social distancing (Harper et al., 2020; Lin et al., 2018). Considering such self-focused motives during a pandemic is thus important to effectively target citizens' motivation to adhere to preventive behaviors.

Besides self-focused reasons, other-focused concerns might impact social distancing. Since people can spread the virus unknowingly, even (seemingly) healthy individuals should keep distance from others to lower the risk of transmitting the virus (Koo et al., 2020; Wilder-Smith & Freedman, 2020). In that sense, social distancing can be seen as a form of other-oriented or prosocial behavior that aims at the well-being of others above the self-focused motive. Recent studies highlighted the prosocial aspect of preventive behavior. Framing the benefit of preventive behavior in public/prosocial rather than personal terms (e.g., "avoid spreading" vs. "avoid getting COVID-19"; Jordan, Yoeli, & Rand, 2020) and framing the risk with regard to vulnerable people rather than the transmission rate in general (Lunn et al., 2020) has shown to increase preventive intentions. In addition, a study by Francis and McNabb (2020) supports the idea that everyday behavior such as hygiene or social distancing behavior received moral value during the COVID-19 pandemic. Moralizing these behaviors was positively related to actually following the behavior (Francis & McNabb, 2020). Furthermore, empathy seems to motivate distancing behavior (Pfattheicher et al., 2020). In times of a pandemic, social distancing thus can be regarded as prosocial behavior.

These findings pose the question about which psychological mechanisms ultimately drive social distancing, and, importantly, about their relative contribution. The question whether self-focused motives or concern for other's welfare primarily drive behavior is highly interesting, as it relates to a perennial question in human history. Are people rather self-focused and egoistic, or motivated by moral evaluations and other-related concerns (Aristotle, trans. 2009; Plato, trans. 2008). Indeed, the relation between psychological egoism and altruism remains topic of a vivid debate in modern and contemporary philosophy (Bentham, 1789/2007; Nagel, 1970; Schopenhauer, 1840/1995). With this study, we aim to examine the relative contribution of self-focused and other-focused behavioral motives in the context of a global pandemic.

Psychological and social factors promote prosocial behavior, including cognitive factors such as moral judgment and moral identity, and rather affective factors such as empathy. Moral judgments inform about how people evaluate behavior and they also relate to the corresponding behavior (Killen & Dahl, 2018; Turiel, 2015). In particular, considering a behavior as moral instead of conventional or personal preference can explain behavioral tendencies (Francis & McNabb, 2020; Rhee et al., 2019; Smetana, 1982). Already preschoolers evaluate transgressions affecting human welfare particularly severely (Smetana, 1981) and develop a normative concern for the well-being of others (Paulus, Wörle, et al., 2020). But initially neutral behaviors of personal preference can also gain moral significance anytime, i.e. become moralized (Rhee et al., 2019). These theories and findings are relevant for the current study, because the intensity of social distancing behavior, such as avoiding to invite friends, likely was a question of personal preference before the pandemic. However, with increasing prevalence of the virus, these behaviors became a topic of human welfare. Moralization is therefore important to consider when trying to explain behavior. That means, the more someone considers a behavior to be morally relevant, the more likely he or she might act accordingly.

While people might come to a similar moral judgment about a certain behavior, the degree to which being a moral person is central to someone, the moral identity, differs between individuals (Hardy & Carlo, 2011; Lapsley & Narvaez, 2004b). Moral identity is suggested to bridge a gap between moral judgment and behavior (Blasi, 1983). That means, particularly when morality is central to one's self, moral judgments (e.g., "Sharing is good") are translated to actual behavior (e.g., donating money). Particularly the internalization of moral identity, that is, the degree to which being a moral person is considered a personal striving (Aquino & Reed, 2002), appears to relate to moral behavior (Boegershausen et al., 2015; Hertz & Krettenauer, 2016). For example, people with a strong internalization seem to have a wider "circle of moral regard". Based on their relevance for other-oriented behavior, moral identity and moral judgment are two factors that we investigated in the context of social distancing.

In addition, previous literature on prosociality highlights empathic concern or sympathy as one driving factor of prosocial behavior (Batson & et al, 1981; Davis, 1983; for review see Eisenberg, Eggum, & Di Giunta, 2010). According to Batson (2011), empathy describes the concern for the well-being of others and leads to altruistic motivation, meaning the motivation to increase other's welfare. We will use this definition for the current study. Pfattheicher, Nockur, Böhm, Sassenrath, and Petersen (2020) assessed the relation between

empathy with those vulnerable to COVID-19 and social distancing during this pandemic. They found that the more empathy participants reported, the more they reported to practice social distancing, highlighting the role of empathy for preventive behavior.

Recent theoretical work highlights that empathy should also be considered a relational phenomenon (Betzler, 2019). Empathy can result in valuable relationships and particularly close relationships call for empathy. We thus hypothesized that it is particularly empathy for close others that affects the tendency to keep physical distance from others during the pandemic. Differentiating between empathy for unspecific vulnerable others and empathy for loved ones (e.g., family and friends) allows to pinpoint the underlying factors of social distancing in detail.

The Current Study

The current study aimed to investigate the relative contribution of psychological and social factors that are associated with social distancing during the COVID-19 pandemic. We examined the relative contribution of self-focused factors – aiming at maximizing one's own well-being – and other-oriented factors – aiming at moral considerations and the well-being of others. Our central research question was: Are other-focused factors related to preventive behavior in a global pandemic beyond self-focused factors? As self-focused factors, we considered fear of infection and fear of punishment. As other-oriented factors, we considered moral judgment, moral identity, empathy with unspecified vulnerable others, and empathy with loved ones. We expected other-oriented factors to have a greater contribution to social distancing than self-oriented factors, because social distancing might become a moral act during a pandemic. Within the other-oriented factors, we examined the relative contribution of cognitive (i.e., moral judgment and identity) and affective aspects (i.e., empathy), as theories highlight the relevance of both for other-oriented behavior (Batson, 2011; Lapsley & Narvaez, 2004b; Turiel, 2015).

Next to this general question, we considered one specific interaction between two moral factors. Following the theory on moral identity (Blasi, 1983), we expected moral identity to moderate the link between moral judgment and behavior. If being a moral person is important to oneself, the urge to stay self-consistent might lead to behavior that corresponds one's moral judgment. We thus expected that particularly if being a moral person is central to a person's identity, considering social distancing as moral should lead to social distancing.

We addressed our research question in an online study in a German sample in mid-April 2020, as the infection rate was climaxing. During the time of data acquisition and up until now, in Germany, social distancing was and still is enforced through fines.

8.2 Method

Participants

The final sample comprised 246 participants (176 female; M_{age} = 37.1, SD_{age} = 14.4), who lived in Germany at the time of data collection. Half the participants (50%) were currently working from home, 11% worked with contact to patients or customers, 9% could not execute their job due to the pandemic, and 16% did not work. Two additional participants completed the questionnaire but did not pass an attention check question (see below). Participants were recruited via online postings (websites, social media) and by word of mouth. An a-priori power analysis revealed a minimal sample size of 163 to detect an effect of f^2 = .08 with α = 0.05 and power of 0.95. We expected this effect size for the relation of moral identity with social distancing beyond empathy, moral reasoning, age, and gender based on the findings by Hardy (2006) on prosocial behavior. The local ethics committee approved the study. Participants provided informed consent online.

Procedure and Design

Participants completed an online questionnaire via the platform Qualtrics. Participation took around 10 minutes. Participants had the chance to win one of three book vouchers.

Measures

Our dependent variable was social distancing behavior. As independent variables, we assessed other-oriented factors (moral judgment, moral identity, empathy in general, empathy for loved ones) and self-oriented factors (fear of infection, fear of punishment). A full list of the items is available in the Supplemental Material. After about half the questions, we included an attention check question. We excluded participants who failed to answer the check question correctly. All scales were created by computing the mean across items.

Social distancing. Participants reported their social distancing behavior on six items via self-report (e.g., “I minimize physical contact to others (so-called "Social Distancing").”). Some items were adapted from Pfattheicher et al. (2020). We expanded the social distancing questionnaire by five distractor items. Participants responded on a 7-point Likert scale (*not true at all – completely true*) with higher values indicating more regular practice of social distancing.

Moral judgment. We assessed whether participants judged the act of social distancing in moral terms. In four items, we asked participants to indicate how morally relevant they considered social distancing to be. One of these items addressed morality in agreement with the notion that moral norms are universal and independent of authorities or laws (Turiel, 2015; e.g., "Even if there were no state regulations about "Social Distancing", "Social Distancing" would be morally required in the current situation.").

Moral identity. To assess moral identity, we employed the Self-Importance of Moral Identity questionnaire (SMI-Q) by Aquino and Reed (2002). This measure includes 10 items consisting of the subscales *Internalization* and *Symbolization* (5 items each). All items were reported on a 7-point Likert scale (*strongly disagree – strongly agree*) with higher values indicating a stronger moral identity. In line with previous research (Aquino et al., 2009; DeCelles et al., 2012), we considered the *Internalization* mean as the moral identity score (moral identity-I), because this subscale is considered most relevant for behavior.

Empathy (general). We used three items from Pfattheicher et al. (2020) to assess empathy for unspecific vulnerable others (e.g., "I feel compassion for those most vulnerable to COVID-19.").

Empathy (loved ones). We implemented three items to assess empathy for loved ones (e.g., "I am very concerned about family members or friends who are especially vulnerable to COVID-19.").

Fear of infection. We assessed how worried people were about infecting themselves with COVID-19 by adapting items from the Whiteley-Index, an instrument for assessing hypochondriasis (Hinz et al., 2003). In four items, we asked participants to report their fear of infection (e.g., "I often worry that I might contract COVID-19.").

