



# **Moralische Emotionen**

## **Dissertation**

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von Katrin Schulz, geboren am 04.11.1978 in Duisburg

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## 1 Einführung

Moralische Emotionen begegnen uns jeden Tag: Wir bewundern einen Freund, weil er stets den Fehler in unserem Computer findet, wir ärgern uns über unsere Nachbarin, weil sie regelmäßig die Hofeinfahrt zuparkt, wir sind stolz, weil wir in diesem Jahr die Steuererklärung (endlich mal) pünktlich abgegeben haben, und wir empfinden Schadenfreude, wenn die Nachbarin einen Strafzettel bekommt, weil sie (schon wieder) vor der Einfahrt parkt.

Es scheint, als würden diese Emotionen unmittelbar entstehen und als seien keine komplexen Bewertungsprozesse notwendig, um sie zu empfinden. Wir wissen, wie es sich anfühlt, jemanden zu bewundern oder ärgerlich oder stolz auf jemanden zu sein, um nur einige Beispiele moralischer Emotionen zu nennen. In der psychologischen Literatur hat diese Gruppe von Emotionen allerdings erst in jüngster Zeit Aufmerksamkeit erfahren. Hierbei wurde die herausragende Bedeutung moralischer Emotionen für die moralische Urteilsbildung herausgearbeitet. Allerdings fehlt es bislang an einer verbindlichen Definition und übergreifenden Taxonomie moralischer Emotionen. Zwar gibt es empirische Untersuchungen zu einzelnen Emotionen und erste theoretische Klassifikationsversuche, nicht jedoch eine zusammenfassende theoretische wie empirische Betrachtung. Ziel der vorliegenden Arbeit ist es, hierzu einen Beitrag zu leisten.

Die Arbeit umfasst dabei drei empirische Beiträge mit insgesamt 6 Studien zur Analyse moralischer Emotionen:

(1) Der erste Artikel (Rudolph, Schulz & Tscharaktschiew, 2011) entwickelt eine umfassende Theorie zur Klassifikation und den Entstehungsbedingungen moralischer Emotionen. Der Beitrag untersucht diese Theorie anhand von vier Studien. Die bereits vorliegenden Forschungsergebnisse zur Differenzierung von moralischen Einzelemotionen oder Emotionsgruppen werden anhand der theoretischen und empirischen Erkenntnisse in ein zusammenfassendes Modell integriert.

(2) Der zweite Artikel (Schulz, Tscharaktschiew & Rudolph, 2011a) untersucht darauf aufbauend die Entstehung moralischer Emotionen in einem spezifischen Kontext. Anhand der Urteile von Lehrern sowie Schülern verschiedener Altersstufen wird die im ersten Artikel vorgeschlagene Theorie im Setting der Schule überprüft. Dies ermöglicht eine Analyse der von uns vorgeschlagenen Theorie moralischer Emotionen anhand eines

konkreten sozialen Systems mit spezifischen Normen und Werten. Auf diese Weise wird die im ersten Beitrag vorgeschlagene Theorie der moralischen Emotionen im Hinblick auf ihre ökologische Validität untersucht.

(3) Der dritte Artikel (Schulz, Tscharaktschiew & Rudolph, 2011b) untersucht schließlich zwei spezifische moralische Emotionen, Schadenfreude und Mitleid. Die in (1) und (2) gefundenen Ergebnisse legen nahe, dass die Emotionen Schadenfreude und Mitleid, die beide angesichts eines Unglücks einer anderen Person empfunden werden können, antagonistische Emotionen sind. Schadenfreude und Mitleid werden hierbei aus einer entwicklungspsychologischen Perspektive betrachtet. Die Ergebnisse belegen, dass die vorgestellte Theorie der moralischen Emotionen die Entstehung moralischer Emotionen auch für Kinder ab 4 Jahren bereits zuverlässig vorhersagt und erweitern somit den Gültigkeitsbereich unserer Theorie.

Die folgenden Abschnitte dienen zunächst der Einführung in das Thema der moralischen Emotionen. Darauf aufbauend werden unsere eigenen Arbeiten und Erkenntnisse vorgestellt, die den momentanen Wissenstand zu moralischen Emotionen in wesentlichen Punkten erweitern und ergänzen.

„There has been a controversy started of late (...) concerning the general foundation of morals; whether they be derived from reason, or from sentiment; whether we attain the knowledge of them by a chain of argument and induction, or by an immediate feeling and finer internal sense.”

- David Hume, 1777 -

## **1.1 Moralische Emotionen**

David Hume beschrieb mit diesen Worten eine Kontroverse, die für die aktuellen Überlegungen in der Moralpsychologie nicht treffender hätte beschrieben werden können und welche jüngst zu einer „New Synthesis“ der Moralpsychologie führte: In den letzten 10 Jahren versuchen Forscher die Mechanismen der moralischen Urteilsbildung und des moralischen Handelns neu zu verstehen und sich von etablierten Theorien des Feldes zu lösen. Auf diesem Wege erlangten die moralischen Emotionen erstmalig Bedeutung in der psychologischen Betrachtung von moralischen Urteilen – gut 200 Jahre, nachdem David Hume ihren bedeutsamen Einfluss in diesem Prozess hervorgehoben hatte.

### **1.1.1 Moralische Emotionen und moralisches Urteil: „The New Synthesis“**

Ein moralisches Urteil zu fällen erscheint uns zunächst als ein komplexer Prozess, der eine sorgfältigste Abwägung aller betreffenden Argumente erfordert (Kant, 1785/1998; Turiel, 1983). In der Vergangenheit wurde daher moralisches Denken und Handeln überwiegend in der Tradition der Theorie der moralischen Urteilsentwicklung (Kohlberg, 1969) diskutiert. Hierbei beschrieb Kohlberg die moralische Entwicklung analog zur kognitiven Entwicklung in einem Stufenmodell. Kohlberg nutzte als Methode zur Entwicklung und Überprüfung dieses Modells der Moralentwicklung sogenannte „moralische Dilemmata“. Das bekannteste Dilemma ist das „Heinz-Dilemma“, in welchem der Protagonist abwägen muss, entweder ein effektives Medikament für seine sterbende Frau zu stehlen oder ihren Tod zu akzeptieren. In seinen Studien untersuchte Kohlberg dabei nicht, welche Lösung für ein Dilemma gefunden wurde, vielmehr interessierte er sich für die einer Lösung innewohnende Argumentationsstruktur. Zwar sind die Methoden, die Kohlberg in seinen Arbeiten nutzte, in aktuellen Studien ähnlich geblieben, doch haben sich die Erkenntnisse in den letzten Jahren drastisch geändert:

So verglichen Greene, Sommerville, Nystrom, Darley und Cohen (2001) in einer ersten fMRI-Studie die an Urteilsprozessen beteiligten Gehirnstrukturen für persönlich nicht relevante und persönlich relevante moralische Dilemmata. Ein persönlich nicht relevantes Dilemma ist anhand des folgenden Szenarios gegeben (Greene et al., 2001):

*„Ein Schienenwagen fährt ungebremst auf fünf Gleisarbeiter zu. Erreicht der Wagen die Arbeiter, sind sie tot. Es gibt eine Weiche, die den Wagen auf ein Gleis umlenken kann, auf dem nur ein Gleisarbeiter arbeitet. In diesem Fall würde nur ein Mann sterben. Würden sie die Weiche umstellen?“*

Ein persönlich relevantes Dilemma entspricht demgegenüber:

*„Ein Schienenwagen fährt ungebremst auf fünf Gleisarbeiter zu. Erreicht der Wagen die Arbeiter, sind sie tot. Auf einer Brücke steht ein großer Mann. Würde er von der Brücke auf das Gleis fallen, würde sein Körper den Wagen stoppen, der Mann wäre aber tot. Würden sie den Mann von der Brücke stoßen?“*

Ähnlich zu den Dilemmata bei Kohlberg gibt es keine objektiv richtige Lösung, sondern auch hier steht die Frage im Mittelpunkt, warum sich Menschen für eine bestimmte Lösung entscheiden. Die Studie von Greene und Kollegen (2001) zeigte nun erstmalig, dass bei der Bearbeitung von persönlich relevanten Dilemmata eine starke Aktivierung solcher Hirnareale zu beobachten ist, die mit der emotionalen Verarbeitung von Ereignissen zusammenhängen. Bei der Bearbeitung von persönlich nicht relevanten Dilemmata ist dies nicht der Fall. Die Frage, welche Rolle emotionale Prozesse bei der moralischen Urteilsbildung spielen, rückte nachfolgend stark in den Fokus der psychologischen Forschung und griff damit in Form einer „Renaissance der Emotion“ (Haidt, 2010) jene Frage auf, die schon vor 200 Jahren Gegenstand der Moralphilosophie war (Hume, 1777/1960; Kant, 1785/1998; Rawls, 2000).

In weiterführenden Studien fand die Arbeitsgruppe um Greene (Greene, Nystrom, Engell, Darley & Cohen, 2004; Greene, Morelli, Lowenberg, Nystrom & Cohen, 2008; Botvinick, Braver, Barch, Carter & Cohen, 2001), dass eine stärkere Aktivierung von Hirnarealen, die mit emotionalen Verarbeitungsprozessen in Zusammenhang stehen (präfrontaler ventromedialer Cortex und Amygdala) mit höherer Wahrscheinlichkeit dazu führt, dass Probanden sich im oben beschriebenen Szenario gegen den Stoß des Mannes von der Brücke entscheiden. Probanden, die sich dafür entscheiden, den Mann von der

Brücke zu stoßen, weisen (a) längere Reaktionszeiten und (b) verstärkte Aktivitäten in Hirnarealen auf, die mit Antwortkonflikten assoziiert sind. Diese Befunde bestätigten erneut die zentrale Funktion von Emotionen in moralischen Urteilsprozessen; erste spontane Reaktionen auf moralische Dilemmata scheinen demzufolge emotional vermittelt zu sein. Gleichzeitig argumentierten die Autoren, dass solche emotional vermittelten Prozesse (z.B.: Es fühlt sich falsch an, jemanden vor einen Zug zu stoßen) durch aufwendigere kognitive Prozesse beeinflusst werden können (z.B.: Wenn man fünf Leben gegen eines abwägt, ist es besser, fünf Leben zu retten.). Dies scheint insgesamt zu längeren Verarbeitungszeiten zu führen, bei denen die zunächst vorhandenen intuitiven emotionalen Reaktionen überwunden werden müssen (Greene et al., 2004).

Zeitgleich mit der ersten fMIR-Studie von Greene und Kollegen (2001) postulierte Haidt (2001) das „Social Intuitionist Model“ (SIM), welches das Zusammenwirken von rationalen Abwägungen sensu Kohlberg und spontanen Intentionen bei der moralischen Urteilsbildung beschreibt. Diesem Modell zufolge beruhen moralische Urteile zu einem großen Teil auf Intuitionen, d.h. auf einfachen Kognitionen oder Heuristiken, die Gegebenheiten in gut oder schlecht, mögen oder nicht mögen unterteilen. Diese Kognitionen benötigen weder eine bewusste Suche noch das Abwägen von Informationen oder schlussfolgerndes Denken, wie dies etwa Kohlberg (1969) beschrieben hatte (s.a. Haidt & Bjorklund, 2008). Kennzeichnend für diese intuitiven Einschätzungen einer moralisch relevanten Situation ist, dass sie unmittelbar zu einer emotionalen Reaktion führen. Diese emotionale Reaktion hat ihrerseits bei der moralischen Urteilsbildung große motivationale Kraft. Weitere Studien zeigten, dass Probanden bei moralischen Dilemmata dazu neigen, schnelle Urteile zu fällen, welche erst post-hoc und unter großem Aufwand begründet werden können (Haidt, 2001). Ein typisches Dilemma ist in diesem Kontext:

*„Jan und Julia sind Geschwister. Sie haben eines Tages Lust, miteinander zu schlafen. Sie verhüten sehr gewissenhaft während des Sex, Julia wird nicht schwanger. Obwohl es beiden gefallen hat, miteinander zu schlafen, kommt es zu keiner Wiederholung.“*

Probanden geben in der Regel schnell ihr Missfallen gegenüber dem Verhalten des Geschwisterpaares zum Ausdruck, haben aber in der Folge Schwierigkeiten, dieses schlüssig zu begründen (siehe auch Cushman, Young & Hauser, 2006). Haidt (2010) vergleicht diese Suche nach Argumenten für Entscheidungen, die in erster Linie intuitiv getroffen wurden, mit Befunden aus der Sozialpsychologie, denen zufolge

Urteilsbildungen häufig auf wenig elaborierten Heuristiken beruhen (Chen & Chaiken, 1999; Monahan, Murphy & Zajonc, 2000; Ditto, Pizarro & Tannenbaum, 2009).

Weitere Belege für die Annahme, dass das moralische Urteil stark von Intuitionen und den darauffolgenden Emotionen abhängt, stammen aus unterschiedlichsten Forschungsparadigmen (zsf. siehe Haidt, 2010):

1. Neben den bereits zitierten Befunden zu Heuristiken in der Sozialpsychologie legen Studien, welche enger an moralische Fragestellungen anknüpfen, ähnliche Annahmen nahe: In einer fMRI-Studie zu moralischen Verfehlungen (Luo et al., 2006) und einer Studie zur Beurteilung der Vertrauenswürdigkeit von Politikern (Todorov, Mandisodza, Goren, Hall, 2005) deutete sich an, dass die Probanden die persönliche Integrität Anderer intuitiv beurteilen und diese Beurteilungen nur schwer zu verändern oder willentlich zu beeinflussen sind.

2. Menschen, die Verletzungen am ventromedialen Cortex aufweisen, haben große Schwierigkeiten, Entscheidungen in moralischen Dilemmata zu treffen, was sich in längeren Reaktionszeiten widerspiegelt (Damasio, 1994). Wenn die Probanden zu einer Entscheidung kommen, so wählen sie (im Gegensatz zu gesunden Probanden) deutlich häufiger utilitaristische Lösungen. Dies sind solche Lösungen, die einer anderen Person massiven Schaden zum Nutzen der Gemeinschaft zufügen und so bei gesunden Probanden eine intuitive emotionale Gegenreaktion auslösen (Königs et al., 2007).