Fear of punishment. During the survey period, disregarding the state-ordered social distancing regulations could lead to a fine. We included two items to assess fear of punishment (e.g., "I worry that I might get fined if I do not adhere to the state-ordered lockdown rules and 'Social Distancing'").

For moral judgment, the empathy measures, fear of infection, and fear of punishment, answers were given on a 5-point Likert Scale (*I disagree – I strongly agree*).

Demographic variables. Because some people are particularly threatened by Covid-19, we asked participants to indicate whether they belonged to an at-risk group (yes/no/don't know). Additionally, we assessed participant's age (in years), gender (0 = female; 1 = male), and highest education degree. Furthermore, we asked participants about their current work situation and in which federal state of Germany they lived.

Data Sharing Statement

All questionnaire data and the analysis script are available on https://osf.io/sxaq5/. The study was not preregistered.

8.3 Results

Table 26 presents descriptive statistics of the key variables and scale reliabilities.

Demographic Variables

Most participants (79%) reported that they were not part of the at-risk group for Covid-19. Participants at-risk or who didn't know about their risk status reported more fear of becoming infected (M = 3.02, SD = 0.99) compared to participants not at risk (M = 2.56, SD = 0.96), $t(244) = 3.07$, $p = .002$, $d = .48$. The two groups did not differ regarding social distancing, $t(244) = 0.36$, $p = .716$, or any other key variable, ps > .180. Most participants reported holding a university degree (74%). Participants with a university degree reported slightly more fear of getting infected (M = 2.73, SD = 0.98) compared to those without a university degree (M = 2.44, SD = 0.98), $t(241) = 1.98$, $p = .049$, $d = .29$. The two groups did not differ regarding social distancing, $t(241) = 0.005$, $p = .996$, or any other key variable, ps > .279. We will address effects of gender and age in the following correlation and regression analyses.

Table 26. Cronbach's α as a measure of internal consistency, means, and standard deviations for key variables. Scale indicates the range of possible values for each item of a scale. Lower values on each scale reflect a lower degree, and higher values reflect a higher degree of the respective variable.

Variable	*α*	*M*	*SD*	*Scale*
Social distancing	.65	6.15	0.84	1-7
Moral identity-I	.75	5.84	0.79	1-7
Moral judgment	.86	4.16	0.78	1-5
Empathy (general)	.89	4.07	0.87	1-5
Empathy (loved ones)	.80	3.73	0.98	1-5
Fear of infection	.83	2.65	0.98	1-5
Fear of punishment	.75	2.75	1.20	1-5

Table 27. Zero-order correlation matrix with two-tailed Pearson correlations.

	1	2	3	4	5	6	7	8
2	0.16*	-						
3	0.50***	0.25***	-					
4	0.22***	0.29***	0.37***	-				
5	0.34***	0.23***	0.36***	0.63***	-			
6	0.20**	0.21***	0.33***	0.44***	0.51***	-		
7	-0.02	0.01	-0.15*	0.07	0.14*	0.05		
8	-0.13*	-0.06	0.01	0.04	0.00	0.05	-0.24***	
9	-0.12^{+}	-0.16*	0.00	-0.17**	-0.17**	-0.01	-0.17**	0.10

Note. (1) Social distancing; (2) Moral identity-I; (3) Moral judgement; (4) Empathy (general); (5) Empathy (loved ones); (6) Fear of infection; (7) Fear of punishment; (8) Age; (9) Gender [0 = female; 1 = male]. ***p < .001; **p < .01; *p < .05; $^{+}$p < .10.

Main Variables

Table 27 presents zero-order correlations between the main variables for descriptive purpose. Social distancing correlated positively with moral identity, moral judgment, empathy in general, empathy for loved ones, and fear of infection, but it did not correlate with fear of punishment. To investigate the relative contribution of all factors for social distancing, we computed a hierarchical linear regression with mean-centered variables. Some predictors correlated highly, but we kept them distinct for conceptual reasons. Moreover, the Variance Inflation Factor was below 2 for all predictors in all models, indicating no problem of collinearity (Fahrmeier et al., 2013). In step 1, we entered the control variables age (in years) and gender as well as the self-focused factors fear of infection and fear of punishment. In step 2, we added moral identity, moral judgment, empathy in general, and empathy for loved ones to examine whether these other-focused factors are related to social distancing beyond self-focused factors. In step 3, we added the interaction term of moral identity and moral judgment to investigate the moderation.

Table 28 shows the regression results. Fear of infection was positively related to social distancing at step 1. This effect, however, vanished when adding all other predictors at step 2. Even though moral identity correlated with social distancing (see Table 27), the relation became non-significant when adding the other moral factors at step 2. Moral judgment, that means, whether social distancing is considered as morally relevant, and empathy for loved ones thus remained the dominant predictors of social distancing.

Step 3 revealed a significant interaction of moral identity and moral judgment. To follow up on the interaction, we computed simple slope analyses for a low, medium, and high level of moral identity (-1 *SD*, mean, +1 *SD*; see Figure 21). All three slopes differed

significantly from zero (low moral identity: b = .64, p < .001, 95% CI [.47, .81]; medium moral identity: b = .48, p < .001, 95% CI [.35, .61]; high moral identity: b = .32, p < .001, 95% CI [.13, .51]). The slope was most positive for a low level of moral identity. That means, the lower participant's moral identity, the more considering social distancing as morally relevant increased social distancing. The overall pattern of results does not change if risk-status and educational degree are added to the model as control variables at step 1.

Table 28. Hierarchical linear regressions on social distancing behavior with standardized regression coefficient, p-value, and 95% confidence interval for each predictor. Coefficients in bold, if p < .05.

	Social Distancing								
	Step 1			Step 2			Step 3		
	β	*p*	95% CI	*β*	*p*	95% CI	*β*	*p*	95% CI
Age	**-.15**	.022	[-.02, -.00]	**-.13**	.027	[-.01, -.00]	**-.13**	.024	[-.01, -.00]
Gender	-.12	.069	[-.44, .02]	-.09	.130	[-.37, .05]	-.07	.187	[-.34, .07]
Fear of infection	**.21**	.001	[.07, .28]	-.02	.714	[-.13, .09]	-.01	.916	[-.11, .10]
Fear of punish.	-.09	.188	[-.15, .03]	-.02	.728	[-.09, .07]	-.01	.852	[-.09, .07]
Moral identity-I				.00	.934	[-.12, .13]	-.00	.958	[-.12, .12]
Moral judgement				**.46**	.000	[.36, .62]	**.45**	.000	[.35, .61]
Empathy (general)				-.11	.149	[-.24, .04]	-.10	.158	[-.23, .04]
Empathy (loved)				**.24**	.002	[.08, .33]	**.23**	.003	[.07, .32]
Moral judgement x moral identity-I							**-.14**	.011	[-.35, -.05]
ΔR^2, *p*	**.08**	.001		**.23**	.000		**.02**	.011	
R^2, *p*	**.08**	.001		**.31**	.000		**.33**	.000	

8.4 Discussion

Social distancing is deemed an effective method to slow the infection rate during a pandemic. Identifying the main psychological and social factors that motivate people to follow social distancing regulations throughout a health crisis is therefore highly important. The current study examined the relative contribution of other-oriented factors (moral judgment, moral identity, empathy in general and for loved ones) and self-oriented factors (fear of infection, fear of punishment) to social distancing during the COVID-19 pandemic. All other-oriented factors and fear of infection were positively related to social distancing. However, considering all factors simultaneously identified moral judgment and empathy for loved ones as the main factors related to social distancing. These findings suggest that even in times

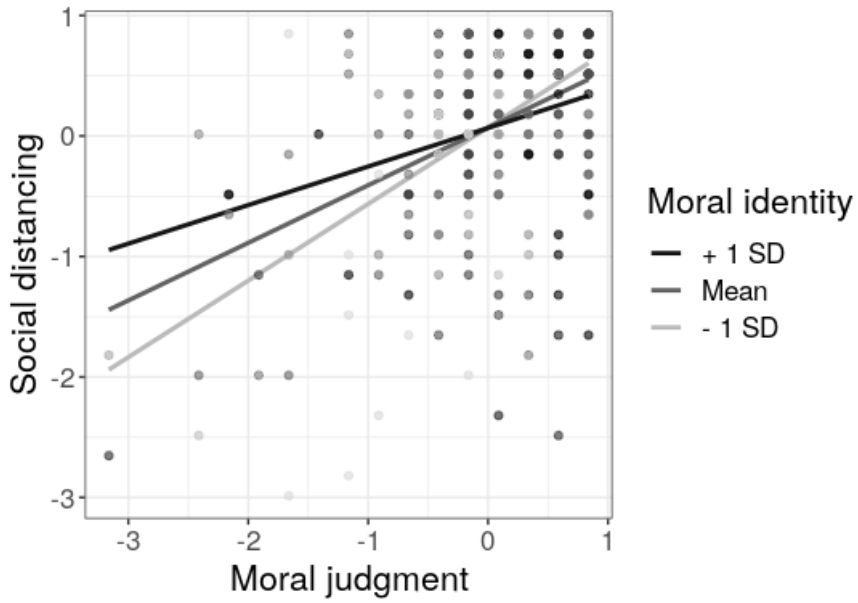

Figure 21. Interaction of moral judgment and moral identity on social distancing behavior on mean-centered scores (zero on x- and y-axis reflects sample mean of the respective variable). Slopes are depicted for three levels of moral identity: low (-1 SD), medium (mean), high (+1 SD).

when everyone's health is threatened, mainly the moral relevance of the situation and concern for others guide preventive behavior.

Other-oriented factors outweigh self-oriented factors in being associated with social distancing. This main finding underlines the relevance of interpersonal considerations and moral reflection even in face of a severe crisis. Moral judgment, conceptualized as considering social distancing as morally relevant, was the most important factor, thereby highlighting the behavioral relevance of moral judgment (Killen & Dahl, 2018). Additionally, the finding that social distancing behavior gained moral significance, which in turn was linked to behavior, fits to moralization research (Francis & McNabb, 2020; Rhee et al., 2019). The findings thus highlight the importance of considering social distancing as moral behavior.

Next to moral judgment, empathy for loved ones remained a dominant factor for social distancing. Importantly, the findings complement the results by Pfattheicher and colleagues (2020), who demonstrated that empathy for unknown others leads to social distancing. In our study, empathy in general was not most relevant for social distancing, as the relation vanished when controlling for other factors. Particularly empathy for loved ones was associated with behavior. Hence, the extent to which this affective factor is indeed other-oriented can be discussed. Close relationships are characterized by reciprocity and theories suggest that empathy helps to deepen close relationships (Betzler, 2019; Laursen & Hartup,

2002). Moreover, current theories suggest that close relationships come with a normative obligation to be partial (Betzler, 2014; Scheffler, 2010). Empathy for close others might thus benefit oneself in the long run. But since empathy reflects by definition a concern for others, we consider also empathy for loved ones as a motivation that focuses on the well-being of others. Moreover, self-focused factors in the current study were egoistic with the main goal of personal well-being (health, absence of punishment). In that sense, social distancing seems to be mainly driven by other-oriented psychological and social factors.

The COVID-19 pandemic was a threat to everyone's health. Moreover, disregarding social distancing regulations may have led to fines. It is thus remarkable that self-oriented factors played a minor role for preventive behavior. With increasing fear of infection, people reported more compliance with social distancing. This finding supports a protective function of fear (Harper et al., 2020). Yet, the current study extends previous research by demonstrating that the effect of fear is subordinate to factors that concern other's well-being. The second self-focused factor, fear of punishment, seems to be least effective in motivating people to keep social distance. This finding aligns with the observation that the German population moved less even before fines were implemented (Institute for Health Metrics and Evaluation, 2020). In addition, it suggests that future health-promoting projects could focus less on deterrence and more on affiliation.

Why are other-oriented factors most strongly related to social distancing during a pandemic? When faced with a threat, humans are inclined to seek contact (Dezecache et al., 2020). The pandemic can be regarded as a threat to one's survival, which might activate the attachment system and thereby increase proximity seeking to caring others (Bowlby, 1969/1982; Mikulincer & Shaver, 2003). Because the attachment system particularly calls for proximity to supportive others, empathy for loved ones rather than empathy in general might be central for behavior. Being faced with the restriction of exactly what is needed during a crisis, namely social contact, might enforce this need of seeking contact even more. In addition, as COVID-19 was a threat to everyone, the sense of a 'common fate' might have given rise to a motivation of collective action (Drury, 2018). Hence, the shared experience of a global threat and physical contact restrictions possibly amplified people's social need and thereby attuned people to other's well-being.

Beyond informing about social distancing, the current study refines theories of moral identity. Importantly, internalization of moral identity correlated positively with social distancing. This finding underlines the importance of moral identity for prosocial behavior even in a crisis. Concurrently, the effect of moral identity vanished when controlling for

other factors. The idea that moral identity bridges the gap between moral judgment and behavior (Blasi, 1983) is thus not supported. Instead, with increasing moral identity, participants also increasingly reported social distancing to be morally relevant. It seems that the moral significance of the situation was very high, particularly for people with a strong moral identity. We will expand on this point below. In addition, moral identity correlated positively with all other-oriented factors. In line with the conceptual background of moral identity (Lapsley & Narvaez, 2004b), this pattern indicates that with increasing moral identity, interpersonal aspects become more relevant.

Moral identity moderated the relation between moral judgment and social distancing, but the direction of the moderation was contrary to what we expected. For all levels of moral identity, moral judgment was positively related to social distancing, as hypothesized. But the relation was strongest for people with a low moral identity. For people with a low moral identity, judging certain behavior as morally relevant seems to be particularly important for behavior. Their moral judgment might act as a substitute for the low moral identity. With increasing moral identity, people might perceive more topics as morally relevant, as morality is a central aspect of their identity (Hardy & Carlo, 2011). Indeed, participants who reported a high moral identity also reported high moral judgments. This left little variance of moral judgment in people with a high moral identity that could explain social distancing. Overall, the moderating effect indicates that moral judgment and moral identity complement each other. Considering a behavior as moral can compensate for a low moral identity and still lead to moral behavior.

Our study shed light on the underlying factors that are associated with social distancing. Yet, to assess social distancing, we relied on participants' self-report. Self-reports might have been biased by social desirability. Nevertheless, at least self-reports about behavioral compliance during the COVID-19 pandemic appear to be rather independent of social desirability bias (Larsen et al., 2020). Additionally, our sample was limited to people living in Germany. However, the COVID-19 pandemic is a worldwide phenomenon and countries react differently, leading to varying societal reactions. Investigating our question in a more diverse sample would be valuable. Moreover, internal consistency of our social distancing scale was rather low. As the items addressed different areas of social distancing (e.g., visiting elderly, meeting friends, distance in public space), this might suggest that the tendency to keep physical distance depends on the affected area. For example, the feasibility of keeping distance from elderly might differ from other areas due to potential family commitments. Nevertheless, we consider the overall social distancing score as an index of

people's general tendency to keep distance. It remains an open question whether some specific psychological or social factors are relevant for specific facets of social distancing.

Besides the theoretical interest, the current findings have practical relevance for handling a pandemic. While citizens adhered to the social distancing regulations rather reliably at the beginning, the acceptance declined (Betsch, Korn, Felgendreff, Eitze, Schmid, Sprengholz, Wieler, Schmich, Stollorz, Ramharter, Bosnjak, Omer, Thaiss, De Bock, von Rüden, Crocket, et al., 2020). Hence, identifying the main factors that motivate people to follow the rules throughout a health-crisis is useful for politicians or healthcare professionals. Although our data are correlational and further support in experimental studies would be valuable, they highlight two factors. First, highlighting the moral significance of preventive behavior could be effective to promote it. Second, pointing towards the vulnerability of loved ones might increase adherence to restrictive regulations. These approaches could promote preventive behavior in times of a health crisis.

To conclude, this study underlines the social nature of humans, particularly the concern for close social relations, and the importance of moral considerations for everyday behavior. Even in face of a global pandemic, cognitive and affective other-oriented factors are more strongly related to preventive behavior than self-focused factors.

Supplemental Material

Full List of Items

Social Distancing

*: reverse coded; (D): Distractor items

Original item	Translated from German
Die COVID-19-Pandemie fordert Einschränkungen mancher Handlungen und bringt neue Regeln mit sich. Manche der Änderungen sind einfacher umzusetzen, manche schwieriger. Menschen gehen unterschiedlich mit den Beschränkungen und der Situation im Allgemeinen um. Wie ist es bei Ihnen? Geben Sie bitte im Folgenden an, wie sehr die folgenden Aussagen für den Zeitraum der letzten zwei Wochen auf Sie zutreffen.	The COVID-19 pandemic demands restrictions of some behaviors and brings along new regulations. Some of the changes are easier and some are harder to implement. Individuals deal differently with the restrictions and the situation in general. How about you? Please indicate in the following, how much the statements apply to you for the time period of the last two weeks.
1. Ich minimiere den physischen Kontakt zu anderen (sogenanntes "Social Distancing").	1. I minimize physical contact to others (so-called "Social Distancing").
2. (D) Ich informiere mich über die neusten medizinischen Entwicklungen in Bezug auf COVID-19 (z.B. Zahl der Infizierten, Impfstoff- und Medikamentenentwicklung).	2. (D) I inform myself about the latest medical developments related to COVID-19 (e.g. number of infections, vaccine and drug development).
3. (D) Ich nutze technische Möglichkeiten (Skype, WhatsApp, Telefon etc.), um mit meinen Freunden/meiner Familie in Kontakt zu bleiben.	3. (D) I use digital tools (Skype, WhatsApp, phone etc.) to stay in touch with my friends / family.
4.* Wenn es das Wetter zulässt, treffe ich mich draußen mit Freunden, die nicht in meinem Haushalt leben.	4.* In case of good weather, I meet outdoors with friends that do not live in my household.
5. (D) Ich nutze technische Möglichkeiten (Skype, Zoom, etc.) für meine Arbeit/Aufgaben.	5. (D) I use digital tools (Skype, Zoom, etc.) to do my work/tasks.
6.* Ich habe physischen Kontakt mit Familienmitgliedern, die nicht in meinem Haushalt leben.	6.* I am in physical contact with family members that do not live in my household.
7. (D) Es fällt mir leicht, meine Freizeit trotz der Ausgangsbeschränkungen nach meinen Vorstellungen zu gestalten.	7. (D) Despite the lockdown rules it is easy for me to organize my free time according to my own ideas.
8.* In meiner Freizeit besuche ich ältere Menschen (z.B. Eltern, Großeltern, ältere Freunde).	8.* I visit elderly people in my free time (e.g. parents, grandparents, older friends).

9. Im öffentlichen Raum (z.B. öffentlicher Nahverkehr, Supermarkt...) versuche ich, den empfohlenen Abstand von 1,5 Metern zu anderen einzuhalten.	9. I try to keep the recommended distance of 1.5 meters from others in public spaces (e.g. local public transport, supermarket ...).
10. (D) Ich kann unter den derzeitigen Bedingungen meiner Arbeit/meinen Aufgaben gut nachkommen.	10. (D) Under the current circumstances, I can complete my work/tasks without any problems.
11.* Ich treffe mich Zuhause mit Freunden.	11.* I meet up with friends at home.