3. Entwicklungspsychologische Studien zeitgen, dass schon sehr junge Kinder Grundzüge des moralischen Urteils beherrschen: Hamlin, Wynn und Bloom (2007) spielten Kindern von sechs bis zehn Monaten eine Geschichte mit Handpuppen vor, in welcher ein „Bergsteiger“ vergeblich versucht, einen Berg zu besteigen. In der Geschichte gab es eine „Helferpuppe“, die dem Bergsteiger hilft, den Berg zu besteigen, indem sie ihn anschiebt. In manchen Fällen wurde der Bergsteiger zusätzlich durch eine weitere Puppe behindert, die den Bergsteiger den Berg wieder hinunter schiebt. Im Anschluss an die Geschichte wurden beide Puppen den Kindern präsentiert, wobei die Kinder überdurchschnittlich häufig versuchten, nach dem Helfer zu greifen. Diese Befunde stehen in Einklang mit einer Studie von Warneken und Tomasello (2006) in welcher bereits 18 Monate alte Kinder erkannten, dass eine andere Person Hilfe braucht und diese auch anboten. Die Autoren schlussfolgerten daraus, dass Kinder schon sehr früh in der Lage



sind, soziale Prozesse zu beurteilen. Die Befunde sprechen insgesamt dafür, dass hierzu eine universelle Prädisposition besteht, die nicht gelernt werden muss (Hamlin, et al., 2007).

Zusammen genommen bilden diese Erkenntnisse die Grundlage der „New Synthesis“ in der Moralpsychologie (Haidt, 2007; Greene & Haidt, 2002; für eine Gendarstellung siehe Killen & Smetana, 2006; Turiel, 2006; Pizarro & Bloom, 2003). Hierbei werden zwei Prozesse postuliert, die für die moralische Urteilsbildung relevant sind: (1) Intuitive und stark emotional vermittelte Prozesse, sowie (2) stark elaborierte kognitive Prozesse. Intuitionen und Emotionen scheinen diejenigen Mechanismen zu sein, die in der Regel eine stärkere Wirkung auf das moralische Urteilen und Handeln entfalten.

Auf welche Weise Intuitionen, Emotionen und stark elaborierte kognitive Prozesse bei der moralischen Urteilsbildung zusammenarbeiten, ist bislang noch nicht geklärt und somit weiterhin Gegenstand der gegenwärtigen Forschung (Greene et al., 2008; Hauser, 2006, Haidt, 2010). Es bleibt daher zu klären, ob tatsächlich gilt, was David Hume bereits 1777 annahm: „...reason is, and ought to be, the slave of the passions ....“.

### **1.1.2 Was sind moralische Emotionen?**

Der „New Synthesis“ zufolge sind Emotionen demnach ein wichtiges Element des moralischen Urteils und des moralischen Handelns. Verschiedene Autoren sprechen in diesem Zusammenhang von der Gruppe der „moralischen Emotionen“ (Haidt, 2003; Tangney, Stuewig & Mashek, 2007; Weiner, 2006). Allerdings ist die Zugehörigkeit von einzelnen Emotionen zu dieser Gruppe noch wenig elaboriert. Hieraus ergibt sich die erste von drei zentralen Fragen der vorliegenden Arbeit:

#### (1) Welche Emotionen sind moralische Emotionen?

Es gibt derzeit noch keine allgemein verbindliche Definition von moralischen Emotionen; Übereinstimmend wird aber angenommen, dass moralische Emotionen auf moralischen Werturteilen basieren und so dem sozialen Zusammenhalt von Gruppen dienen (Haidt, 2003; Fiske, 2002; Tangney et al. 2007). Sie erfordern nach Weiner (2006) "eine Abwägung von richtig und falsch, gut und schlecht, sowie müssen und sollen." Da es bislang keine verbindliche Definition moralischer Emotionen gibt, herrscht naturgemäß

Unsicherheit bezüglich der Zugehörigkeit einzelner Emotionen zu dieser Gruppe. Gegenwärtig hilft eine eher induktive Methode, um diese Frage (vorläufig) zu klären: Anhand einer Literaturrecherche in psychologischen und philosophischen Literaturdatenbanken, bei der das Stichwort „moral emotion“ mit allen Emotionswörtern der von Clore, Ortony und Foss („affective lexicon“, 1987) sowie den von Haidt (2003) und Weiner (2006) vorgeschlagenen Listen moralischer Emotionen kombiniert wird, finden sich die folgenden Emotionen (hier aufgeführt in deutscher Übersetzung): Achtung, Ärger, Bewunderung, Dankbarkeit, Ehrfurcht, Eifersucht, Empörung, Mitleid, Missgunst, Neid, Respekt, Reue, Schadenfreude, Scham, Schuld, Stolz, Verachtung und Verehrung. Die Liste moralischer Emotionen umfasst demnach eine Vielzahl sehr verschiedener Emotionen. Dies führt unmittelbar zur nächsten Frage:

(2) Wie können moralische Emotionen sinnvoll klassifiziert werden?

Bestehende diesbezügliche Überlegungen (Haidt, 2003; Tangney et al., 2007; Weiner, 2006) berücksichtigen alle ein Kriterium, nämlich den Bezugspunkt der Emotion: So gibt es moralische Emotionen, welche sich auf die eigene Person beziehen (so etwa Stolz, Scham, Schuld, Reue und Peinlichkeit). Diese werden als „self-conscious emotions“, (Tangney & Fischer, 1995) oder „self-directed emotions“ (Weiner, 2006) bezeichnet. Weiterhin gibt es moralische Emotionen, die sich auf andere Personen beziehen (z.B. Verachtung, Ärger, Abscheu, Mitleid und Dankbarkeit); diese werden als „other-directed emotions“ bezeichnet (Haidt, 2003; Weiner, 2006). Insgesamt bleiben die in bisherigen Klassifikationsversuchen herausgearbeiteten Gemeinsamkeiten der verschiedenen moralischen Emotionen (z.B. Haidt, 2003, Weiner, 2006) auf ihren Bezugspunkt beschränkt. Weitere Klassifikationskriterien betreffen lediglich Subgruppen der genannten Emotionen (z.B. „ability-linked“ versus „effort-linked“ emotions, Weiner, 2006). Empirische Arbeiten zur Überprüfung der vorgeschlagenen Klassifikationen stehen bislang aus.

Weitere Kriterien können unserer Auffassung zufolge anhand einer Einbeziehung moderner Emotionstheorien gefunden werden (Ekman, 1992; Lazarus, 1991; Ortony & Turner, 1990; Roseman, 1984; Scherer, 2005; zsf. siehe Frijda; 2010). Eine Emotion besteht demzufolge zusammengefasst aus drei wesentlichen Komponenten: (a) den emotionsauslösenden Bedingungen, (b) der spezifischen Emotionsqualität und (c) den handlungsleitenden Konsequenzen einer Emotion. Diese wesentlichen Komponenten

stellen gleichzeitig mögliche Kriterien dar, nach denen Emotionen klassifiziert werden können. Demnach können wir Emotionen klassifizieren hinsichtlich ihrer auslösenden Bedingungen (Kriterium a: eine Emotion kann z.B. auf ein positives oder negatives Ereignis folgen), ihrer jeweiligen Erlebnisqualität (Kriterium b: eine Emotion kann sich z.B. gut oder schlecht anfühlen) oder ihrer spezifischen Handlungstendenzen (Kriterium c: eine Emotion kann z.B. zu Belohnung oder Bestrafung motivieren). Da diese Kriterien für alle Emotionen gelten, sollten sie gleichermaßen auch für moralische Emotionen gelten. Folgt man innerhalb dieser möglichen Kriterien der zeitlichen Sequenz der Emotionsentstehung, so lautet die nächste Frage demnach:

### (3) Wie entstehen moralische Emotionen?

Das im vorherigen Abschnitt erwähnte Social Intuitionist Model (SIM; Haidt, 2001) entwirft eine erste Idee zur Entstehung moralischer Emotionen. Die den moralischen Emotionen vorauslaufenden Bedingungen sind Haidt zufolge moralische Intuitionen: „[...] the sudden appearance in consciousness, or at the fringe of consciousness, of an evaluative feeling (like-dislike, good-bad) about the character or actions of a person, without any conscious awareness of having gone through steps of search, weighing evidence, or inferring a conclusion“ (Haidt & Bjorklund, 2008). “Intuitionen” sind demnach extrem einfache kognitive Prozesse, die moralischen Emotionen vorangehen (Haidt, 2010).

Allerdings existieren derzeit keine empirischen Arbeiten zur Überprüfung dieser theoretischen Annahmen auf einer übergreifenden Ebene. Es liegen jedoch einige Arbeiten zu einzelnen moralischen Emotionen (z.B. Ben-Ze'ev, 1992; Smith, & Kim, 2007; McCullough, Kilpatrick, Emmons & Larson, 2001; Keltner, & Haidt, 2003; Higuchi, & Fukada, 2002; Rudolph, Roesch, Greitemeyer & Weiner, 2004; Tracy, & Robins, 2007, van Dijk, Ouwerkerk, Wesseling & van Koningsbruggen, 2011) oder zu kleinen Gruppen von Emotionen vor (z.B. Feather, 2006, 2008; Feather & McKee, 2009; Feather & Sherman, 2002; Hareli & Weiner, 2002; Hareli & Parkinson, 2008; Tangney & Dearing, 2002; Gutierrez & Giner-Sorolla, 2007; Rozin, Lowery, Imada, & Haidt, 1999; Sheikh & Janoff-Bulman, 2010). Diese tragen zum differenzierten Verständnis der einzelnen Emotionen bei; eine übergreifende experimentelle Betrachtung und Synthese der gesamten Emotionsgruppe ist bislang jedoch nicht erfolgt.

Da die Frage nach einer Definition moralischer Emotionen (a) eine übergreifende Klassifikation und (b) eine Analyse ihrer Entstehungsbedingungen erfordert, wird im Folgenden zunächst eine eigene Studie zu einer umfassenden Theorie der Entstehungsbedingungen moralischer Emotionen vorgestellt. In einer zweiten Studie werden die theoretischen Überlegungen im Rahmen eines spezifischen sozialen Settings auf ihre Gültigkeit überprüft. Abschließend werden zwei spezifische moralische Emotionen hinsichtlich der vorgeschlagenen vorauslaufenden Bedingungen unter einer entwicklungspsychologischen Perspektive untersucht.

## 1.2 Moralische Emotionen: Empirische Überprüfung einer Klassifikation

Rudolph, U., Schulz, K. & Tscharktschiew, N. (2011). The Moral Emotions. An Analysis guided by Heider's naive Action Analysis. Manuscript submitted for publication.

Der erste in diese Arbeit eingebrachte Artikel gilt der Entwicklung und empirischen Überprüfung einer allgemeingültigen Theorie der Entstehungsbedingungen moralischer Emotionen. Die theoretische Basis hierzu stützt sich auf die naive Handlungsanalyse von Fritz Heider (1958). Gegenstand der vorliegenden Studie ist dabei, welche Elemente (Bedingungen) einer Situation moralische Emotionen hervorrufen und wie das Zusammenspiel dieser Elemente (Bedingungen) jeweils unterschiedliche moralische Emotionen auslöst.

Betrachten wir daher zunächst, welche Bedingungen einer Situation unerlässlich sind für die Entstehung moralischer Emotionen. Die naive Handlungstheorie von Heider (1958) ermöglicht es, einen Rahmen für moralische Handlungen zu entwerfen, welche die oben aufgeführten zentralen Elemente einer moralisch zu bewertenden Situation beinhaltet. Dabei werden im vorliegenden Artikel drei Elemente der Heider'schen Handlungsanalyse hinsichtlich ihrer emotionalen Auswirkungen untersucht; diese Elemente sind (1) „Ought“ (Sollen), (2) „Goal attainment“ (Zielerreichung) und (3) „Effort“ (Anstrengung).

*Sollen:* Heider (1958) zufolge beurteilen wir Handlungen anderer Personen zunächst danach, ob sie gut oder schlecht sind (vgl. Haidt, 2001). Diese übergeordnete Valenz der Situation gemäß eines normativen Standards bezeichnet Fritz Heider in seiner naiven Handlungsanalyse als „Sollen“. Heider zufolge ist diese Valenz einer Situation

allgemein gültig und verbindlich und unabhängig von aktuellen persönlichen Bedürfnissen der Person. In der vorliegenden Studie wird „Sollen“ als das Ziel einer Person beschrieben, dieses Ziel kann moralisch gut (z.B. eine prosoziale Handlung = die Person „sollte“ dies tun) oder moralisch negativ sein (z.B. eine antisoziale Handlung = die Person „sollte“ dies nicht tun).

*Zielerreichung.* Bei der moralischen Beurteilung einer Handlung einer Person ist es nicht nur wichtig, welche Ziele eine Person verfolgt (Sollen), sondern auch, ob die Person dieses Ziel auch tatsächlich erreicht oder nicht erreicht.

*Anstrengung:* Hat eine Person ein Ziel mit einer moralischen Valenz (Sollen) erreicht oder nicht erreicht (Zielerreichung) ist es für eine moralische Bewertung der Handlung zudem wichtig, in welchem Maße die betreffende Person verantwortlich für das Ergebnis (um mit Heider zu sprechen, den Effekt) ist. Für eine Zuschreibung von Verantwortlichkeit müssen zwei kausale Bedingungen erfüllt sein: Die Ursachen des Ereignisses müssen (a) internal (= persönliche Kausalität) und (b) kontrollierbar für die Person sein. Unter allen möglichen Ursachen für einen Effekt, die im Rahmen der naiven Handlungsanalyse angeführt werden (Anstrengung, Fähigkeit, Zufall, Aufgabenschwierigkeit), ist Anstrengung diejenige Ursache, welche aufgrund ihrer persönlichen Kontrollierbarkeit eine Inferenz persönlicher Verantwortlichkeit ermöglicht (zsf. siehe Weiner, 1995, insbesondere zur Unterscheidung von Kontrollierbarkeit und Verantwortlichkeit).