Moral Judgment

Original item	**Translated from German**
Zu den Maßnahmen im Umgang mit COVID-19 gehört auch das sog. "Social Distancing". Um die Weiterverbreitung des Virus zu verlangsamen, sind Menschen dazu aufgefordert, einen größeren Abstand zu Anderen einzuhalten und sich nicht mit Freunden und Familie zu treffen. Wie stehen Sie zu solchen Maßnahmen? Wie sehr stimmen Sie den folgenden Aussagen zu?	“Social Distancing” is one of the methods for dealing with COVID-19. To slow down the spreading of the virus, people are asked to keep greater distance to others and to not meet friends and family. What do you think about such methods? How much do you agree with the following statements?
1. "Social Distancing" ist moralisch richtig und gut.	1. "Social Distancing" is morally right and good.
2. Jemand, der sich nicht an das "Social Distancing"hält, handelt unmoralisch.	2. Someone who does not stick to "Social Distancing" acts immoral.
3. Auch wenn es keine staatlichen Verordnungen zu "Social Distancing"geben würde, wäre "Social Distancing"in der aktuellen Situation moralisch geboten.	3. Even if there were no state regulations about "Social Distancing", "Social Distancing" would be morally required in the current situation.
4. Es ist die moralische Pflicht einer bzw. eines jeden, "Social Distancing"einzuhalten.	4. It is the moral obligation of everyone to adhere to "Social Distancing".

Moral Identity

Questionnaire by Aquino & Reed (2002)

Empathy (General)

Original item	**Translated from German**
Im folgenden Abschnitt interessieren wir uns für Ihre Gefühle im Bezug auf die momentane Situation.	In the following, we are interested in your feelings regarding the current situation.

1. Ich mache mir große Sorgen um diejenigen, die besonders durch COVID-19 gefährdet sind.	1. I am very concerned about those most vulnerable to COVID-19.
2. Ich habe großes Mitgefühl mit denjenigen, die besonders durch COVID-19 gefährdet sind.	2. I feel compassion for those most vulnerable to COVID-19.
3. Das, was mit denjenigen passieren kann, die besonders durch COVID-19 gefährdet sind, berührt mich sehr.	3. I am quite moved by what can happen to those most vulnerable to COVID-19.

Empathy (Loved Ones)

Original item	**Translated from German**
1. Ich mache mir große Sorgen um Familienangehörige oder Freunde, die besonders durch COVID-19 gefährdet sein könnten.	1. I am very concerned about family members or friends who are especially vulnerable to COVID-19.
2. Ich habe große Angst, dass mir nahestehende Personen mit COVID-19 infiziert werden könnten.	2. I am very scared that my loved ones could contract COVID-19.
3. Ich mache mir Sorgen, ob Familienangehörige oder Freunde auch genug tun, um sich vor einer Infektion mit COVID-19 zu schützen.	3. I worry whether family members or friends do enough to protect themselves from a COVID-19 infection.

Fear of Infection

Original item	**Translated from German**
Die Menschen gehen unterschiedlich mit der Gefahr einer Infektion mit COVID-19 um. Wie ist es bei Ihnen? Wie sehr stimmen Sie folgenden Aussagen zu?	People handle the danger of contracting COVID-19 differently. How about you? How much do you agree with the following statements?
1. Ich mache mir oft Sorgen, dass ich mich mit COVID-19 infizieren könnte.	1. I often worry that I might contract COVID-19.
2. Ich achte öfter darauf, ob ich die Symptome der COVID-19 Erkrankung haben könnte.	2. I often check if I might have symptoms of COVID-19.
3. Ich habe große Angst, dass ich mich mit COVID-19 infizieren könnte.	3. I am very scared that I might contract COVID-19.
4. Ich denke viel darüber nach, wie ich verhindern könnte, mit COVID-19 infiziert zu werden.	4. I think a lot about how I could prevent contracting COVID-19.

Fear of Punishment

Original item	**Translated from German**
Die Einhaltung der Ausgangsbeschränkungen wird seit einigen Wochen von den Ordnungsämtern und der Polizei überwacht und durchgesetzt. Wer sich nicht an die Ausgangsbeschränkungen hält, begeht eine Ordnungswidrigkeit und muss mit Bußgeld rechnen. Wie wirkt sich das auf Sie aus? Wie sehr stimmen Sie den folgenden Aussagen zu?	The order enforcement offices and the police surveil and enforce the lockdown rules since a few weeks ago. Those who do not comply with the restrictions commit minor offences and can be fined. How does this affect you? How much do you agree with the following statements?
1. Weil es Bußgelder beim Verstoß gegen Ausgangsbeschränkungen und Mindestabstände gibt, achte ich mehr darauf, mich an das „Social Distancing“ zu halten.	1. Because there are fines when violating lockdown and distancing rules, I make sure to comply to "Social Distancing".
2. Ich habe Sorge, dass ich bestraft werde, wenn ich mich nicht an die staatlich verordneten Ausgangsbeschränkungen und das"Social Distancing"halte.	2. I worry that I might get fined if I do not adhere to the state-ordered lockdown rules and "Social Distancing".

9 General Discussion

Does a normative stance regarding prosocial behavior develop in preschool years? Are judgments about how one ought to behave related to actual morally relevant behavior? What role does the self-concept play for morally relevant behavior? And what is the relative contribution of a normative stance and the self-concept for behavior? These questions follow a long tradition of theorizing on moral development. In particular, they build on cognitive approaches to moral development, centering on moral judgment and the development of norms (Kohlberg, 1969; Piaget, 1997; Turiel, 1983), and they build on theories that focus on the role of the self (Blasi, 1983; Colby & Damon, 1992; Nunner-Winkler, 1997). The current thesis aimed at providing new insights about these questions by systematically testing theories on moral norms and the moral self-concept. For that purpose, seven studies were conducted across different age groups. Study 1 and 2 demonstrate a normative stance regarding morally relevant behavior, namely comforting and fair resource distribution, in preschool years. Study 3 and 4 reveal a complex picture of the relation between preschoolers' normative views and behavior, with normative views toward sharing being not related to sharing behavior, and normative views in the context of resource distribution being related on the level of the individual, but diverging on the group level. Study 4 and 5 evidence a meaningful relation between the moral self-concept and sharing behavior in preschool years and middle childhood. Study 5 and 6 highlight the role of emotions regarding the omission of prosocial behavior for the relation between the moral self-concept and behavior in middle childhood and adulthood. Study 5 additionally reveals that changes in anticipated emotions explain age differences in sharing, thereby suggesting emotion understanding as a potential psychological mechanism that might explain development in sharing behavior. Study 7 reveals that the moral self-concept is related to social distancing, that is, a currently relevant other-oriented behavior. Yet, the moral judgment about the behavior outweighs the moral self-concept in explaining social distancing behavior.

Across this set of studies, this thesis allows for some developmental conclusions. While a normative stance against antisocial behavior seems to be present already at three years, a normative stance toward prosocial behavior seems to emerge across preschool years. While children at the end of preschool years tend to share little, they increasingly share across middle childhood. One mechanism explaining this developmental increase in sharing is children's increasing expectation that not-sharing will make them feel sad rather than happy. The moral self-concept relates to morally relevant behavior throughout development. Yet, it might have different meanings across development, at first reflecting preschoolers' representation of own behavioral tendencies and across middle childhood increasingly reflecting the perceived personal obligation to follow moral norms. In the following, I will first outline the contribution of these studies to existing theories and research before providing an integrative picture, directions for future research, and a general conclusion.

9.1 Contributions to Research on the Relation between Moral Judgment and Behavior

The question of the relation between moral judgment and actual behavior is topic of a longstanding debate. One line of theories suggests that moral judgment and behavior align from early on (Killen & Dahl, 2018; Turiel, 2003), highlighting the intrinsic motivational quality of moral aspects. This notion fits also to Kohlberg's (1976) classical approach on moral development, who highlighted the importance of moral reasoning for moral behavior. Another line of theories proposes that moral judgment and behavior do not align (Blake, 2018; Blasi, 1983; Gerson & Damon, 1978), thereby suggesting that normative stances do not directly translate into behavior. Empirical research repeatedly challenged the notion that moral judgment and behavior align, given only weak and inconsistent evidence for a relation between the two (for reviews see Blasi, 1980; Villegas de Posada & Vargas-Trujillo, 2015). Likewise, studies on normative expressions regarding morally relevant behavior on a group level suggest that children first know about morally relevant normative duties before adhering to them (Kogut, 2012; Smith et al., 2013). In order to advance this debate, the current thesis investigated the relation between a normative stance and behavior both on a group level and on an individual level, by addressing both non-costly resource distribution and costly sharing behavior, and by assessing a variety of normative expressions to cover the breadth of early normativity. It is particularly interesting to examine this question in preschool years, when fundamental aspects of children's fairness-related behavior emerge (Tomasello & Vaish, 2013). Before explicitly addressing the relation with actual behavior (Study 3-4, Study 7), the current thesis first examined whether morally relevant behavior

becomes conceived as being obligatory and thus normatively represented in preschool years (Study 1-2).

9.1.1 Normative Stance Regarding Morally Relevant Behavior

Study 1 and Study 2 revealed a normative stance regarding morally relevant behavior in preschool years as evidenced by spontaneous protest and affirmation in third-person scenarios and evaluation of the respective behaviors. These findings contribute to a field of research and theories, suggesting that children develop an understanding and appreciation of norms in preschool years (Dahl & Paulus, 2019; Rakoczy & Schmidt, 2013; Tomasello, 2018). The early emergence of normative views regarding topics of welfare and justice in particular fits a social domain theory perspective (Smetana, 2013; Turiel, 1983), which proposes that moral norms are perceived as obligatory and universally valid from early on. Classical approaches on moral development, on the other hand, seem to have underestimated how early morally relevant norms emerge (Damon, 1977; Kohlberg, 1976).

In detail, the findings support the theoretical model by Dahl and Paulus (2019), suggesting that empathy-based comforting becomes a normatively represented reaction in preschool years, which is not only considered as supererogatory but as obligatory (Study 1). With regard to fairness norms, the findings both evidence a normative stance regarding equal distribution and a normative notion regarding partial distribution, meeting the demands of interpersonal responsibilities, in preschool years (Study 2). In addition, this thesis highlights the dominance of a charity norm, that is, giving more to a poor than to a rich recipient (Study 3). The current work thus sheds light on the emergence and handling of different normative demands. Study 2 and Study 3 contrast two fairness principles, suggesting that normative demands come with different levels of obligation. The findings speak to the idea that norms and principles are hierarchically ordered, comparable to a hierarchical system of values (Abramson et al., 2018; Collins et al., 2017), with the principle of equal distribution and the principle of charity being most strongly endorsed and the principle of giving more to friends being considered as less obligatory. Likewise, the differential timeline of developing norms fits to the notion that norms are hierarchically ordered, with a norm toward a negative duty, that is, not laughing at an agent in emotional need, emerging earlier than a norm toward a positive duty, that is, comforting an agent (Study 1). The lack of meaningful effects in children's punishment also suggests that norms come with different levels of obligation. While classical moral norms have been shown to be enforced already by preschoolers (Bernhard et al., 2020; Kenward & Östh, 2015; McAuliffe et al., 2015), as also evidenced in

Study 3 and Study 4, the normative transgressions concerning prosocial behaviors in Study 1 and 2 might be considered as not severe enough to be worthy of punishment.

Assuming a hierarchy of normative principles, the current work speaks to a general hierarchy across individuals in preschool years, with a norm of equal treatment (Study 2) and a norm of charitable giving (Study 3) prioritized over a norm considering interpersonal responsibilities. With increasing experience of practical interactions in the peer context, the hierarchy of these norms might change, giving more weight to interpersonal obligations (Betzler, 2014; Carpendale et al., 2013). In addition, next to this pattern on a group level, the hierarchy of norms might differ between individuals. Given evidence for a domain-specificity of early prosocial behavior and the early moral self-concept (Dunfield, 2014; Paulus, 2014; Sticker et al., 2021), normative principles of different domains might be prioritized differently by individuals. Moreover, following a differentiation between ethics of care and justice considerations within the domain of morality (Haidt, 2008), one could assume that the hierarchy of principles particularly focusing on care versus justice individually differs. Examining the prioritization of different normative demands across development remains an interesting avenue for future research.

While the current work demonstrates the early emergence of normative views regarding morally relevant behavior, it likewise demonstrates that a normative stance can emerge anytime in case a previously considered neutral behavior changes its quality (Study 7). The moral significance of a behavior thus seems to depend on the meaning of a behavior in a certain situation, e.g., whether it affects the welfare of others or pertains to topics of justice (cf. Smetana, 2013). That means, while the underlying principles might be common to morally relevant norms, such as increasing other's welfare and maintaining justice, the concrete implementation of a normative principle might depend on the meaning of a behavior in a concrete situation.

Beyond informing about the content of normative views in childhood, the current thesis informs about the structure of early normativity and suggests that normativity is a broad construct. Preschoolers express their normative views across a variety of indicators. They protest against norm-transgressing and affirm norm-conform behavior (Study 1-3), they evaluate norm-conform behavior as better (Study 1-4), they judge that a norm-transgressor deserves to be punished (Study 3-4), and they even punish and are willing to incur costs in order to punish a norm-transgressor (Study 4). On the one hand, these forms of expressions are partly interrelated, suggesting that they are subserved by the same normative stance. On the other hand, this thesis suggests an inherent, differentiated structure

of normative expressions with two separate factors: the cognitive representation of a norm and the behavioral norm enforcement. Drawing on philosophical considerations, different normative expressions might be conceived of as standing in a "family resemblance" relation (see Wittgenstein, 1953). That means, they share some overlapping features, and this assembly of resemblances constitutes a normative stance. Early normativity might accordingly be best considered as a multi-faceted construct, characterized by multiple overlapping resemblances of expressions rather than a shared essence that underlies all forms of normative expressions.

9.1.2 Relation Between Normative Stance and Behavior

This thesis aimed to test theoretical notions on the relation between normative stances and behavior. For that purpose, Study 3 and 4 served to directly address the relation between a normative stance and morally relevant behavior. Study 3 revealed that in a resource distribution context, children handle two conflicting normative demands differently on the normative and behavioral level. While fairness-based considerations (giving more to the poor) seem to guide their normative views as evidenced in their evaluation of others' behavior, social relationships (giving more to the friend) seem to be more important for actual behavior. This discrepancy of normative views and behavior on the group level stands against a correlation between the two on the individual level. This pattern suggests that normative views are related to behavior, but the general inclination to allocate resources seems to be affected by additional factors across individuals. On the group level, the normative view and behavior thereby become shifted, while maintaining a relation on the level of the individual. Study 3 thus reconciles evidence for dissociation and coherence between normative views and behavior by differentiating between a relation on the group level and on the individual level. Study 4 addressed a costly sharing context and revealed no relation between any genuine normative expression (evaluation, hypothetical punishment, non-costly punishment, costly punishment) and costly sharing behavior on the individual level. Study 3 and Study 4 therefore provide a mixed picture on the relation in early childhood, supporting both theories that suggest a moral judgment to be behaviorally relevant (Killen & Dahl, 2018; Turiel, 2003) and theories that suggest a moral judgment to not become directly translated into moral behavior (Blake, 2018; Blasi, 1983; Gerson & Damon, 1978). Study 7, focusing on adults, revealed that the evaluation of an other-oriented behavior as morally relevant related to self-reported behavioral tendencies.

How can these findings be aligned with previous evidence in young children and with theories that suggest or do not suggest a relation? The mixed evidence indicates that a detailed examination of the circumstances under which normative views and behavior align or diverge is necessary to reach a more differentiated view. Studies evidencing that normative views regarding morally relevant behavior align with behavior focused on norms regarding resource distribution, with children's own resources not being at stake (Paulus et al., 2018; Rizzo et al., 2020), or on the general other-reported tendency towards prosocial behavior, irrespective of the content of the norm (Malti et al., 2010). The behavior investigated in these studies thus did not require children to weigh own desires against the respective normative demand. Studies evidencing a discrepancy between normative views and behavior revealed the normative view regarding sharing to emerge at a different time than sharing behavior on a group level (Kogut, 2012; Smith et al., 2013). A study by Tan et al. (2020) revealed no relation between costly sharing and the evaluation of a different moral scenario. This thesis extended previous studies with regard to two important aspects. First, the current work examined relations on the group level and on the individual level within one sample and across a variety of normative expressions. This is important as the relation between normative views and behavior might differ between the two levels and each level allows for particular conclusions. A similar pattern of normative view and behavior on the group level suggests that the developmental timeline of the two is similar. A correlation between normative views and behavior on the individual level suggests that children follow their normative stance in their own behavior. Second, the current work examined concrete morally relevant behaviors, such as sharing resources, in relation to the respective normative stance, that is, a normative stance regarding sharing resources equally. Rather than examining the role of a general moral reasoning capacity or of a normative evaluation of different moral actions, this thesis tested whether normative stances toward a concrete behavior relate to engaging in that behavior. This seems to be important assuming that the moral significance of a specific behavior determines its motivational force (Carpendale & Krebs, 1995; Smetana, 1982; Turiel, 2003).

When contrasting fairness considerations and friendship, the current work demonstrates a discrepancy between normative view and resource distribution behavior on the group level but a relation on the individual level (Study 3). With regard to equal sharing, no normative expression related to costly sharing behavior on the level of the individual (Study 4). These findings fit to previous research, which demonstrated a relation between normative views and behavior when allocating resources without any costs (Paulus et al.,

2018; Rizzo et al., 2020). This thesis thus supports the notion that normative views are behaviorally relevant (Killen & Dahl, 2018; Turiel, 2003). At the same time, the general inclination to allocate resources seems to be affected by additional factors, which might be triggered by situational characteristics such as the social relationship one shares with a recipient. While some factors seem to generally shift a behavioral tendency across individuals of an age group, while maintaining relations on the individual level (Study 3), other factors seem to outweigh the relation between normative views and behavior. In a costly sharing context, previous studies demonstrated that children express a norm toward equal distribution before behaving accordingly (Kogut, 2012; Smith et al., 2013), that is, a gap between normative view and behavior on the group level. The current thesis also reveals no relation between normative views and costly sharing on the individual level. This dissociation between judgment and behavior might be explained by, for example, self-regulation abilities and moral motivation.

First, as suggested by Blake (2018), children might lack self-regulatory skills to follow their judgment in behavior. The findings of this thesis fit to that explanation, as no relation between normative views and behavior was evidenced when the behavior of interest was costly, requiring children to directly weigh egoistic interests – keeping items for oneself – against the normatively required behavior – sharing items with another (Study 4). A direct examination of self-regulatory skills and giving behavior indeed provided mostly evidence for a relation between the two (for review see Blake, 2018). Even self-control in toddlerhood has been demonstrated to predict sharing behavior in preschool years (Paulus et al., 2015). Individual differences in self-regulatory capacities might mask the intrinsic relation between normative view and behavior in a costly sharing context. Yet, as other studies suggested that preschool children seem to know that they will not adhere to a sharing norm although they are aware of the norm (Smith et al., 2013), a lacking capacity to inhibit an egoistic behavior seems not to be the only reason for the discrepancy between normative views and behavior.