### **1.2.1 Darstellung der Studien**

Der Einfluss von Sollen, Zielerreichung und Anstrengung auf die Entstehung moralischer Emotionen wurde nun im vorliegenden Beitrag anhand von vier Studien (N = 247) untersucht. Anschließend an bisherige theoretische Überlegungen (Haidt, 2003; Tangney et al., 2007; Weiner, 2006) wurden moralische Emotionen entsprechend ihres Bezugspunktes getrennt voneinander untersucht: Moralische Emotionen, die sich auf Handlungen Anderer beziehen (Moralische Emotionen des Beobachters; hier Abscheu, Ärger, Bewunderung, Empörung, Mitleid, Respekt, Schadenfreude, Stolz und Verachtung) waren Gegenstand von Studie 1 und 3; moralische Emotionen, die sich auf eigene Handlungen beziehen (Moralische Emotionen des Handelnden; hier Ärger, Peinlichkeit,

Reue, Scham, Schuld und Stolz), wurden in Studie 2 und 4 analysiert. Die moralischen Emotionen wurden dabei zunächst anhand abstrakter Szenarien untersucht (Studie 1 und 2). Aufbauend auf die Ergebnisse dieser Studien wurden in Studie 3 und 4 moralische Emotionen anhand von realistischen Szenarien überprüft, um so die ökologische Validität des Ansatzes zu erweitern. Zur Illustration hier ein Beispiel für ein abstraktes Szenario mit positivem Ziel, negativer Zielerreichung und mangelnder Anstrengung:

*„Max will ein sehr positives Ziel erreichen (z.B. ein prosoziales Verhalten zeigen). Er erreicht das Ziel nicht. Er hat sich nicht angestrengt.“*

Ein realistisches Szenario, welches dem oben genannten abstrakten Szenario entspricht, lautete:

*„Paulas Großmutter ist nicht mehr in der Lage, alleine ihre neuen Gardienen aufzuhängen. Paula beschließt, ihr zu helfen. Während dessen ist Paula nicht konzentriert, schaut ständig aus dem Fenster und hört nicht auf ihre Großmutter, als diese das weitere Vorgehen mit Paula bespricht. Am Ende zerreißt Paula die neuen Gardienen.“*

Der Einfluss der drei Variablen auf die entsprechenden Emotionen wurde anhand von Varianzanalysen mit Messwiederholung geprüft. Da das in der Regel berichtete Effektstärkenmaß  $\eta^2_{\text{partial}}$  für dieses Verfahren nicht eindeutig interpretierbar ist (Levine & Hullett, 2002) wurde zur weiteren Qualifizierung der Daten das korrespondierende Effektstärkenmaß  $\eta^2$  nach folgender Formel berechnet (Cohen, 1973):

$$\eta^2 = \frac{QS_{\text{between}}}{QS_{\text{between}} + QS_{\text{within}}}$$

Zur Quantifizierung der Unterschiede und Gemeinsamkeiten zwischen den einzelnen moralischen Emotionen wurden hierarchische Clusteranalysen berechnet. Um Vergleiche über die verschiedenen Studien zu ermöglichen (abstrakte vs. realistische Szenarien), umfassten die Auswertungen weiterhin Korrelationen der z-standardisierten Mittelwerte aus Studie 1 und 3 sowie 2 und 4.

### 1.2.2 Zentrale Erkenntnisse

Zusammengefasst belegen die Befunde unserer vier Studien, dass die Konzepte Ought, Zielerreichung und Anstrengung übergreifende Entstehungsbedingungen aller moralischer Emotionen darstellen. Insgesamt klären die drei Konzepte sehr große Anteile der Varianz in moralischen Emotionen auf (50% Varianzaufklärung für abstrakte Szenarien, 65% Varianzaufklärung für realistische Szenarien). Dabei erweitern unsere Studien die bestehenden Erkenntnisse in der folgenden Weise:

**Empirische Klassifikation.** Die Ergebnisse unserer Studien ermöglichen es erstmals, eine empirisch gesicherte Klassifikation der moralischen Emotionen vorzunehmen. Demzufolge gibt es eine Gruppe von Emotionen, welche insbesondere in Reaktion auf positive moralische Ziele und hohe Anstrengung auftreten, dies sind Bewunderung, Respekt, Stolz und Mitleid (letzteres bei nicht erreichten Zielen). Diese Emotionen sanktionieren demnach eine Handlung als „gut“, wir bezeichnen diese daher als „positive moralische Emotionen“. Eine zweite Gruppe von Emotionen wird maßgeblich durch negative moralische Ziele, mangelnde Anstrengung und die Verfehlung positiver Ziele aktiviert, dies sind Ärger, Empörung, Verachtung, Schadenfreude, Peinlichkeit, Reue, Scham und Schuld. Diese Emotionen sanktionieren demnach eine Handlung als „schlecht“, wir bezeichnen diese daher als „negative moralische Emotionen“. Zusammen mit dem Bezugspunkt der Emotion ergibt sich demnach folgende Klassifikation:

	Positive moralische Emotionen	Negative moralische Emotionen
Moralische Emotionen des Beobachters	<i>Bewunderung,</i> <i>Respekt,</i> <i>Stolz,</i> <i>Mitleid</i>	<i>Ärger,</i> <i>Empörung,</i> <i>Verachtung,</i> <i>Schadenfreude</i>
Moralische Emotionen des Handelnden	<i>Stolz</i>	<i>Scham,</i> <i>Schuld,</i> <i>Peinlichkeit,</i> <i>Reue</i>

**Zielerreichung und Anstrengung als Determinanten moralischer Emotionen.**

Bisherige Arbeiten (Greene et al., 2004; Haidt, 2001; Kohlberg, 1969) haben sich in erster Linie darauf konzentriert, Reaktionen auf die Verletzung eines positiven moralischen Standards (in Heiders Terminologie: Sollen) zu untersuchen. Unsere Befunde zeigen darüber hinaus, dass auch Zielerreichung und Anstrengung wesentlich zur Genese moralischer Emotionen beitragen. Weiterhin sind es je spezifische Konfigurationen von Sollen, Zielerreichung und Anstrengung, die unterschiedliche moralische Emotionen vorhersagen. Hierbei finden sich für einige Emotionen eine Zugehörigkeit zu größeren Gruppen (z.B. Bewunderung, Stolz und Respekt sowie Ärger, Empörung und Verachtung), wohingegen sich einzelne Emotionen durch sehr spezifische Muster auszeichnen (Mitleid und Schadenfreude).

**Unterschiede zwischen moralischen Emotionen des Beobachters und des Handelnden.** Für moralische Emotionen des Beobachters findet sich ein deutlich größerer Einfluss der moralischen Valenz eines Ziels (Sollen) als bei Emotionen des Handelnden; bei letzteren erklärt die Zielerreichung den größten Anteil der Varianz. Die vorliegenden Befunde liefern somit erstmalig einen empirisch gestützten Hinweis darauf, dass die eigene Perspektive (Bezugspunkt) einen Unterschied bei der moralischen Bewertung von Handlungen macht: So werden die Handlungen der eigenen Person eher bezüglich ihrer Konsequenzen beurteilt, wohingegen Handlungen Anderer eher hinsichtlich ihrer Übereinstimmung mit übergeordneten und normativ handlungsleitenden Grundsätzen evaluiert werden.

**Untersuchung alltagsnaher Situationen.** Weiterhin wurden bestehende Studien dadurch erweitert, dass in der vorliegenden Studie erstmalig alltagsnahe Handlungen analysiert wurden; bisherige Arbeiten haben im Vergleich dazu ausschließlich mit extremen Moralverstößen gearbeitet (z.B. Mord, Inzest, Sakrileg, Schändung). Die Studie schließt damit eine Lücke im Rahmen der Moralpsychologie (Haidt, 2010) und zeigt, dass moralische Emotionen nicht nur Urteile in extremen Situationen beeinflussen, sondern uns beständig im Alltag begleiten und unsere Urteile auch hier beeinflussen.

Unsere Ergebnisse zur Genese moralischer Emotionen sind demnach eine klare Bestätigung unserer theoretischen Überlegungen. Zusammenfassend lässt sich festhalten: Die Analyse moralischer Emotionen anhand der Elemente der naiven Handlungsanalyse von Fritz Heider ermöglicht eine erste allgemeine Theorie der moralischen Emotionen; die



drei untersuchten vorauslaufenden Bedingungen sind für das Verständnis dieser Emotionen von großer Bedeutung. Anhand des zweiten Beitrags (Schulz, Tscharaktschiew, Rudolph, 2011a) wurde der Frage nachgegangen, ob sich unsere Konzeption moralischer Emotionen auch in einem konkreten sozialen Setting bewährt.

### **1.3 Moralische Emotionen im spezifischen Kontext**

Schulz, K., Tscharaktschiew, N. & Rudolph, U. (2011). Moral emotions at School. Manuscript submitted for publication.

Der zweite empirische Beitrag (Schulz et al., 2011a) untersucht die Entstehung moralischer Emotionen in einem konkreten sozialen Setting: der Schule.

Soziale Systeme erhalten durch die ihnen innewohnenden Normen eine eigene Ordnung. Daher ist zu erwarten, dass auch das soziale System Schule durch eigene Normen reguliert wird. Forschungsarbeiten zum Leistungsverhalten kommen zu dem Schluss, dass das soziale System Schule durch eine „Norm der Anstrengung“ charakterisiert werden kann (Matteucci, 2007; Reyna & Weiner, 2001; Hareli & Weiner, 2002). So werden Schüler nicht nur nach ihrer tatsächlichen Leistung bewertet, belohnt oder bestraft, sondern auch in Abhängigkeit von der von ihnen investierten Anstrengung. Somit begegnen uns auch hier zwei zentrale Determinanten moralischer Emotionen, wie sie im vorauslaufenden Beitrag herausgearbeitet wurden: Zielerreichung und Anstrengung. Wenn der Leistungskontext tatsächlich normativen Prinzipien unterliegt (z.B. gute Leistungen, hohe Anstrengungsbereitschaft), sollten in der Schule moralische Emotionen eine zentrale Rolle für die soziale Wahrnehmung und Bewertung spielen (Hareli & Weiner, 2002). Erste Überlegungen hierzu finden sich bei Hareli und Weiner (2002) sowie Weiner (2006), jedoch steht eine umfassende empirische Überprüfung auch hier bislang aus.

Da bisherige Studien zeigen, dass Lehrer und Schüler verschiedener Altersgruppen die „Norm der Anstrengung“ im Schulkontext unterschiedlich bewerten (Lord, Umezaki & Darley, 1990; Chapman & Skinner, 1989; Juvonen 2000; Juvonen & Murdock, 1995; Nicholls, Patashnick & Mettetal, 1986), ist es bei einer Analyse der moralischen Emotionen in der Schule unerlässlich, verschieden Stichproben in die Studien mit einzubeziehen.

### 1.3.1 Darstellung der Studien

Im vorliegenden Beitrag wurde daher in drei Studien (N = 339) die Entstehung moralischer Emotionen in der Schule anhand der Urteile von Lehrern (unterschiedlicher Schulformen) sowie Grundschulern und Schülern weiterführender Schulen untersucht. Lehrern und Schülern wurden im Rahmen der jeweiligen Studie acht Szenarien vorgelegt, in welchen die Leistungen unterschiedlicher Schüler beschrieben wurden. Als unabhängige Variablen wurden die Zielerreichung (sehr gute Note vs. sehr schlechte Note), die aufgewendete Anstrengung (hoch vs. niedrig) und das generelle Leistungsvermögen des jeweiligen Schülers (hoch vs. niedrig) variiert. Da es unmittelbar bezogen auf das Leistungsverhalten nur einen prototypischen moralischen Standard gibt (= gute Leistung erbringen), wurde die Variable Sollen in dieser Studie nicht variiert, sondern konstant gehalten.<sup>1</sup>

Im Unterschied zu den vorherigen Studien wurde Fähigkeit als zusätzliche unabhängige Variable variiert: Theoretischer Überlegungen zu moralischen Emotionen im Leistungskontext zufolge (Hareli & Weiner, 2002; Weiner, 2006), sollte auch die Fähigkeit in diesem speziellen Setting einen Einfluss haben. Zudem wissen wir aufgrund von Analysen spezifischer moralischer Emotionen (z.B. Bewunderung oder Schadenfreude), dass diese auch durch die Fähigkeit des Anderen beeinflusst werden (Hareli, Weiner & Yee, 2006; Feather, 1999).

Zur Illustration für ein Szenario hier ein Beispiel (hohe Fähigkeit, geringe Anstrengung, Ziel erreicht):

*„Ein Schüler ist außerordentlich begabt. Er hat sich für die Klassenarbeit überhaupt nicht angestrengt. Der Schüler hat in der Klassenarbeit eine 1.“*

Lehrer und Schüler gaben an, in welchem Ausmaß sie die jeweiligen moralischen Emotionen dem Schüler gegenüber empfinden würden. Die in dieser Studie untersuchten Emotionen beschränken sich auf eine Analyse der moralischen Emotionen des Beobachters, da insbesondere diese Emotionen im Bereich des Leistungsverhaltens bislang

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<sup>1</sup> Bezogen auf das Leistungsverhalten lautet der prototypische moralische Standard, gute Leistungen zu erbringen. Dies ist im Rahmen unserer Theorie ein positives moralisches Ziel. Eine schlechte Leistung zu erbringen wäre demnach ein negatives moralisches Ziel, allerdings nur, wenn dieses das erklärte Ziel des Schülers ist (d.h., das bewusste Ziel des Schülers würde darin bestehen, eine schlechte Note zu bekommen.). Da dieser Fall im Vergleich extrem selten auftritt und um die Komplexität der Studie zu reduzieren, verzichteten wir auf eine Variation dieser Variable.

kaum thematisiert worden sind und dennoch vermutet wird, dass sie großen Anteil an motivationalen Prozessen in der Schule haben könnten (Graham, 1991; Meyer & Turner, 2006; Schutz & Pekrun, 2007; Williams & DeSteno, 2008). Die im Rahmen unserer Studien eingebundenen Emotionen waren daher: Bewunderung, Respekt, Stolz, Mitleid, Ärger, Empörung, Verachtung und Schadenfreude. Um die Belastung für die Grundschüler zu reduzieren und dennoch eine möglichst repräsentative Auswahl von Emotionen zu untersuchen, beurteilte diese Stichprobe jeweils eine Emotion pro der im vorherigen Beitrag gefundenen Cluster, dies waren Bewunderung, Mitleid, Ärger und Schadenfreude.