The discrepancy can also be attributed to the lack of perceiving normative considerations as binding when being faced with a conflicting own desire (Nunner-Winkler, 2007). Particularly when being faced with conflicting demands, the capacity for taking an outer stance toward own desires and to suppress spontaneous impulses that conflict moral demands, that is, the ability for second-order volitions (Frankfurt, 1971), seems to be required. Second-order volitions imply to deliberately choose between fist-order desires and thus to control some while giving way for others to be translated into action. Self-controlling abilities might hence be a prerequisite for forming second-order volitions. While self-control

might be required to follow a normative view particularly in preschool years, it might not be sufficient to guide norm-conform behavior once the ability to reflect upon ones first-order desires emerged. From then on, the conscious decision to give some first-order desires more importance than others, as reflected in a second-order volition, might be key for morally relevant behavior. These second-order volitions might mark the emergence of a moral will (Blasi, 2005), they might be reflected in the moral self-concept (Krettenauer, 2013), and accordingly be expressed in the behavior and emotional appraisal of the behavior (Nunner-Winkler, 1997). The current work supports this view be demonstrating a link between the moral self-concept, emotions regarding a behavior, and actual behavior, and by suggesting that anticipated emotions mediate the relation between the moral self-concept and behavior (Study 4-6). The moral self-concept, reflecting ones second-order volitions, seems to influence the expected emotions when following or not following a morally relevant behavior, and these in turn seem to guide behavior (see Section 9.2).

Moreover, the notion that children's costly behavior is at first not predominantly guided by normative views aligns with Piaget's (1932/1997) considerations about children's adoption of rules in their own behavior. Individual behavioral tendencies – such as sharing behavior in the context of this thesis – seem to develop from a phase of egocentrism to a phase of becoming subject to the need for mutual agreement. In addition, Piaget (1954/1981) regarded acts of will as "a regulation of regulations" (p. 65). His work suggests that children's spontaneous desires become subject to a scale of values, when conflicting desires are present. This notion of a submission of spontaneous desires aligns with the view that children's sharing behavior is first characterized by egoistic desires, if own interests and normative demands are conflicting, and around middle childhood becomes subordinated to permanent values.

This pattern of findings can also be aligned with a psychoanalytical viewpoint (Freud, 1933/1991). Children's need for self-gratification might be particularly dominant when their self-interests is involved in resource distribution context, that is, when their own resources are at stake. As a consequence, the tension between internalized standards, as reflected in the superego, and egoistic impulses might be particularly strong and difficult to regulate, leading to a discrepancy of normative views and behavior.

Beyond a lack of self-control or moral motivation, the current work suggests another explanation for the inconsistent evidence on the relation between normative view and behavior. Morally relevant behavior might be guided by different factors between individuals. For one group of individuals, normative views might be predominantly guiding

behavior, while for other individuals, normative views might be less behaviorally relevant. This view is supported by the current work in two regards. First, the person-based analyses in Study 4 revealed that some preschoolers shared a lot without having a normative stance aligned, while for other individuals, normative stance and sharing behavior seemed to be aligned on a low or high level. While normative views might be more relevant for some children's behavior, they seem to be complemented by other behaviorally motivating factors in others. Following the developmental model of altruism (Dahl & Paulus, 2019), this pattern suggests that some children's fairness-related behavior might be not regarded as altruistic, as a normative stance towards it is lacking. The notion that one motivating factor can act as a substitute for a low other factor also fits previous research, suggesting that sympathy and moral motivation complement each other in explaining prosocial behavior in 6-year-old children (Malti et al., 2009). Second, Study 7 demonstrated that moral judgment and moral identity complement each other in explaining social distancing in adults. Individual differences in which factors predominantly explain morally relevant behavior might contribute to the inconsistent evidence of a relation between motivating factors and behavior. Employing person-based analyses in future studies, including measures of self-control, would be valuable to better account for interindividual differences while still informing about the general structure of relations. Moreover, it remains interesting to examine what aspects distinguish individuals, who act in accordance with their normative stance, from individuals, whose behavior differs from their normative stance early in development.

Taken all studies together, the thesis supports the notion that a normative stance regarding other-oriented behavior develops in preschool years. The relation between normative views and behavior seems to be complex. The current work reconciles the theoretical notions of a relation (Killen & Dahl, 2018; Turiel, 2003) and of a gap (Blake, 2018; Blasi, 1983) between normative views and behavior. This thesis supports the notion that normative views are linked to actual behavior, particularly if the normatively required behavior is not in conflict with own desires. Yet, behavior seems to be affected by additional factors that lead – for some individuals more, for some individuals less – to a shift from the normative view. While for some individuals, normative views seem to be more behaviorally relevant early in development, there seems to be a greater discrepancy for other individuals. When different desires and demands are at conflict, children might rely more on reflection and reasoning processes when constructing their normative view, such that different demands are weighed according to moral considerations. Behavior, on the other hand, might be more directly influenced by capacities that overcome self-interested desires.

Differentiated examinations, accounting for relations on the group- vs. individual level, accounting for the degree to which norms and behaviors conflict with personal desires, and examining interindividual differences using person-based analyses, may help to reach a more nuanced picture in the future.

9.2 Contributions to Research on the Moral Self-Concept

Following a long tradition of cognitive approaches to moral development, which focused on the role of moral judgments, an increasing line of theories highlighted the integration of morality into the self as central for understanding morally relevant behavior (Hardy & Carlo, 2011; Lapsley & Narvaez, 2004b). In the following, I will first outline how the current thesis advances our understanding of the nature of the moral self-concept and its relation to behavior across development. Second, I will discuss mechanisms that might link the moral self-concept to behavior.

9.2.1 The Moral Self-Concept and Its Relation to Behavior

The current work greatly contributes to developmental research on the moral self-concept by demonstrating a relation with actual sharing behavior already in preschool years (Study 4), in middle childhood (Study 5), and in adulthood (Study 6-7). It therefore supports theories that highlight the integration of morality and the self for engaging in morally relevant behavior across development (e.g., Hardy & Carlo, 2011; Lapsley & Narvaez, 2004b). In addition, the current work informs about the relative contribution of a normative stance and the moral self-concept for morally relevant behavior across development.

The early relation in preschool years demonstrates that children have adequate representations of their moral behavioral tendencies. This finding aligns with developmental models that outline early self-related processes that might be crucial for morally relevant behavior in childhood (Kochanska, 2002; Krettenauer, 2013). In terms of Krettenauer's (2013) developmental model, the moral self-concept in preschool years (Study 4) can be considered as an intentional agent, reflecting that children intentionally engage in desired morally relevant actions. The moral self-concept in middle childhood (Study 5) can be considered as a volitional agent, reflecting that children prioritize moral demands over conflicting egoistic desires. This interpretation is supported by the relation of the moral self-concept with emotions regarding behavior. In detail, emotions regarding a behavior are considered to signal the relevance of a behavior for oneself (Nunner-Winkler, 1997). The finding that children's moral self-concept related to their emotions regarding sharing thus

supports the notion that the moral self-concept reflects the personal relevance of prioritizing moral demands, that is, sharing resources compared to keeping all resources for oneself (see also Section 9.2.2.1). Empirically, the current work extends previous studies that assessed the behavioral relevance of the moral self-concept only with regard to parental reported behavior or compliance (Kochanska, 2002; Kochanska et al., 2010; Sengsavang & Krettenauer, 2015). The current thesis thus present first evidence on early relations with active prosocial behavior. On top of that, they highlight the unique contribution of the moral self-concept for early morally relevant behavior beyond the role of a normative stance (Study 4).

Overall, the current work challenges the traditional view of morality- and self-related processes to become integrated not before adolescence (Colby & Damon, 1992; Frimer & Walker, 2009). This traditional view built on the finding that children tend to not spontaneously refer to morally relevant principles when describing themselves (Damon, 1984). The current work, on the other hand, demonstrates that when being asked about themselves, individual differences in children's representations regarding their morally relevant behavioral tendencies are meaningful already in preschool years (Study 4). This continues to be the case in middle childhood, when the moral self-concept additionally relates to emotions regarding morally relevant behavior – a further indicator of moral motivation (Study 5). To address this point, it is important to look closely at the nature of the moral self-concept at different ages. As proposed by Krettenauer (2013), the integration of morality and the self constitutes a developmental process, ending with the identification with moral values and thus morally relevant behavior becoming a form of self-expression in the last phase. This mature form of a moral self-concept or moral identity, as was of interest in Study 6-7, is conceptualized as reflecting the degree to which moral traits are perceived as central for defining oneself (Aquino & Reed, 2002). The moral self-concept in childhood, as was of interest in Study 4-5, is conceptualized as reflecting the view of oneself based on behavioral preferences and tendencies (Kochanska, 2002; Krettenauer et al., 2013). While the adult moral self-concept thus refers to the abstract view of oneself with regard to valuing general traits, the moral self-concept in childhood rests on one's tendency to engage in concrete behaviors. This conceptual difference traces back to the general development of self-representations, evolving from being directly tied to concrete behaviors in early childhood to becoming more abstract, higher-order generalizations that integrate specific behaviors (Damon, 1984; Harter, 2007). To examine whether moral behavioral representations actually transform to the importance of morality to one's self, that is, whether

the moral self-concept in childhood transforms to moral identity in adolescence and adulthood, longitudinal studies would be highly interesting.

Following self-determination theory, integrating morality into the self, as proposed for a mature moral self-concept, should result in morally relevant behavior being internally motivated and thus satisfactory (Ryan & Deci, 2000). The finding that particularly negative emotions about refraining from sharing rather than positive emotions about engaging in it link the moral self-concept to behavior needs further attention. In middle childhood (Study 5), this finding aligns with theories on moral identity (Colby & Damon, 1992; Frimer & Walker, 2009; Krettenauer, 2013), suggesting that an integration of moral goals and self goals does not occur before early adolescence. Engaging in morally relevant behavior in middle childhood seems not to serve to express the self but rather to avoid negative feelings. This pattern also fits research directly addressing moral motivation in childhood (Sengsavang et al., 2015). In adults (Study 6), the predominant link of the moral self-concept with negative emotions about refraining from sharing seems surprising, as the moral self-concept in adulthood is considered to reflect the centrality of moral traits for one's self-definition (Aquino & Reed, 2002). Moral goals should accordingly become self goals in case of a strong moral self-concept (Frimer & Walker, 2009). To interpret these findings, the distinction between moral centrality and moral self-integration seems relevant (Krettenauer, 2011, 2020). The measure for the adult moral self-concept taps into moral centrality, that is, how central moral traits are considered for one's identity. Self-integration, however, should be reflected in integrated/internal moral motivation (Ryan & Deci, 2000). Positive relations between internal motivation of morally relevant behavior and positive emotions associated with the behavior support this view (Krettenauer & Casey, 2015; Weinstein & Ryan, 2010; Wu et al., 2017). The current work thus suggests that the moral self-concept in adults, conceptualized as the centrality of morality for one's identity, not necessarily goes along with internal moral motivation, which should result from an integration of morality and the self.

The interrelation between normative views and the moral self-concept allows for some conclusions about the moral self-concept across its ontogeny. The adult moral self-concept was strongly related to moral judgment, meaning how morally relevant an other-oriented behavior is considered to be (Study 7). This relation suggests that in adults, situations receive more easily a moral significance with an increasing moral self-concept. This finding fits the view that considering morality central for oneself leads to an increased tendency to perceive situations as moral in nature (Damon, 1984). In preschool years (Study

4), the moral self-concept was unrelated to normative expressions regarding equal distribution. The moral self-concept thus seems to stem from own previous behavior rather than an internalization or appreciation of a normative view. This finding fits to research showing that children know that they will not share equally, although they know that they should share half (Smith et al., 2013). The different pattern in children (Study 4) and adults (Study 7) goes along the different conceptualizations of the moral self-concept across age. The early moral self-concept in preschool years seems not to reflect the degree to which morally relevant behavior is seen as obligatory and thus some sort of personal importance of interpersonal aspects. Instead, the moral self-concept seems to be a representation of children's own behavioral tendencies, as supported by the finding of the relation with behavior (cf. Kingsford et al., 2018).

The current work supports the general notion that the moral self-concept provides a basis for moral motivation and thus explains morally relevant behavior (Study 4-7). Yet, the notion that the self-concept bridges moral judgment to behavior in adults, making it particularly likely to act on the judgment in case of a strong moral self-concept (Walker, 2004), is challenged. The moral self-concept moderated the relation between moral judgment and social distancing behavior in a direction contrary to what was expected (Study 7). The relation between moral judgment and behavior was strongest for people with a low moral identity. Instead, the current work suggests that moral judgment and moral identity complement each other in guiding behavior. Considering a behavior as morally relevant seems to compensate for a low moral self-concept, still leading to moral behavior. In addition, as suggested by previous research, the relative contribution of moral judgment or moral identity in reaching a behavioral decision might depend on the type of required behavior (Hardy, 2006). Moral judgment and the moral self-concept in adults thus seem to represent two intertwined sources of motivation that can complement each other.

9.2.2 Mechanisms Linking the Moral Self-Concept to Behavior

Given the empirical evidence for a relation between the moral self-concept and behavior across ages (e.g., Aquino & Reed, 2002; Hertz & Krettenauer, 2016; Kochanska et al., 2010; Study 4), the current thesis addressed the question which mechanisms might explain this relation. The role of affective processes and preference for self-consistency were investigated.

9.2.2.1 Affective Processes

Affective processes are an interesting candidate for linking the moral self-concept to behavior for two reasons. First, emotions are proposed to play a central role in information processing and behavioral decision making (De Wit & Dickinson, 2009; Eder et al., 2015; Lemerise & Arsenio, 2000). Second, emotions associated with a behavior are proposed to signal the personal relevance of a behavior and indicate an underlying motivation (Nunner-Winkler, 2007; Ryan & Deci, 2000; Scherer, 1987). Distinguishing between emotional consequences of a behavior and anticipated emotions is thereby important in order to differentiate between rather automatic and more cognitive emotional appraisal (Krettenauer et al., 2008; Malti & Krettenauer, 2013). Spontaneous emotional consequences might be linked with behavior through associative learning whereas anticipated emotions reflect an explicit, cognitive appraisal. The current thesis demonstrates that anticipated emotions about sharing are related to the moral self-concept in middle childhood and the findings suggest that anticipated emotions link the moral self-concept to behavior (Study 5). In adults, both anticipated and consequential emotions correlated with the moral self-concept and explained the relation between self-concept and behavior (Study 6). Beyond that, emotion understanding explained age differences in sharing behavior across middle childhood (Study 5). The current work therefore supports the motivational function of emotions in the context of morally-relevant behavior (Arsenio & Lover, 1995).

The current work extends a line of research by Nunner-Winkler and colleagues (Nunner-Winkler, 1997, 2007; Nunner-Winkler et al., 2007), who examined moral motivation by assessing emotion attributions in hypothetical transgressions. They interpreted the attribution of positive emotions to a moral transgressor up to around 6-8 years as an indicator of a lack of moral motivation, as not experiencing a norm as personally binding. Moral motivation as reflected in emotion attribution is suggested to reflect the motivation to do what one ought to do in a concrete situation (Nunner-Winkler, 1997). While a moral judgment is thus the basis for the decision about what is considered the right thing, committing oneself to fulfil a moral duty even if it conflicts with own desires is regarded as central for moral motivation. The key claim that moral motivation reflects a personal concern, considering moral duties as personally binding, is supported by the current work. Emotions regarding sharing related to sharing behavior, to the moral self-concept, and tended to mediate the relation between the moral self-concept and behavior in middle childhood (Study 5). The link between emotions and self-concept suggests that the emotional appraisal reflects the self-relevance of a behavior. Around middle childhood, the moral self-

concept hence might to not only reflect behavioral representations but imply that the respective behavior is considered personally binding.

Importantly, the current work examined children's own emotional appraisal in a concrete sharing situation, in which their own resources were at stake. As moral motivation is particularly required when own interests conflict with moral goals, that is, when second-order volitions weigh own interest, it is important to examine emotions when an actual conflict is present (Nunner-Winkler & Sodian, 1988). The current work thus extends a great line of research on the 'happy victimizer phenomenon' by revealing a similar emotion pattern while translating the research question on emotion attributions regarding morally relevant behavior to a real-life scenario.

The predominant role of negative emotions regarding the omission of prosocial behavior suggest guilt avoidance as one mechanism (Tangney et al., 2007; Vaish, 2018). This consideration is in line with a psychoanalytical viewpoint, which suggests emotional processes to regulate conduct (Freud, 1933/1991). Yet, while a psychoanalytical approach suggests guilt to result from conscience based on internalized parental values, the current findings suggest the negative emotion to reflect a discrepancy from the own self-concept. Guilt as a response to behavior inconsistent with the moral self-concept also aligns with Blasi's (1983) considerations. According to his Self Model, guilt serves to restore coherence after behaving inconsistent with one's responsibility judgment. However, negative emotions when refraining from sharing might also reflect an awareness of the recipient's feelings based on increasing (affective) perspective taking across childhood (e.g., Killen et al., 2011; Misailidi & Tsiara, 2021). At the same time, an increasing coordination of different perspectives and observing oneself through other's perspective might foster the self-evaluative emotion of guilt (Harris, 1989; Mead, 1934). Examining the nature of the involved negative emotions in detail thus remains an avenue for future research.

Interpreting emotion attributions as indicator of personal relevance was criticized by Blasi (1999a), who alternatively suggested that the cognitive understanding of moral aspects might lead to the respective emotion attributions. The current works renders it unlikely that children, who have a better understanding of moral topics, care more about morally relevant and thus experience the respective emotions regarding morally relevant behavior. Emotions seem to relate to the moral self-concept in middle childhood (Study 5). Yet, the early moral self-concept seems to be independent of a normative view regarding morally relevant behavior (Study 4). This pattern suggests that when anticipating emotions regarding a morally relevant behavior, which in turn seems to guide behavior, children seem to take their

moral self-concept into account rather than their representations of how one ought to behave. To address this point in detail, examining normative stances in relation to both the moral self-concept and emotions regarding behavior would be interesting.

The differential effects for anticipated and consequential emotions suggests that in childhood, the moral self-concept relates to behavior via cognitive appraisal processes rather than automatic, associatively learned links (Study 5). In adulthood, the moral self-concept seems to relate to both automatic emotional experiences and anticipated emotions (Study 6). The increasing alignment with automatic, consequential emotions might result from morally relevant experiences becoming more routinized with age, leading to cognitive-affective moral schemas that become easily activated in case of a strong moral self-concept (Lapsley & Narvaez, 2004a).

Finally, the current work suggests that reflective processes might be important for prosocial development (Allen & Bickhard, 2018). Anticipated rather than consequential emotions related to the moral self-concept and sharing behavior. Moreover, children who first reflected on how they will feel after sharing or not sharing shared more (Study 5). These findings suggest that talking with children about the consequences of prosocial behavior and encouraging them to think about the consequences might allow to foster prosocial behavior.

9.2.2.2 Self-Consistency

The current work supports the general notion that the moral self-concept provides a basis for moral motivation and thus explains morally relevant behavior (Study 4-7). Yet, the central idea that the tendency towards self-consistency drives the relation between the moral self-concept and behavior (Blasi, 1983) is challenged. In the current work, the relation between the moral self-concept and sharing behavior in adults was not moderated by individual's preference for consistency (Study 6). This finding suggests that the moral self-concept relates to moral behavior irrespective of how much an individual prefers to be consistent. Following trait-perspectives on the moral self-concept, which highlight the role of self-consistency (Blasi, 1983; Colby & Damon, 1992; Frimer & Walker, 2009), this finding is surprising. The missing effect of preference for consistency renders a social-cognitive perspective on moral identity more suitable, which considers the moral self-concept to more or less easily activate moral schemas and thus affect behavioral decisions on the level of information processing (Aquino & Reed, 2002; Lapsley & Narvaez, 2004a). However, the lack of an effect of preference for consistency could result from self-consistency being directly tied to the emotional appraisal in a given situation rather than being a consciously represented motivation, as acting inconsistent with oneself is suggested to lead to an

unpleasant state (Aronson, 1969). This explanation fits the finding that the emotional appraisal regarding morally-relevant behavior indeed mediated the link between the moral self-concept and behavior (Study 6). Individuals thus seem to act consistent with their self-concept to avoid a negative emotional state. An alternative explanation for the missing effect of preference for consistency might stem from the concept of consistency, which can refer to different types of consistency (English & Chen, 2011; Fleeson & Noftle, 2008). Also Blasi (1980) differentiated between consistency between one's self and behavior, and consistency of the self or behavior across situations. Pinpointing the type of self-consistency of interest in study designs might be an avenue for future research.