Die Auswertung der Daten erfolgte anhand von Varianzanalysen mit Messwiederholung. Korrespondierende Effektstärken  $\eta^2$  wurden nach oben beschriebener Formel berechnet (Cohen, 1973). Um einen Vergleich zwischen den drei Stichproben zu ermöglichen, wurden zudem Korrelationen der standardisierten Mittelwerte sowie Varianzanalysen mit gemischtem Design gerechnet. Hierbei wurden Zielerreichung, Anstrengung und Fähigkeit als within-Variablen und die jeweilige Stichprobe als between-Variable behandelt.

### **1.3.2 Zentrale Erkenntnisse**

Die Ergebnisse des vorliegenden Beitrags belegen, dass die von uns vorgestellte Theorie moralischer Emotionen auch in einem konkreten Setting und für nicht-studentische Stichproben Gültigkeit besitzt. Die Varianzaufklärung durch die drei Variablen im Schulkontext war hoch (26% bis 34% in Abhängigkeit von der jeweiligen Stichprobe). Unsere Studien erweitern die bisherigen Befunden zudem in verschiedenen Unterpunkten:

**Zur Bedeutung der Fähigkeit für das moralische Empfinden.** Zielerreichung und Anstrengung sagen die Entstehung moralischer Emotionen in der Schule in hohem Maße vorher. Im Gegensatz dazu leistet die Fähigkeit keine wesentliche Varianzaufklärung; dies gilt für alle untersuchten Emotionen und Stichproben. Die geringe Relevanz dieser Variable kann darin begründet sein, dass bei der moralischen Bewertung der Handlungen Anderer kontrollierbare Ursachen der Handlung weitaus stärker ins Gewicht fallen (Heider, 1958; Weiner, 1995), während Fähigkeit als unkontrollierbare Ursache nicht Gegenstand moralischer Urteile und Emotionen ist. Dies bestätigt unsere

eingangs dargelegten theoretischen Überlegungen zur zentralen Rolle der Verantwortlichkeit im moralischen Urteilsprozess.

**Unterschiedliche Bezugspunkte des moralischen Erlebens.** Unsere Daten weisen auf Unterschiede zwischen den moralischen Emotionen hinsichtlich ihres Bezugspunktes bei der moralischen Bewertung hin: Es gibt Emotionen, welche stärker durch die Zielerreichung bestimmt werden (z.B. Bewunderung und Stolz), als auch Emotionen, die stärker durch die investierte Anstrengung determiniert sind (z.B. Respekt und Ärger). Verschiedene moralische Emotionen bewerten demnach unterschiedliche Aspekte des moralischen Verhaltens: Für manche Emotionen ist es entscheidend, wie sehr sich der Akteur für das Ziel angestrengt hat, für andere Emotionen spielt es eine größere Rolle, ob dieses Ziel auch erreicht wurde. Diese Datenmuster bilden zwei gegensätzliche Strömungen der Moralphilosophie ab, die unterschiedliche Aspekte des Verhaltens als „moralisch gut“ bewerten: Deontologische Theorien konstatieren, dass allein der Vorsatz, ein gutes Ziel erreichen zu wollen, schon als moralisch gut zu bewerten sei (in unseren Studien: Anstrengung für positive Ziele; siehe Kant, 1785/1998). Konsequentialistische Theorien der Moral hingegen betonen den dominierenden Wert eines erreichten guten Ziels (in unseren Studien: positive Ziele; siehe etwa Bentham, 1789/2010; Mill, 1863/2009).

**Unterschiedliche Gruppen innerhalb eines moralischen Settings.** Die Gruppenzugehörigkeit hat einen wichtigen Einfluss auf das moralische Erleben: Einerseits werden die spezifische moralische Emotionen in unserer Studie sowohl bei Lehrern und Schülern durch ähnliche vorauslaufende Bedingungen ausgelöst, dies gilt insbesondere bei positiven moralischen Emotionen. Dieser Befund deutet darauf hin, dass es im Kontext der schulischen Leistungen eine von allen Beteiligten gemeinsam getragene Norm gibt, hierbei werden gute Leistungen und hohe Anstrengung honoriert.

Zum Anderen hängt die Bewertung einiger moralischer Emotionen auch von der Gruppenzugehörigkeit ab, dies betrifft sowohl das Ausmaß als auch die spezifischen auslösenden Bedingungen dieser Emotionen: So wird Stolz in weit größerem Ausmaß von Lehrern als von Schülern erlebt, Schadenfreude wird deutlich stärker von Schülern als von Lehrern berichtet, und Ärger wird von Lehrern und Schülern in unterschiedlichen Situationen empfunden. Dies deutet darauf hin, dass die Beziehung zu der Person, welche bewertet wird, bei einigen Emotionen ein wichtiger Faktor bei der Entstehung der

jeweiligen moralischen Emotion ist. Tatsächlich wurde dies z.B. in Studien zu Schadenfreude bereits auch durch andere Autoren herausgearbeitet: Eine wichtige vorauslaufende Bedingung von Schadenfreude ist zuvor vorgenommener sozialer Vergleich und daraus entstehender Neid. So zeigte sich in Studien, dass je größer die objektive oder psychische Ähnlichkeit zu der Person, welcher ein Unglück wiederfährt, ist, desto mehr Schadenfreude empfunden wird (Smith, 2000; van Dijk, Ouwerkerk, Goslinga, Nieweg & Gallucci, 2006).

**Entwicklungspsychologische Perspektive.** Die vorgestellte Theorie der moralischen Emotion (Rudolph et al., 2011) kann auch für jüngere Kindern die Entstehung moralischer Emotionen gut erklären. Bereits im Grundschulalter sind Kinder gut in der Lage, Informationen über Zielerreichung und Anstrengung zu verarbeiten (siehe auch Graham & Hoehn, 1995). Dabei fühlen sich auch bereits Schüler der ersten Klassen den normativen Prinzipien der Schule verbunden und sanktionieren ihre Klassenkameraden in Abhängigkeit von diesen Prinzipien.

Die Ergebnisse dieses Beitrages liefern daher starke Hinweise darauf, dass die von uns vorgeschlagenen vorauslaufenden Bedingungen auch die moralischen Emotionen von Kindern erklären können (Schulz et al., 2011a). Entwicklungspsychologische Befunde stützen diese Überlegung: So ist gerade die Unterscheidung von Gut und Böse (= Sollen ) schon sehr früh ein für Kinder salientes Merkmal bei der Bewertung anderer Personen (Hamlin et al., 2007; Tomasello, 1999). Der nächste Beitrag untersucht daher, ob der Gültigkeitsbereich unserer Theorie bereits auf Kinder im Vorschulalter ausdehnbar ist.

#### **1.4 Moralische Emotionen unter entwicklungspsychologischer Perspektive**

Schulz, K., Tschaktschew, N. & Rudolph, U. (2011b). Daniel falls into a muddy puddle. Schadenfreude or Sympathy? Manuscript submitted for publication.

Die Beschäftigung mit der Entwicklung moralischer Emotionen erfolgt, verglichen mit Arbeiten zu den primären Emotionen, erst seit kurzer Zeit (Bridges, 1932; Harris, 1989; Kochanska et al., 2002; Saarni, 1999; Schaffer, 1974; Sternberg, Campos & Emde, 1983). Heute wissen wir, dass Kinder ab einem Alter von 24 Monaten beginnen, moralische Emotionen zu erleben und auszudrücken (Barrett, 1995; Denham et al., 2003; Reissland & Harris, 1991; Lewis, Haviland-Jones & Feldman Barrett, 2010). Besondere

Aufmerksamkeit galt in diesem Zusammenhang den Emotionen Schuld, Scham und Stolz (zsf. siehe Lewis, 1992). Auch zur Entwicklung von Mitleid liegt mittlerweile eine gesicherte Datengrundlage vor, da diese Emotion häufig im Zusammenhang mit der Entwicklung prosozialen Verhaltens untersucht wurde (zsf. siehe Eisenberg, Fabes & Spinrad, 2006).

Wenn Kinder ab einem Alter von zwei Jahren beginnen, moralische Emotionen empfinden und verstehen zu können, so deutet dies auf zwei Sachverhalte hin: (a) Moralische Emotionen erfordern zunächst im Vergleich zu primären Emotionen eine Reihe kognitiver Voraussetzungen, die sich erst in dieser zeitlichen Periode der kindlichen Entwicklung heraus bilden. (b) Wenn Kinder aber bereits ab einem Alter von zwei Jahren moralische Emotionen empfinden und verstehen können, so kann ein solches erstes moralisches Empfinden keine sehr komplexen kognitiven Prozesse beinhalten (Haidt & Bjorklund, 2008; Hamlin et al., 2007). Der frühe Ausdruck von Schuld, Scham oder Stolz zeigt, dass Kinder schon in sehr jungem Alter erste moralische Urteile über das eigene Handeln fällen können, dabei sind insbesondere folgende kognitive Voraussetzungen von größter Bedeutung: die Trennung von Selbst und Umwelt (Bischof-Köhler, 1991; Lewis, 2010), ein allgemeines Regelverständnis (Kagan, 1984; Stipek, Recchia & McClintic, 1992), das Verständnis, ob etwas gelungen ist oder nicht (Denham, 1998; Kagan & Lamb, 1987; Kearney, 2004) und das Verständnis von Intentionen und Bemühungen Anderer (Tomasello, 1999).

Unseres Wissens liegen derzeit noch keine empirischen Analysen zur Entstehung von Schadenfreude bei Kindern vor. Am Beispiel dieser Emotion soll daher durch den nächsten Beitrag heraus gearbeitet werden, inwieweit Aspekte der von uns vorgestellten Theorie auch die Entstehung moralischer Emotionen bereits bei sehr jungen Kindern erklären kann. Dabei ist die Emotion Schadenfreude als Untersuchungsgegenstand besonders interessant, da diese Emotion aufgrund ihrer Diskordanz (Heider, 1958) sehr anspruchsvoll ist: Schadenfreude entsteht als Reaktion auf das Unglück einer anderen Person. Schadenfreude fühlt sich für denjenigen, der sie empfindet, angenehm an, wird aber von der Person, die das Ziel der Schadenfreude ist, als extrem unangenehm empfunden (Ben Ze'ev, 1992). Dies bedeutet, dass bezüglich des Ausdrucks dieser Emotion das eigene Erleben und das Erleben der anderen Person getrennt voneinander betrachtet werden müssen. Dies wiederum impliziert, dass die Beherrschung geläufiger

Darstellungsregeln dieser Emotion zum einen schwierig und zum anderen wichtig für die Gestaltung zwischenmenschlicher Beziehungen ist. Damit sollte dieser Emotion aufgrund ihrer Komplexität besondere Aufmerksamkeit in der emotionalen Erziehung von Kindern zukommen. Da Mitleid eine weitere mögliche Reaktion auf das Unglück einer anderen Person darstellt (siehe Rudolph et al., 2011), bieten sich Schadenfreude und Mitleid für eine gemeinsame und vergleichende Untersuchung an. Erweiternd wird in dieser Studie untersucht, inwieweit sich diese moralischen Emotionen auf nachfolgendes Verhalten auswirken.

#### **1.4.1 Darstellung der Studie**

Anhand einer Studie mit Kindern zwischen 4 und 8 Jahren (N=100) wurde untersucht, ob Kinder in Abhängigkeit von der moralischen Valenz des Ziels (= Sollen) eines anderen Kindes Schadenfreude oder Mitleid empfinden, wenn diesem Kind ein Unglück geschieht. Um die Studie für die jüngeren Kinder im Rahmen der Belastbarkeit zu halten, wurden hier die Variablen Zielerreichung und Anstrengung konstant gehalten.

Als Stimulusmaterial wurden den Kindern vier Bildgeschichten über ein Unglück eines anderen Kindes erzählt. Dabei wurde das Ziel dieses anderen Kindes (positiv vs. negativ) variiert. Eine Geschichte mit positivem Ziel lautete hier:

*„Das ist Sarah. Sarah ist auf einen Pflaumenbaum geklettert. Sie ist auf dem Pflaumenbaum, um Pflaumen für ihren kleinen Bruder zu holen. Sarahs kleiner Bruder liebt Pflaumen über alles, ist aber noch zu klein, um selber auf den Baum zu klettern. Er wird sich über die Pflaumen sehr freuen! Sarah pflückt eine Pflaume nach der anderen. Dann streckt sie sich weit nach einer besonders dicken Pflaume...und plumps! ist sie vom Baum gefallen und reibt sich ihr Hinterteil!“*

Das vergleichbare Szenario mit einem negativen Ziel lautete:

*„Das ist Sarah. Sarah ist auf einen Pflaumenbaum geklettert. Sie ist auf dem Pflaumenbaum, um Pflaumen zu holen, mit denen sie ihren kleinen Bruder bewerfen möchte, um ihn zu ärgern. Sarahs Bruder ist noch ziemlich klein und die dicken Pflaumen werden ihm bestimmt weh tun! Sarah pflückt eine Pflaume nach der anderen. Dann streckt*

*sie sich weit nach einer besonders dicken Pflaume...und plumps! ist sie vom Baum gefallen und reibt sich ihr Hinterteil!“*

Anschließend wurden die emotionalen Reaktionen (Schadenfreude und Mitleid) sowie die Verhaltensreaktion (Hilfeverhalten) der Kinder anhand von fünf Fragen erfasst.

Die Auswertung der Daten erfolgte mittels abhängiger t-Tests, um den Einfluss der Valenz des Ziels auf die emotionale Reaktion und das Verhalten zu prüfen. Zudem wurde ein Differenzwert von Situationen mit positiven versus negativen Zielen berechnet, der die Güte und das Ausmaß der Differenzierung auf den einzelnen Variablen abbildete. Abschließend wurde mittels Mediatoranalysen (Baron & Kenny, 1986) überprüft, ob Schadenfreude und Mitleid (Emotionen) den Zusammenhang zwischen dem Ziel des Kindes (Kognition) und dem intendierten Hilfeverhalten (Verhalten) vermitteln.

#### **1.4.2 Zentrale Erkenntnisse**

Unsere Befunde zeigen, dass die Theorie der moralischen Emotionen bereits bei Kindern im Vorschulalter ab vier Jahren gilt. Die Studie beleuchtet dabei erstmalig unterschiedliche Voraussetzungen für die Entstehung von Schadenfreude und Mitleid im jungen Kindesalter sowie deren Auswirkungen auf das moralische Handeln.

**Auswirkungen des moralischen Standards auf das moralische Erleben von Kindern.** Das Ziel einer Person, der ein Unglück widerfährt, bestimmt bereits bei Kindern im Vorschulalter die emotionale Reaktion: Hatte die Person ein positives Ziel, so empfinden die Kinder weniger Schadenfreude und mehr Mitleid, zudem geben sie an, mehr Hilfeverhalten leisten zu wollen. Hatte die Person ein negatives Ziel, so empfinden die Kinder mehr Schadenfreude und weniger Mitleid; zudem intendieren sie weniger Hilfe. Dies ist unabhängig vom Alter der Kinder; bereits ab einem Alter von vier Jahren differenzieren Kinder gut in Abhängigkeit von der moralischen Valenz des Ziels. Die Güte der Differenzierung zwischen positiven und negativen Zielen nimmt hierbei für Mitleid und Hilfeverhalten mit dem Alter zu, für Schadenfreude ist sie gleichbleibend gut.

**Mitleid als primäre Emotion auf das Unglück eines Anderen.** Schadenfreude ist in Situationen mit einem positiven Ziel gänzlich abwesend. Im Gegensatz dazu sind Mitleid und Hilfeverhalten in Situationen mit einem negativen Ziel (auf eher hohem



Niveau) lediglich reduziert. Gemeinsam mit der mit dem Alter zunehmenden Differenzierung von Mitleid und Hilfeverhalten zwischen positiven und negativen Zielen deutet dieser Befund darauf hin, dass Mitleid eine primäre Reaktion auf das Unglück eines Anderen ist. Die Berücksichtigung weiterer Situationsmerkmale (z.B. die Valenz des Ziels), die diese primäre Reaktion beeinflussen können, steigt dabei für Mitleid mit dem Alter der Kinder. Diese Funktion von Mitleid als primäre Reaktion auf das Unglück einer anderen Person wird durch Studien gestützt, die zeigen, dass Kinder bereits als Neugeborene auf den Kummer von anderen Personen reagieren (Dondi, Simion & Caltran, 1999; Friedman, Zahn-Waxler, & Radke-Yarrow, 1982; Martin & Clark, 1982). Im Vergleich dazu benötigt Schadenfreude zusätzliche kognitive Voraussetzungen (wie ein negatives Ziel), um aktiviert zu werden.

**Moralische Emotionen vermitteln zwischen Kognition und Verhalten.** Eine Reihe von Studien belegte bereits die vermittelnde Rolle von Mitleid zwischen Kognitionen zur Verantwortlichkeit einer Person für ihr Unglück und dem resultierenden Hilfeverhalten (zsf. siehe Rudolph, Roesch, Greitemeyer & Weiner, 2004). Unsere Studie bestätigt diese Funktion von Mitleid innerhalb dieser motivationalen Sequenz des Hilfeverhaltens und ergänzt sie um die moralische Valenz des Ziels als weitere mögliche kognitive Voraussetzung. Schadenfreude fungiert ebenfalls als Mediator in diesem Prozess: Je höher die Schadenfreude (in Abhängigkeit von der Valenz des Ziels), desto unwahrscheinlicher ist das nachfolgende Hilfeverhalten. Somit kommt auch dieser Emotion eine entscheidende Rolle bezogen auf prosoziales Verhalten zu und unterstützt Studien und Überlegungen, welche Schadenfreude eine beziehungsschädigende Wirkung zu schreiben (Ben Ze'ev, 1992).

## 1.5 Fazit und Ausblick

Moralische Emotionen sind bedeutsame Elemente des moralischen Empfindens, Urteilens und Handelns. Die hier vorgeschlagene und empirisch überprüfte Theorie der moralischen Emotionen ermöglicht nun erstmals eine übergreifende Analyse der Entstehungsbedingungen moralischer Emotionen sowie deren Bedeutung für das moralische Handeln. Dabei lassen sich die durch uns neu gewonnen Erkenntnisse der drei vorgestellten Studien abschließend wie folgt zusammen fassen:

(1) Die Genese moralischer Emotionen wird in hohem Maße von drei Elementen der naiven Handlungsanalyse sensu Heider (1958) bestimmt: das Sollen, die Zielerreichung und die Anstrengung. Damit wird das Spektrum relevanter Entstehungsbedingungen um bedeutsame Aspekte erweitert, die gleichermaßen für alle moralischen Emotionen gelten (vgl. Rudolph et al., 2011). Moralisches Verhalten wird sowohl hinsichtlich der zugrunde liegenden Intentionen und Ziele als auch hinsichtlich der jeweiligen Zielerreichung beurteilt (vgl. Schulz et al., 2011a).

(2) Moralische Emotionen setzen sehr einfache kognitive Prozesse voraus. Diese liegen auch bei Kindern ab einem Alter von 4 Jahren bereits vor (vgl. Schulz et al., 2011b).

(3) Auf Basis dieser Entstehungsbedingungen haben wir die erste empirisch gestützte Klassifikation nach dem Bezugspunkt der Emotion und der Bewertung des Verhaltens entwickelt. Demzufolge unterscheiden wir (a) positive moralische Emotionen des Beobachters, (b) negative moralische Emotionen des Beobachters, (c) positive moralische Emotionen des Handelnden und (d) negative moralische Emotionen des Handelnden (vgl. Rudolph et al., 2011).

(4) Moralische Emotionen des Beobachters und des Handelnden beurteilen unterschiedliche Aspekte des moralischen Verhaltens. Dabei spielt für das moralische Erleben auch die Gruppenzugehörigkeit des Beobachters eine wichtige Rolle (vgl. Rudolph et al., 2011, Schulz et al., 2011a).

(5) Moralische Emotionen vermitteln zwischen Kognition und Verhalten und sind somit eine stark motivierende Kraft des moralischen Handelns (vgl. Schulz et al., 2011b).

Die von uns vorgelegte Theorie zur Entstehung moralischer Emotionen wurde im Rahmen dieser Arbeit durch die Untersuchung verschiedenster Stichproben und im Rahmen unterschiedlicher Kontexte geprüft. Die Gültigkeit der Theorie wird durch die so vorgelegten Daten umfassend bestätigt. Da die Entwicklung einer Theorie erst den Ausgangspunkt für weitere Forschung darstellt, ergeben sich nunmehr vielfältige weiterführende Forschungsfragen, um die Komplexität moralischer Urteile auf Basis der moralischen Emotionen besser zu verstehen:

**Ökologische Validität.** Um die ökologische Validität unserer Überlegungen weiter zu stützen, empfiehlt es sich, auch andere Methoden in die Untersuchung moralischer

Emotionen mit einzubeziehen: Zu diesem Zweck analysieren wir gegenwärtig autobiographische Berichte moralischer Emotionen in Hinblick auf ihre Entstehungsbedingungen (Körner, Tscharaktschiew, Schulz & Rudolph, 2011). Hierbei wird zum einen überprüft, inwieweit die Konzepte des Sollens, der Zielerreichung und der Anstrengung auch in realen und frei berichteten Situationen Erwähnung finden. Zum anderen können so prototypische Situationen identifiziert werden, welche die spezifischen Emotionen auslösen.

Ergänzt wird diese Methode durch Literaturstudien anhand einer Analyse ausgewählter Werke der Weltliteratur sowie der Märchen der Gebrüder Grimm (Schössow & Rudolph, 2011; Teichmann, Peters, Schulz, Tscharaktschiew & Rudolph, 2011). Die bereits vorliegenden Daten belegen die Gültigkeit unserer Annahmen auch hier.

Zudem erheben wir derzeit physiologische Maße in Verbindung mit moralischen Emotionen (Tscharaktschiew, Schulz & Rudolph, 2011a): In einer ersten Studie untersuchen wir hier Reaktionszeiten, Hautleitfähigkeit, Herzrate und Blutdruck in Abhängigkeit von Zielerreichung und Anstrengung für positive Ziele. Hierbei betrachten wir zusätzlich die Rolle von Verantwortlichkeit (Weiner, 1995; 2006) und Verdientheit (Feather, 1989; 2006) als vermittelnde kognitive Faktoren zwischen der Einschätzung von Zielerreichung und Anstrengung sowie der Entstehung moralischer und nicht moralischer Emotionen.

**Moralische versus nicht-moralische Emotionen.** Die vorgelegte Theorie beschreibt die Genese moralischer Emotionen und sollte somit moralische von nicht-moralischen Emotionen abgrenzen können. Unsere bisherigen Analysen hierzu belegen, dass moralische Emotionen in Abgrenzung zu nicht-moralischen Emotionen (z.B. Freude und Traurigkeit) eine evaluative Funktion besitzen, die das eigene Handeln sowie das Handeln anderer Personen positiv oder negativ bewerten. So lösen Handlungen, die zwar moralisch richtig sind (z.B. hohe Anstrengung zu investieren), jedoch nicht zum Ziel geführt haben, positive moralische Emotionen aus (z.B. Stolz und Respekt) – diese Emotionen kommunizieren also, dass das gezeigte Verhalten richtig war. Im Gegensatz dazu werden nicht-moralische Emotionen (z.B. Freude, Traurigkeit) ausschließlich von der Zielerreichung vorhergesagt, und im Gegensatz zu moralischen Emotionen nicht durch die Konzepte des Sollens und der Anstrengung (Tscharaktschiew, Schulz & Rudolph, 2011b).

**Weitere Begriffsklärungen zu spezifischen moralischen Emotionen.** Innerhalb der Gruppe moralischer Emotionen gibt es einige Emotionen, die bislang hinsichtlich ihrer spezifischen Charakteristika noch kaum untersucht wurden. Dies betrifft insbesondere Emotionen, welche in unseren Studien dem Cluster „positive Emotionen des Beobachters“ (Bewunderung, Respekt, Stolz auf eine andere Person) zuzuordnen sind sowie die Emotionen Schadenfreude und Empörung. Andere Emotionen, wie Dankbarkeit, Neid und Eifersucht wurden zwar im Rahmen der vorliegenden Arbeit nicht untersucht, dennoch sollte ihre Position innerhalb der moralischen Emotionen geklärt werden, da diesbezüglich Uneinigkeit herrscht (vgl., Weiner, 2006; Haidt, 2003; zu einer weiterführenden Analyse zu Neid siehe auch Günther, Schleinitz, Tscharaktschiew, Schulz & Rudolph, 2011). Diese Charakteristika spezifischer Emotionen besser zu verstehen ist ein wichtiges Ziel für weitere Studien.

**Emotionen und soziales Handeln.** Unsere Studien richteten sich bislang in höherem Maße auf eine Analyse der vorauslaufenden Bedingungen moralischer Emotionen und in geringerem Maße auf das moralische Handeln. Es existieren in der einschlägigen Literatur zwar einige Studien, welche spezifische Handlungstendenzen einzelner Emotionen identifiziert haben (z. B. Schuster, Rudolph & Försterling, 1998; Rudolph et al., 2004), eine umfassende Analyse im Rahmen einer übergreifenden theoretischen Perspektive steht jedoch noch aus (siehe auch de Hooge, Zeelenberg & Breugelmans, 2007; Ketelaar & Au, 2003; Schulz et al., 2011b). Es erscheint vielversprechend, den Fokus in künftigen Arbeiten insbesondere auf die allgemeine Funktion moralischer Emotionen hinsichtlich grundlegender Aspekte interpersonaler Beziehungen zu legen, so etwa Belohnung, Bestrafung, Annäherung, Vermeidung, Altruismus und Kooperation. Eine Integration evolutionärer und spieltheoretischer Überlegungen erscheint bei weiterführenden Studien vielversprechend (Fehr & Gächter, 2002; Hauser, 2006; Gintis, Bowles, Boyd & Fehr, 2005; Greene 2003; Haidt, 2010; Richerson & Boyd, 2005).

### **Abschließender Kommentar**

Die vorliegende Arbeit erweitert bisherige Studien zu moralischen Emotionen um die Entwicklung einer umfassenden Theorie für alle moralischen Emotionen und leistet somit einen wesentlichen Beitrag zum tieferen Verständnis dieser Emotionsgruppe. Nachdem wir

nun wichtige Entstehungsbedingungen identifiziert und eine Klassifikation erstellt haben, besteht der nächste Schritt gemäß Abschnitt 1.1.1 darin, eine Definition moralischer Emotionen zu versuchen. Aufbauend auf unsere Ergebnisse würde ich daher gerne zum Abschluss der vorliegenden Arbeit eine Definition moralischer Emotionen vorschlagen:

*„Moralischen Emotionen sind gefühlsbasierte Bewertungen von Handlungen anderer Personen und eigener Handlungen. Dies geschieht vor einem moralischen Hintergrund, bei dem die Intention, die aufgewendete Anstrengung sowie die Konsequenzen der Handlung bewertet werden.“*

Ich freue mich darauf, diese erste vorläufige Definition in Zukunft anhand weiterführender Studien zu ergänzen und so das große Gebiet der moralischen Emotionen, an dessen Anfängen wir heute stehen, stetig weiter zu erkunden. Nach unserer Taxonomie entspricht dies einem positiven Ziel, höchstwahrscheinlich verbunden mit hoher Anstrengung, dabei verbleibt die Zielerreichung zunächst ungewiss – bis auf Weiteres.