9.3 Integrative Perspective on Moral Development

This thesis integrated a line of research on moral norms and a line of research on the moral self-concept, which have so far mostly been investigated separately. Overall, the current work supports both the role of normative views and the self-concept for moral development.

First of all, already at 3 years of age, preschoolers seem to hold a normative stance toward the omission of antisocial behavior. Normative stances toward engaging in prosocial behavior seem to emerge across preschool years. These findings support previous evidence that young children consider antisocial behavior as morally wrong (for review see Dahl & Freda, 2017) and that preschoolers regard other-oriented and fairness related behavior as normatively required (e.g., Cooley & Killen, 2015; McAuliffe et al., 2015; Rakoczy et al., 2016; Wörle & Paulus, 2018). The current thesis thus suggests that children perceive issues of fairness and justice as morally required earlier in development than expected by classical cognitive developmental theories (Kohlberg, 1976; Piaget, 1932/1997).

The relation between normative views and actual behavior in preschool years requires a differentiated view. This thesis helps at untangling the complex relation by reconciling previous empirical evidence and theories that suggest a relation (Killen & Dahl, 2018; Paulus et al., 2018; Rizzo et al., 2020; Turiel, 2003) or a gap (Blake, 2018; Blasi, 1983; Kogut, 2012; Smith et al., 2013) between normative views and behavior. Normative views seem to be not completely dissociated from own behavior early in development. Instead, situational factors might lead to a general shift in behavior. In addition, the relation between normative views and behavior might be particularly strong for some individuals from early on but weaker for other individuals. Particularly if preschooler's own interests are at stake, sharing behavior seems to be not related to their normative stance for all individuals. From a psychoanalytical perspective on development (Freud, 1933/1991), the current findings suggest that the id, reflecting instinctive impulses that aim at pleasure and self-gratification

(i.e., keeping resources for oneself), becomes more or less overruled by the superego, reflecting internalized parental standards (i.e., sharing resources). In addition, the role of involved self-interest aligns with some aspects of a social cognitive theory of moral action (Bandura, 1991), which highlights the importance of self-regulatory processes for translating moral standards into action. Yet, the current work stands against a behavioristic approach to moral development (Skinner, 1971). Based on the evidence for a gap between a normative stance and behavior on the group level, children seem to be no passive agents who internalize rules and act accordingly as a consequence of positive and negative reinforcement. Instead, preschoolers' resource distribution and sharing behavior seems to be affected by additional factors such as the social relationship the distributor shares with recipients and involved self-interest.

Costly sharing behavior in preschool years seems to be related to the moral self-concept but not to normative views. Thus, already preschoolers have constructed a moral self-concept with regard to their own morally relevant behavioral tendencies. This finding extends previous evidence that rests mostly on parental reports of behavior (Kochanska et al., 2010; Sengsavang & Krettenauer, 2015). Importantly, it expands the investigation of moral self-related cognitions, which have been typically addressed as part of identity formation in adolescence, to early childhood.

From preschool years to middle childhood, the thesis supports an increasing tendency in sharing resources. This developmental trend seems to be explained by an increasing expectation that refraining from sharing will make them feel sad rather than happy. The findings generally align with research on the happy victimizer phenomenon (Arsenio & Lover, 1995; Krettenauer et al., 2008) but transfers these investigations to the context of actual behavior. The thesis thus supports the notion that moral norms become perceived as more personally binding across childhood (e.g., Nunner-Winkler, 2007).

Across development, the moral self-concept continues to be related to behavior. But the meaning of the moral self-concept might change with age. In preschool years, the moral self-concept seems to represent morally relevant behavioral preferences. In middle childhood, it seems to increasingly reflect how personally binding morally relevant norms are perceived. This pattern fits to previous studies (Kochanska et al., 2010; Krettenauer et al., 2013) and developmental accounts on the moral self-concept (Krettenauer, 2013). Finally, in adulthood, the moral self-concept is conceptualized as the importance of morality for one's identity.

In adulthood, both normative views and the moral self-concept seem to continue to be important for morally relevant behavior and become intertwined. Beyond that, affective experiences when engaging in and refraining from morally relevant behavior, affective expectations about these behaviors, and the moral self-concept seem to become more coordinated.

Overall, this thesis sketches moral development as an interplay of norm-related, self-related, and affective processes. Across development, both normative views and the moral self-concept seem to be related to other-oriented behavior and complement each other. The moral self-concept shows a great relevance already from preschool years on and affective processes seem to become increasingly important, which might reflect an increasing personal relevance of morally relevant actions.

9.4 Directions for Future Research

The findings of the current work open up future research questions in different directions. First, the current work provides first evidence for a relation between the moral self-concept and prosocial behavior in childhood (Study 4-5). The interpretation that the moral self-concept guides prosocial behavior is based on theoretical considerations (Hardy & Carlo, 2011), yet, it rests only on correlational findings so far. Examining the directionality of the relation between the moral self-concept and prosocial behavior is needed in future studies. Longitudinal examinations in childhood, when both the moral self-concept emerges and prosocial behavior increases, would be particularly interesting. On the one hand, prosocial behavior might result from the moral self-concept due to individual's tendency for self-consistency (Blasi, 1983). On the other hand, prosocial behavior might shape the self-concept by perceiving own previous behavior (Bem, 1972), either directly or indirectly through others' feedback. Considering both directions, a reciprocal relation seems also likely. As prosocial behavior occurs already in toddlerhood (Eisenberg et al., 2015), one could hypothesize that the early formation of the moral self-concept builds on previous prosocial behavior, and in turn influences future behavior. Bidirectional relations might then be at work as for other self-concept domains (Marsh et al., 2005, 2006).

Second, given the appreciation of different normative demands, it would be interesting to examine whether these are hierarchically integrated in the moral self-concept. On the one hand, moral principles might become integrated on a more abstract level across development (Werner, 1957). On the other hand, the domain-specificity as suggested for prosocial behavior in childhood might be to a certain degree retained with age. While the

distinction in childhood is proposed on the level of concrete behaviors and their underlying motivations, that is, sharing, helping, and comforting (Dunfield & Kuhlmeier, 2013; Paulus, 2018), these distinctions might become integrated into the more abstract domains of care and justice. More domain-specific assessment of the moral self-concept in adults and person-centered analyses focusing on different aspects of a moral personality would be particularly suitable to follow-up on that point. Examining this point in detail would shed light on the structure of the moral self-concept and may allow to better explain individual differences in behavior.

Third, the current findings with adults particularly fit a social-cognitive approach on moral identity, suggesting that cognitive-affective schemas guide behavior (Study 6-7). An alternative view on moral identity conceives of it more as a trait-like phenomenon. It would be particularly interesting to follow up on this notion as being consistent is in itself seems to be a question of integrity and thus of moral significance (Study 6). A long debate centered around the question whether behavior is mostly guided by situational characteristics or by stable personality traits (Fleeson & Noftle, 2008). The moral self-concept might contribute particularly to stable behavioral tendencies, given its focus on moral behavior.

Fourth, examining the role of language for early moral development would be an interesting avenue. Children's increasing vocabulary used in morally relevant situations is suggested to contribute to the emergence of moral norms as language allows becoming aware of the moral principles and reflecting on them. In addition, children are considered to become familiar with the moral language game in interactions, that is, they learn that certain words such as 'theft' or 'murder' have an intrinsic moral quality (Nunner-Winkler, 2013). Beyond that, language might help children to understand and order their own feelings and behavior, as represented in the moral self-concept. First evidence shows that children's moral self is related to their expressive vocabulary (Misailidi & Tsiara, 2021) and parent-child conversation (Reese et al., 2007). In addition, initial evidence suggests that language is relevant for the development of prosocial behavior (Paulus, Erbe, et al., 2020). Investigating the role of language for the relation between the moral self-concept and behavior would therefore be interesting.

9.5 Conclusion

The current thesis provides new insights about the emergence of normative stances regarding morally relevant behavior, the relative contribution of normative stances and the moral self-concept for behavior, and the mechanisms underlying the moral self-concept.

First, normative stances regarding behavior that pertains to fairness or other's welfare emerge in preschool years. The significance of early normative stances become evident across a variety of normative expressions. Yet, early moral norms are differentiated, with some perceived as being more obligatory than others. While normative stances about morally relevant behavior are generally present in preschool years, these seem to be hierarchically ordered.

Although normative stances are present from early on, they seem not always to directly translate into behavior. Instead, a complex picture becomes apparent when trying to understand what motivates actual behavior. In childhood, normative stances seem to be sometimes less relevant, particularly if the normative demand conflicts with own interests. The moral self-concept appears to be central for morally-relevant behavior from preschool years on to adulthood. This relation rests partly on emotions that are associated with the respective behavior. Beyond that, emotion understanding in itself is an important factor for prosocial behavior, as it explains increasing sharing behavior with age.

Overall, the integrative picture on moral development displays the relevance of both normative stances and the moral self-concept for behavior. A comprehensive framework addressing morally relevant behavior thus needs to consider both factors and account for a varying coordination across situational conditions and development.

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