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**Moral emotions:**

**An analysis guided by Heider's naïve action analysis**

Udo Rudolph, Katrin Schulz, Nadine Tscharaktschiew

Chemnitz University of Technology, Germany

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## Abstract

The present research proposes a theoretical framework for the emergence of moral emotions. In analyzing the cognitive antecedents of moral emotions, we refer to Heider's (1958) concepts of ought, goal attainment and effort. In Study 1, participants ( $N = 60$ ) rated whether they experience moral observer emotions (i.e., admiration, anger, contempt, disgust, indignation, pride, respect, schadenfreude, and sympathy) with respect to situations characterized by different combinations of ought, goal attainment, and effort. In Study 2 ( $N = 61$ ) the same procedure was used to analyze moral actor emotions (i.e., embarrassment, guilt, pride, regret, and shame). Studies 3 ( $N = 75$ ) and 4 ( $N = 51$ ) replicated these findings extending them with respect to higher ecological validity. ANOVAS and cluster analyses were conducted to analyze similarities and differences with regard to different sub-groups of moral emotions. Taken together, results reveal that ought, goal-attainment, and effort explain impressive amounts of variance in the elicitation of moral emotions. Based on the results, an empirical classification of moral emotions is proposed which is based on the evaluative content and target of the respective emotions.

**Key Words:** Emotional States, Morality, Folk Psychology, Attribution

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### Moral Emotions: An Analysis guided by Heider's naïve Action Analysis

We know very well what it is like to feel sympathy or anger, admiration or indignation, pride or guilt. Thus, we navigate through the landscape of these so-called 'moral emotions' easily, and apparently do not need to engage in complex considerations to 'decide' how we feel (see also Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Haidt, 2001; Hauser, 2006). Thus far, however, a conceptual framework allowing us to predict the genesis of moral emotions has not been developed. Recent works have demonstrated that moral emotions have a strong impact on moral decisions (e.g., Greene, Nystrom, Engell, Darley, & Cohen, 2004; Haidt, 2007), ascribing these emotions a strong causal status in the chain from cognition to emotion to action. Many researchers have elaborated on specific moral emotions (e.g., Ben-Ze'ev, 1992; Smith & Kim, 2007; McCullough, Kilpatrick, Emmons, & Larson, 2001; Keltner & Haidt, 2003; Higuchi & Fukada, 2002; Rudolph, Roesch, Greitemeyer, & Weiner, 2004; Tracy & Robins, 2007) or specific samples of moral emotions (e.g., Feather, 2008; Feather & McKee, 2009; Feather & Sherman, 2002; Fischer & Roseman, 2007; Gutierrez & Giner-Sorolla, 2007; Hareli & Weiner, 2002; Hareli & Parkinson, 2008; Tangney & Dearing, 2002; Rozin, Lowery, Imada, & Haidt, 1999; Sheikh & Janoff-Bulman, 2010; Stuewig, Tangney, Heigel, Harty, & McCloskey, 2010; van Dijk, Ouwerkerk, Wesseling, & van Koningsbruggen, 2011), contributing to a deeper understanding of these specific emotions. A comprehensive experimental analysis and synthesis of these findings, however, is still lacking.

In the present paper, we will first provide a conceptual analysis of the so-called moral emotions, followed by an experimental analysis of their cognitive antecedents.

#### **What are Moral Emotions?**

Thus far, a comprehensive and generally accepted definition of moral emotions does not exist; numerous definitions of moral emotions have been proposed in the literature. As a common denominator, these definitions include "a consideration concerning good and bad, right and wrong, and ought and should" (Weiner, 2006, p. 87). Moreover, Haidt (2003) defines moral emotions as those "that are linked to the interests or welfare either of society as a whole or at least of persons other than the judge or agent" (p. 276). In addition, Fiske (2002) points out that moral emotions are the "immediate motivational proxies for expected long-term benefits of important relationships" (p. 170).

These definitions complement one another by highlighting different important elements of moral emotions – that is, cognitive, adaptive, and motivational aspects.

Given these definitions, it nevertheless appears difficult to compile a definite list of moral emotions. As a practical approach for identifying moral emotions, we conducted a 'PsycInfo' and 'Philosopher's Index Online' search on all words of the 'affective lexicon' proposed by Clore, Ortony, and Foss (1987), in combination with the words "moral emotion\*". Additionally, we checked the lists of moral emotions offered by Haidt (2003) and Weiner (2006). This literature search reveals that 23 emotions have been labeled as moral emotions: Admiration, anger, awe, contempt, disgust, elevation, embarrassment, empathy, envy, gratitude, guilt, indignation, jealousy, pity, pride, regret, remorse, respect, schadenfreude (joy in the misfortune of others), shame, scorn, and sympathy.

On one hand, this list is probably quite exhaustive, as we have included all potential candidates mentioned in the psychological and philosophical literature. On the other hand, there is no consensus as to which emotions can be referred to as "moral", and there is no obligatory or selective criterion to distinguish moral from non-moral emotions. This results in the above-mentioned preliminary list of moral emotions, which currently contains prototypes as well as close synonyms. As Haidt (2003) has noted, some of these moral emotions are likely more prototypical than others. We suggest that the more prototypical moral emotions are exclusively experienced concerning actions of individuals and occur in a wide range of different situations (e.g., pride, shame, admiration or schadenfreude, to mention a few). In contrast, non-prototypical moral emotions (e.g., awe and elevation) are used in specific contexts. As becomes apparent from the overview mentioned above, some of these emotions represent close relatives rather than highly distinct emotions (Ortony, Clore, & Collins, 1988).

### **A Classification of Moral Emotions**

We now propose two criteria, target and evaluative content, for classifying moral emotions: First, moral emotions can be distinguished with respect to their target. Some of these emotions are regarded as self-conscious (Haidt, 2003; Tangney & Dearing, 2002; Tangney & Fischer, 1995; Tangney, Stuewig, & Mashek, 2007) or self-directed (Weiner, 2006), as for example guilt, pride, regret, and shame. In the following, we will label these emotions as actor emotions, as they are targeted at one's own actions. In contrast, several moral emotions are regarded as being other-directed (e.g., admiration, anger, gratitude, and sympathy; see Weiner, 2006). Haidt (2003) further distinguishes several subgroups of

emotions that are directed at others: other-condemning emotions (contempt, anger, and disgust), other-suffering emotions (compassion / sympathy), and other-praising emotions (gratitude, awe and elevation). In spite of their differences, these emotions have in common that they are targeted at other persons; therefore, we will label these emotions as observer emotions.

Second, as several authors have pointed out (e.g., Fiske, 2002; Greene, 2003; Haidt, 2003, 2007; Tangney et al., 2007; Weiner, 2006), moral emotions function to regulate social behaviors. In a similar vein, we propose that moral emotions evaluate a person's action as either positive or negative. This criterion is applied to both moral actor emotions (evaluating one's own actions as either good or bad; see also Haidt, 2003; Lewis, Haviland-Jones, & Barrett, 2008) as well as to moral observer emotions (evaluating others' actions as either good or bad).

The evaluative component of a moral emotion represents the evaluative content of an emotion as a means for communication (towards others) and information (towards oneself). For example, with respect to actor emotions, pride represents a positive self-evaluation (of the actor's action), whereas embarrassment, guilt, regret, remorse, and shame represent negative self-evaluations. Analogously, observer emotions represent evaluations of the observed actions of other persons. For example, admiration, awe, gratitude, elevation, empathy, pity, pride, respect and sympathy evaluate the actions of the observed person as positive, whereas anger, contempt, disgust, indignation, jealousy, scorn and schadenfreude represent negative evaluations of other's actions.

To conclude, the proposed criteria for the classification of moral emotions, target and evaluation, serve as conceptual tools to differentiate the functional aspects of moral emotions: Positive actor emotions (i.e., pride) signal the experiencing person has done something good or praiseworthy and motivate the actor to continue with this behavior. In contrast, negative actor emotions (i.e., embarrassment, guilt, regret, shame) signal the experiencing person has done something wrong or bad, that the person can be blamed and should change the behavior. The same regulative function is applied to observer emotions, except that the evaluative signal in this case is directed at the observed person.

### **Antecedents of Moral Emotions**

Which kinds of cognitive concepts might give rise to this multifold landscape of moral emotions? We will propose a theoretical framework based on Heider's (1958) naïve

action analysis that provides important sufficient conditions for eliciting moral emotions. Therefore, we take a closer look at his concepts of ought, goal attainment, and effort.

### **Ought**

As already stated, it is widely agreed upon that moral emotions require a consideration of good and bad or right and wrong. In addition, these judgments involve a general viewpoint beyond immediate personal interests (Haidt, 2003). Similarly, Heider (1958) has stated that ought is an impersonal concept and refers to relatively stable standards of what “ought” to be done or experienced. These standards are independent of the individual's wishes: "This is not to say that personal wishes do not influence the perception of ought forces; it is rather that they 'should not'; in principle the ought is established by objective requirements [...] and beyond personal concerns." (Heider, 1958, p. 219). The characterization of ought as an impersonal, normative concept also implies that it has interpersonal validity: "Not only should ought disregard personal desires, not only does ought appear in principle unchanged in spite of incidental situational factors, but it is also universal and should look alike to everybody" (Heider, 1958, p. 222). To summarize, the concept of ought refers to morally good versus bad goals or social standards, and is defined as a cognitive representation of an impersonal requirement, invariant across many situations, and transcending the individual's point of view.

### **Goal Attainment**

Morality is not only a matter of what people should do, but also a matter of what they actually do. Furthermore, it is not only important which goals people wish to achieve, but also whether they actually do achieve these goals. As follows from Heider's naïve action analysis, goal attainment is dependent upon "a relatively stable relationship between the person and the environment" (Heider, 1958, p. 84). According to Heider (1958), goal attainment becomes possible when ability and effort exceed both task difficulty and random situational factors. In the moral domain, goal attainment informs us whether a person actually reaches a given standard, that is, whether a generally positive or negative goal is either attained or not attained (see also Roseman, Wiest, & Swartz, 1994, for a differentiation between actions and goals). In sum, ought provides the moral standard concerning what should be done, and goal attainment defines whether the desirable or undesirable goal is attained or not attained.

**Effort**

Given a moral standard (ought) and its attainment or non-attainment, motivational forces located within the acting person may still vary. Within Heider's naïve action analysis, goal attainment is dependent upon a person's ability and effort, task-difficulty, and luck. As Heider (1958) states, the concept of effort is a motivational factor contributing to the effective personal force. While ability, task-difficulty, and luck are not subject to volitional change and are thus uncontrollable, effort has been conceptualized as a controllable cause (e.g., Weiner, 1985). Within the moral domain, freedom of choice and personal controllability are necessary prerequisites for moral evaluations. The concept of effort is closely connected to the volitional forces spent in order to attain a certain goal, i.e., the degree of a person's motivation to attain the goal. Due to the controllability of effort, judgments concerning this concept (the investment of high effort versus the lack of effort) should exert a decisive influence on our moral emotions. We proceed by arguing that different combinations of ought, goal attainment and effort elicit positive or negative moral evaluations that constitute the cognitive basis for the experience of moral emotions.

**Predictions**

As outlined above, we assume that moral emotions communicate positive and negative evaluations of actions, which apply either to one-self (actor emotions) or to observed others (observer emotions). Our central assumption is that these moral emotions are determined to a large extent by the concepts of ought (O), goal-attainment (GA), and effort (E). Thus, we postulate that different combinations of ought, goal attainment and effort provide sufficient conditions for eliciting different moral emotions. Considering positive and negative moral emotions, the following predictions can be derived:

**Positive Moral Emotions**

A certain action should be regarded as 'good' if it conforms to moral standards (O+). A positive outcome (GA+) is likely to further increase the positive evaluation. With respect to effort, it is widely agreed upon that investing effort to attain a positive standard (E+) is positively evaluated (e.g., Matteucci, 2007; Reyna & Weiner, 2001; Weiner & Kukla, 1970). Thus, with respect to one's own actions, a combination of O+, GA+, and E+ should elicit pride, whereas concerning other persons' actions, the same combination should elicit admiration, pride (related to a close other), and respect (see also Lewis, 2000; Tracy, Robins, & Lagattuta, 2005). In contrast, when the goal is not attained (despite the

fact that effort was invested, a combination of O +, GA-, and E+), sympathy should be the prototypical emotion (see also Rudolph et al., 2004).

### **Negative Moral Emotions**

An action is evaluated as 'bad' if it does not follow moral standards (O-). This negative evaluation will be strengthened when a person tries hard (E+) to attain a negative goal, and/or when the negative goal is actually attained (GA+). In addition, an action will be also regarded as 'bad' if it does follow moral standards in the first place (O+), but when no effort is invested to attain the morally positive goal (E-). Moreover, lack of effort becomes most obvious when the goal is not attained (GA-) (Weiner, 2001; Weiner & Kukla, 1970). Emotional reactions related to one's own actions characterized by these combinations of O, GA, and E include embarrassment, guilt, regret and shame (see also Sheikh & Janoff-Bulman, 2010; Tangney & Dearing, 2002). With respect to other persons' actions, observers typically experience anger, contempt, disgust, and indignation (see also Fischer & Roseman, 2007; Rozin et al., 1999). When other persons either pursue positive goals without investing effort or try hard to attain a negatively evaluated goal (O+/E- or O-/E+), schadenfreude is elicited when a goal is not attained (GA -; see also van Dijk et al., 2011).

We will now report four studies analyzing the influence of ought, goal attainment, and effort on the respective moral emotions. In Study 1 and 2, participants receive descriptions of events containing information about ought, goal-attainment and effort, and moral emotions are assessed as dependent variables. As actor and observer emotions require slightly different methodologies, Study 1 investigates moral observer emotions, while moral actor emotions are analyzed in Study 2. In Study 3 and 4, we will employ a different method by analyzing autobiographical recollections of situations that our participants actually experienced.

## **Study 1**

### **Method**

**Participants.** Sixty psychology students (47 female, 13 male) of the University of Chemnitz (Germany) received course credits for participating in this study. Their age ranged from 19 to 46 ( $M = 23.32$ ) years. Sessions were run in groups of 20, using a paper-pencil questionnaire, and lasted approximately 30 minutes.

**Experimental design.** As independent variables, Heider's concepts of ought, goal-attainment and effort were manipulated. First, the normative aspect of the situation (ought) was varied; that is, we informed our participants about another person (referred to as "Max") who wants to attain a highly positive versus a highly negative goal. Second, we varied the concept of goal-attainment by indicating that the person either did or did not reach this goal. Finally, we varied the concept of effort, as this person did invest or did not invest much effort to attain the desired goal. Half of the participants were told that the target person was a close relative or best friend, while the other half were informed that Max was a stranger to them. This resulted in a mixed design, with three within-subjects factors and one between-subjects factor. The resulting eight scenarios were presented in two random sequences to avoid order effects. An overview of the scenarios is given in Appendix A.

As dependent variables, we presented a set of moral observer emotions. These emotions were admiration, anger, contempt, disgust, indignation, pride (here: being proud of someone else), respect, schadenfreude and sympathy<sup>1</sup>. The participants' task was to rate how likely it was that they would feel these emotions. A 7-point rating scale labeled with 0 (*not at all*) and 6 (*extremely*) was provided. The dependent variables were presented in one of two random sequences.

**Procedure.** Within each session, participants were randomly assigned to the respective conditions and received an instruction sheet explaining the overall procedure and introducing the target person (Max). Participants received an explanation of a highly positive versus a highly negative goal. A highly positive goal was defined as an excellent or very praiseworthy prosocial action, such as helping someone, whereas a highly negative goal was defined as a blameworthy or antisocial action, such as aggression. Then, participants were asked to rate the degree to which they experience certain emotions in different individual scenarios presented on the following pages.

## Results

Analyses reveal that there is no influence of age, gender and presentation order on any of the dependent variables. Therefore, we will not consider these factors in the following analyses. According to our experimental design, we analyze the eight conditions by repeated measurement ANOVAs with ought, goal-attainment and effort as within-subjects factors and closeness of relationship as a between-subjects factor. With only one minor exception, no effects are obtained for closeness of relationship<sup>2</sup>. In addition,



hierarchical cluster analyses are used to illustrate differences and similarities between moral emotions.

**Analyses of variance.** ANOVA results and effect sizes are provided in Table 1. As almost all effects are significant according to conventional criteria for significance testing,  $\eta^2$  statistics are reported, indicating the amount of variance explained by each independent variable (main effects) and their respective interactions. Computations of these statistics follow the guidelines provided by Cohen (1973; see also Levine & Hullett, 2002). We follow the conventions proposed by Cohen (1988) referring to effects with  $\eta^2 \geq .099$  as small, effects with  $\eta^2 \geq .059$  as medium, and effects with  $\eta^2 \geq .138$  as large. The respective means for each dependent variable are illustrated in Figure 1 (tables with means and standard deviations are available upon request).

Insert Table 1

Insert Figure 1

When taken together, the three independent variables on average (that is, across all moral observer emotions) explain 57% of variance, ranging from 48% (anger) to 68% (admiration). As can be seen from Table 1, the respective independent variables (ought, goal attainment, and effort) as well as their interactions do not contribute equally to variance explanation: Different main effects and interactions are obtained for the respective observer emotions, with some emotions (e.g., admiration, pride and respect) showing quite similar patterns, while other emotions (e.g., schadenfreude and sympathy) are characterized by unique patterns of mean values for the respective experimental conditions:

*Admiration, pride, and respect* (see Figure 1) are experienced when a positive goal is attained, particularly when a lot of effort was invested. Hence, admiration, pride and respect are determined by main effects of ought (admiration:  $F = 312$ ,  $\eta^2 = .33$ , pride:  $F = 175$ ,  $\eta^2 = .29$ , respect:  $F = 250$ ,  $\eta^2 = .35$ ), goal attainment (admiration:  $F = 204$ ,  $\eta^2 = .12$ , pride:  $F = 128$ ,  $\eta^2 = .06$ , respect:  $F = 126$ ,  $\eta^2 = .06$ ) and effort (admiration:  $F = 120$ ,  $\eta^2 = .08$ , pride:  $F = 107$ ,  $\eta^2 = .09$ , respect:  $F = 125$ ,  $\eta^2 = .10$ ). These main effects are qualified by interactions effects of ought x goal attainment (admiration:  $F = 150$ ,  $\eta^2 = .08$ , pride:  $F = 122$ ,  $\eta^2 = .05$ , respect:  $F = 55$ ,  $\eta^2 = .03$ ): These emotions are also experienced to a moderate degree when another person invested a lot of effort to pursue a positive goal, but

nevertheless did not attain this goal, as can be seen from interactions effects of ought x effort (admiration:  $F = 85$ ,  $\eta^2 = .06$ , pride:  $F = 89$ ,  $\eta^2 = .08$ , respect:  $F = 153$ ,  $\eta^2 = .10$ ).

Furthermore, observers are most likely to feel *sympathy*, when the actor has tried hard to attain a highly positive goal, and nevertheless fail. It is also experienced (although to a lower degree) when a positive goal is not attained and the observed person invested only little effort. Hence, main effects are obtained for ought ( $F = 58$ ,  $\eta^2 = .06$ ), goal attainment ( $F = 287$ ,  $\eta^2 = .18$ ) and effort ( $F = 128$ ,  $\eta^2 = .05$ ). Significant interactions arise for ought x goal attainment ( $F = 250$ ,  $\eta^2 = .16$ ), ought x effort ( $F = 92$ ,  $\eta^2 = .04$ ), goal attainment x effort ( $F = 77$ ,  $\eta^2 = .04$ ) as well as for ought x goal attainment x effort ( $F = 100$ ,  $\eta^2 = .05$ ).

*Anger*, *contempt*, *disgust* and *indignation* emerge predominantly in situations involving a normatively negative goal. Thus, a main effect of ought is obtained (anger:  $F = 185$ ,  $\eta^2 = .39$ , contempt:  $F = 209$ ,  $\eta^2 = .52$ , disgust:  $F = 150$ ,  $\eta^2 = .47$ , indignation:  $F = 271$ ,  $\eta^2 = .46$ ). For *anger*, additional variance is explained by effort ( $F = 32$ ,  $\eta^2 = .02$ ). Moreover, anger, contempt, disgust and indignation are experienced to a higher degree when a negative goal is actually attained, as can be seen from the interaction of ought x goal attainment (anger:  $F = 50$ ,  $\eta^2 = .03$ , contempt:  $F = 32$ ,  $\eta^2 = .01$ , disgust:  $F = 46$ ,  $\eta^2 = .01$ , indignation:  $F = 72$ ,  $\eta^2 = .04$ ). With regard to positive moral standards, interactions of ought x effort are obtained for anger, contempt and indignation: These emotions are more likely when only little effort has been invested to attain a positive goal (anger:  $F = 55$ ,  $\eta^2 = .04$ , contempt:  $F = 48$ ,  $\eta^2 = .01$ , indignation:  $F = 64$ ,  $\eta^2 = .03$ ). Furthermore, slightly lower degrees of these emotions are obtained with regard to negative moral standards when effort was not invested. This occurs for negative goals, regardless of whether these were attained and non-attained.

Finally, *schadenfreude* is most likely when a negative goal is not attained. It is also experienced when a positive goal is not attained and the observed person invested only little effort to attain this goal. Thus, *schadenfreude* is determined by both main effects of goal attainment ( $F = 170$ ,  $\eta^2 = .29$ ) and ought ( $F = 205$ ,  $\eta^2 = .15$ ), as well as interactions of ought x goal attainment ( $F = 127$ ,  $\eta^2 = .10$ ) and ought x effort ( $F = 18$ ,  $\eta^2 = .01$ ).

**Cluster analyses.** Hierarchical Cluster Analyses were used to analyze differences and similarities between moral emotions. The eight situations presented in our scenarios (representing the eight cells of our design, with O+/- \* GA +/- \* T+/-) served as

independent variables. Moral emotions were clustered according to the extent of their occurrence in each of the eight situations. Average linkage was chosen as a cluster algorithm, because it is less influenced by extreme values than other methods, and because it is resistant to several types of potential errors in cluster calculation (Bacher, 2002; Backhaus, 2000; Milligan, 1980; Shao, Tanner, Thompson, & Cheatham, 2007). As we were interested in the similarities of the profiles of the respective emotions rather than their absolute differences, Pearson correlations were used as measure of similarity (Backhaus, 2000; Clatworthy, Buick, Hankins, Weinman, & Horne, 2005). The elbow criterion (Backhaus, 2000) was applied to determine the best cluster solution.

Figure 2 shows the optimal cluster solution for our data, consisting of a two-cluster solution (cluster 1: admiration, pride, and respect; cluster 2: anger, contempt, disgust, and indignation), accompanied by two distinct emotions (sympathy, schadenfreude). The vertical line represents the optimal stopping point in the merging process and was determined by using the elbow criterion.

Insert Figure 2

We assessed the validity and global fit of the cluster solution: First, tests of cluster homogeneity were conducted for each cluster: According to Backhaus (2000),  $F$ -values  $< 1$  indicate good homogeneity. For each cluster, we conducted eight tests of homogeneity, one for each cell of our experimental design. Both clusters can be regarded as homogeneous: Only two of the 16  $F$ -values are slightly higher than 1 (cluster 1:  $F = 1.17$  for O+GA+E-, cluster 2:  $F = 1.13$  for O+, GA-, E-). With regard to the remaining experimental situations, for cluster 1 (admiration, pride, respect) the mean value of homogeneity is  $F = .40$ . For cluster 2 (anger, contempt, disgust, indignation) a mean  $F = .65$  was obtained. Second, as recommended by Backhaus (2000), we replicated the analysis by using different cluster algorithms (e.g., single linkage, complete linkage, median) as well as different distance measures (e.g., Euclidean Distance, Squared Euclidean Distance, Block). Entirely analogous cluster solutions were obtained. To further analyze the global fit of the cluster solution, the cophenetic correlation (Bacher, 2002; Ketchen & Hult, 2000) was calculated. The cophenetic correlation coefficient ( $r_{\text{coph}} = .97, p < .001$ ) shows that our cluster solution provides an excellent fit. To test the reliability of this result, we conducted the same type of cluster analysis by randomly selecting cases from the total sample using “split-half” and “montecarlo” methods. For split-half, a cophenetic correlation of  $r_{\text{coph}} = .96 (p < .001)$  was

obtained. For montecarlo, the cophenetic correlation is  $r_{\text{coph}} = .96$  ( $p < .001$ ). Thus, the reliability of our results can be regarded as very high.

Third, we analyzed the relationships between the two clusters and the two distinct moral emotions: As Figure 2 shows, schadenfreude and sympathy represent distinct emotions that are independent of the respective clusters. However, schadenfreude seems to be more similar to cluster 2, whereas sympathy seems to be more similar to cluster 1. To further investigate these similarities, we correlated the two distinct emotions with the two clusters. Schadenfreude is positively correlated to cluster 2 ( $r = .38$ ,  $p < .001$ ) and negatively correlated to cluster 1 ( $r = -.37$ ,  $p < .001$ ). In contrast, sympathy shows a positive correlation with cluster 1 ( $r = .12$ ,  $p < .05$ ) and a negative correlation with cluster 2 ( $r = -.15$ ,  $p < .05$ ). As already mentioned, we also conducted cluster analyses using distance measures (e.g., the mean squared Euclidian distance, mEd<sup>2</sup>) to compare the differences of the two distinct emotions with regard to the two clusters. Schadenfreude shows greater distance to cluster 1 (admiration, pride, respect) and less distance to cluster 2 (anger, contempt, disgust, indignation), whereas sympathy shows greater distance to cluster 2 and less distance to cluster 1 (a summary of the respective distance values is available upon request).

To conclude, results imply that the obtained cluster solution represents an excellent global fit. Additionally, the data indicate that sympathy is more similar to cluster 1, whereas schadenfreude is more similar to cluster 2. Finally, the present cluster analyses clearly replicate the analyses of variance described above: Emotions belonging to the same cluster show similar patterns within the respective ANOVAs (see Figure 1). Before discussing these results in detail, we now turn to the cognitive antecedents of moral actor emotions.

## Study 2

### Method

**Participants.** Sixty-one psychology students (45 female, 16 male) from the University of Chemnitz, Germany, received course credit for participating in this study. Their age ranged from 19 to 46 ( $M = 23.57$ ) years. Sessions were run in groups of five (using a paper-pencil questionnaire) and lasted approximately 30 minutes.

**Experimental design.** As in Study 1, we varied the concepts of ought (a highly positive versus a highly negative goal), goal-attainment (participants imagined that they

did or did not manage to reach this goal), and effort (participants imagined they had invested a lot of versus only little effort to achieve this goal). Scenarios were written in second person perspective, for example: "You want to attain a highly positive goal. You succeed. You invested a lot of effort to attain this goal." (see Appendix A). Hence, in contrast to Study 1, participants were asked to imagine themselves as conducting the relevant action, and to evaluate their own emotions as an actor. As dependent variables, participants evaluated moral actor emotions, i.e., embarrassment, guilt, pride, regret, and shame. Again, participants' task was to rate how likely it would be that they feel these emotions (see also Footnote 2). An 8-point rating scale labeled with 0 (*not at all*) and 7 (*extremely*) was provided. Randomization, presentation of materials, and procedure were identical to Study 1.

## Results

As in Study 1, we analyzed the eight scenarios by 2 x 2 x 2 repeated measurement ANOVAs with the factors ought, goal attainment, and effort. In addition, we conducted hierarchical Cluster Analyses to explore differences and similarities between the moral actor emotions. The same statistical criteria for both ANOVAs and Cluster Analyses were chosen as in Study 1. Again, analyses revealed no influence of age, gender and presentation order on any of the dependent variables.

**Analyses of variance.** ANOVA results and effect sizes are provided in Table 2; mean evaluations for the respective emotions can be seen from Figure 3 (tables with means standard deviations are available upon request). As in Study 1, the amount of variance explained by the three independent variables is large, ranging from  $\eta^2 = .26$  (regret) to  $.72$  (pride). Again, the respective independent variables do not contribute equally to the prediction of the emotions.

Insert Table 2

Insert Figure 3

*Embarrassment, guilt, and shame* are typically experienced when a goal is not attained, especially for positive goals. Hence, these emotions are determined by main effects of goal attainment (embarrassment:  $F = 139$ ,  $\eta^2 = .26$ , guilt:  $F = 91$ ,  $\eta^2 = .15$ , shame:  $F = 125$ ,  $\eta^2 = .20$ ) and ought (guilt:  $F = 34$ ,  $\eta^2 = .06$ , regret:  $F = 30$ ,  $\eta^2 = .07$ , shame:  $F = 21$ ,  $\eta^2 = .03$ ). Moreover, with regard to non-attained positive goals, embarrassment and guilt are even stronger when only little effort had been invested,

whereas shame is stronger when a lot of effort had been invested, as can be seen from the interactions of ought x effort (embarrassment:  $F = 16$ ,  $\eta^2 = .01$ , guilt:  $F = 43$ ,  $\eta^2 = .02$ , shame:  $F = 22$ ,  $\eta^2 = .01$ ). Embarrassment, guilt, and shame are additionally characterized by an interaction of ought x goal attainment, as they are also experienced when negative goals are attained (embarrassment:  $F = 40$ ,  $\eta^2 = .06$ , guilt:  $F = 151$ ,  $\eta^2 = .13$ , shame:  $F = 94$ ,  $\eta^2 = .10$ ).

The data pattern for *regret* is similar to the patterns of embarrassment, guilt, and shame; however, there are some differences as well. First, regret is not only determined by main effects of ought ( $F = 30$ ,  $\eta^2 = .07$ ) and goal attainment ( $F = 55$ ,  $\eta^2 = .05$ ), but also by a main effect of effort ( $F = 49$ ,  $\eta^2 = .02$ ). Thus, regret is experienced (at least to some degree) for all negative goals; however, it is most likely for the non-attainment of positive goals, and even more so if only little effort had been invested. These observations are supported by interactions of ought x goal attainment ( $F = 51$ ,  $\eta^2 = .06$ ), ought x effort ( $F = 43$ ,  $\eta^2 = .02$ ), and an interaction of ought x goal attainment x effort ( $F = 23$ ,  $\eta^2 = .01$ ).

*Pride* is experienced when both positive and negative goals are actually attained, even more so for positive goals when high effort was invested. That is, pride does not only depend on goal attainment ( $F = 544$ ,  $\eta^2 = .53$ ), but also on ought ( $F = 88$ ,  $\eta^2 = .05$ ) and effort ( $F = 74$ ,  $\eta^2 = .03$ ). These main effects are further qualified by interactions of ought x goal attainment ( $F = 96$ ,  $\eta^2 = .06$ ), ought x effort ( $F = 37$ ,  $\eta^2 = .01$ ), and goal attainment x effort ( $F = 59$ ,  $\eta^2 = .02$ ).

**Cluster analyses.** As in Study 1, we analyzed our data by means of cluster analyses, using the same statistical criteria. For moral actor emotions, one cluster consisting of embarrassment, guilt, shame, and regret was obtained (see Figure 4). Tests of homogeneity (conducted separately for the eight cells of our design) revealed that two of eight F-values are slightly above 1 ( $F = 1.03$  for O-GA+T+ and  $F = 1.04$  for O-GA+T-), overall, however, this cluster is highly homogeneous (mean  $F = .76$ ).

Insert Figure 4

As can be seen from Figure 4, regret is merged later into the cluster as compared to embarrassment, guilt, and shame (thus indicating some difference, as also suggested by the ANOVAs). However, regret still shows a positive average correlation ( $r = .71$ ,  $p < .001$ ) with the other members of the cluster. In contrast, pride is a highly distinct emotion, which is underlined by the negative correlation to cluster 1 ( $r = -.56$ ,  $p < .001$ ).

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The cluster solution is confirmed when using different cluster algorithms and distance measures. The cophenetic correlation of  $r_{\text{coph}} = .99$  ( $p < .001$ ) shows a very good global fit. The results are completely replicated for the split half ( $r_{\text{coph}} = .99$ ,  $p < .001$ ) as well as for the montecarlo ( $r_{\text{coph}} = .99$ ,  $p < .001$ ) method.

### **Discussion of Study 1 and Study 2**

To summarize, our main hypothesis is supported by the data: The three factors identified by Heider's naïve action analysis – ought, goal-attainment and effort – explain a large amount of variance in the emergence of moral emotions. For the observer emotions, ought is the factor explaining the largest amount of variance. Negative observer emotions (anger, contempt, disgust, indignation) are almost exclusively explained by ought. For positive observer emotions, goal attainment and effort explain substantial amounts of additional variance. That is, for negative goals (O-), it is less important whether this goal has actually been attained and how much effort the observed person invested. Exceptions from this rule are schadenfreude and sympathy, which depend on goal-attainment and effort as well.

It is striking that another data pattern is found for actor emotions: Here, goal-attainment exerts the strongest influence. Hence, moral standards seem to be more readily applied to other people than to oneself. Both informational as well as self-serving reasons may account for this finding: On one hand, when persons judge themselves, more information – e.g., potential excuses, additional reasons, or mitigating circumstances for not adhering to social norms – is available, thus subjectively reducing the ought-component. A self-serving bias (for a summary, see Malle, 2006) may play a role here as well: Hence, situational factors for not adhering to moral standards can be seen as self-serving, and may lead to a greater influence of goal-attainment within the moral-emotional landscape of the actor. In contrast, situational components for not adhering to moral standards might be salient only to a lesser degree from the observer perspective; therefore, moral standards are applied more strictly to other people.

Thus far, we have used abstract scenarios, and participants received only minimal information about the respective situations. Although previous research indicates that this method does not necessarily influence the obtained results (e.g., Ekman, 1984; Rudolph et al., 2004; Wilson, 1982; 1985), our goal now is to investigate whether the present findings are obtained for more realistic situations as well. Therefore, in Study 3 and 4, we will use

situations that are derived from autobiographical recollections involving the respective moral emotions.

### Study 3

#### Method

**Participants.** Seventy-five psychology students (60 female, 15 male) of the University of Chemnitz received course credits for participating in this study. Their age ranged from 18 to 46 ( $M = 22.00$ ).

**Experimental design.** As in Study 1 and 2, Heider's concepts of ought, goal attainment, and effort were varied as independent variables. In contrast to Studies 1 and 2, we used 16 scenarios describing real-life events in which the manipulations of the three variables were presented. Furthermore, we varied the involvement of the observer (see Hauser, 2006): That is, we selected eight situations characterized by a receiver perspective (i.e., the reader of the scenario being the target of the action of the observed person). In contrast, the remaining eight situations involved an observer perspective (i.e., the reader being a mere observer). The resulting selection of situations is provided in Appendix B. As dependent variables, participants rated to which degree they felt admiration, anger, contempt, indignation, pride, respect, schadenfreude, and sympathy elicited by the scenarios<sup>3</sup>. Situations were presented in two random sequences, with each scenario on a separate sheet.

**Procedure.** To generate a sample of situations in which our three variables were correctly manipulated, we proceeded as follows: (1) We generated five scenarios for each combination of ought, goal attainment and effort by asking randomly selected respondents ( $N = 24$ ) to autobiographically recollect events in which they had experienced any moral emotions. (2) Subsequently, we asked 10 independent raters to assess these situations with regard to ought, goal attainment, and effort. Raters were asked to rate the normative aspect of the situation (ought), the degree of goal attainment, and the invested effort (effort) for each scenario by using 6-point rating scales anchored at both ends (ought: 1 = *very negative*, 6 = *very positive*; goal attainment: 1 = *goal not attained at all*, 6 = *goal completely attained*; effort: 1 = *no effort*, 6 = *high effort*). (4) We chose the 16 scenarios with the best ratings (highest vs. lowest values) according to the intended manipulations, two for each combination of ought, effort and goal attainment, respectively.



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Participants received an instruction sheet explaining the overall procedure and rating scales. They were asked to imagine the situations as vividly as possible and to evaluate the degree to which they would experience the different moral emotions in the respective situation. A 6-point rating scale anchored at both ends (1 = *not at all*) and (6 = *very strongly*) was provided. As a manipulation check (using the same rating scale), participants were asked to rate the normative aspect of the situation (ought), the goal attainment, and the invested effort (effort) for each specific scenario.

## Results

As for Studies 1 and 2, we conducted 2 x 2 x 2 repeated measures ANOVAS and hierarchical cluster analyses. Furthermore, to allow for comparisons between Studies 1 and 3, correlation analyses were performed. Additionally, mixed ANOVAS and *t*-tests were conducted to investigate potential influences of control variables and to assess the quality of our experimental manipulation.

**Control variables and manipulation checks.** Analyses reveal that there is no influence of gender and presentation order on any of the dependent variables. Therefore, we will not consider these factors in the following analyses. In addition, we conducted manipulation checks to ensure that ought, goal attainment, and effort were manipulated as intended. For this purpose, *t*-tests for dependent samples were conducted, comparing means of the two variations of each independent variable. (1) The positive ought conditions received significant higher ratings ( $M = 5.78$ ,  $SD = .27$ ) as compared to the negative ought conditions ( $M = 1.29$ ,  $SD = .40$ ),  $t(74) = 64.90$ ,  $p < .001$ ,  $d = 13.2$ . (2) The “goal attained” conditions received significant higher ratings ( $M = 5.82$ ,  $SD = .28$ ) as compared to the “goal not attained” conditions ( $M = 1.66$ ,  $SD = .44$ ),  $t(74) = 62.87$ ,  $p < .001$ ,  $d = 11.3$ . (3) The high effort condition received significant higher ratings ( $M = 5.58$ ,  $SD = .36$ ) as compared to the low effort conditions ( $M = 2.07$ ,  $SD = .78$ ),  $t(74) = 33.13$ ,  $p < .001$ ,  $d = 5.7$ . Finally, the factor “perspective” revealed only minor effects with very small effect sizes. Thus, for the sake of simplicity and better comparability of the studies, we will not include “perspective” as a factor within the following analyses.

**Analyses of variance.** ANOVA results and effect sizes are provided in Table 3. The respective means for each dependent variable are illustrated in Figure 5 (tables with means and standard deviations are available upon request).

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Insert Table 3

Insert Figure 5

As in the previous studies, the amount of explained variance is large: The three independent variables on average explain 64% of variance, ranging from 37% (sympathy) to 81% (admiration). Again, some emotions show similar patterns (e.g., admiration, pride and respect), while other emotions (e.g., schadenfreude and sympathy) are characterized by unique ANOVA patterns.

*Admiration, pride, and respect* are experienced when a positive goal is attained, and even more so when effort had been invested. Hence, admiration, pride and respect are determined by main effects of ought (admiration:  $F = 1138$ ,  $\eta^2 = .41$ , pride:  $F = 177$ ,  $\eta^2 = .21$ , respect:  $F = 892$ ,  $\eta^2 = .43$ ), goal attainment (admiration:  $F = 479$ ,  $\eta^2 = .18$ , pride:  $F = 77$ ,  $\eta^2 = .09$ , respect:  $F = 279$ ,  $\eta^2 = .14$ ) and effort (admiration:  $F = 89$ ,  $\eta^2 = .02$ , pride:  $F = 96$ ,  $\eta^2 = .04$ , respect:  $F = 150$ ,  $\eta^2 = .04$ ), qualified by significant interactions of ought x goal attainment (admiration:  $F = 424$ ,  $\eta^2 = .16$ , pride:  $F = 114$ ,  $\eta^2 = .12$ , respect:  $F = 260$ ,  $\eta^2 = .13$ ). These emotions are also experienced to a moderate degree when another person invested a lot of effort vis-à-vis a positive goal, but nevertheless did not attain this goal, as can be seen from significant interactions of ought x effort (admiration:  $F = 73$ ,  $\eta^2 = .02$ , pride:  $F = 119$ ,  $\eta^2 = .04$ , respect:  $F = 101$ ,  $\eta^2 = .03$ ).

Furthermore, observers are most likely to feel *sympathy* when the actor had tried hard to attain a positive goal and nevertheless failed. Sympathy is also felt, but to a substantially lower degree, when a positive goal is not attained and the observed person invested only little effort. Thus, for sympathy, there are main effects for ought ( $F = 21$ ,  $\eta^2 = .03$ ), goal attainment ( $F = 183$ ,  $\eta^2 = .11$ ), and effort ( $F = 64$ ,  $\eta^2 = .04$ ), qualified by significant interactions for ought x goal attainment ( $F = 146$ ,  $\eta^2 = .11$ ), ought x effort ( $F = 50$ ,  $\eta^2 = .04$ ), goal attainment x effort ( $F = 15$ ,  $\eta^2 = .01$ ), and for ought x goal attainment x effort ( $F = 49$ ,  $\eta^2 = .03$ ).

*Anger, contempt, and indignation* most typically arise in situations involving a normatively negative goal. Thus, for all these emotions, a main effect of ought is obtained (anger:  $F = 653$ ,  $\eta^2 = .43$ , contempt:  $F = 900$ ,  $\eta^2 = .61$ , indignation:  $F = 1020$ ,  $\eta^2 = .56$ ). Moreover, anger, contempt, disgust and indignation are also experienced when a positive goal is not attained and no effort had been invested, as confirmed by interactions of effort x goal attainment (anger:  $F = 39$ ,  $\eta^2 = .01$ , contempt:  $F = 35$ ,  $\eta^2 = .01$ , indignation:  $F = 70$ ,  $\eta^2 = .01$ ).

= .02) and ought x goal attainment (anger:  $F = 234$ ,  $\eta^2 = .10$ , contempt:  $F = 65$ ,  $\eta^2 = .03$ , indignation:  $F = 134$ ,  $\eta^2 = .06$ ). Anger and indignation are also reported (again, to a much lower degree) when a person did not attain a positive goal but had invested a lot of effort. Thus, main effects for goal attainment (anger:  $F = 140$ ,  $\eta^2 = .08$ , indignation:  $F = 57$ ,  $\eta^2 = .03$ ) and effort (anger:  $F = 146$ ,  $\eta^2 = .04$ , indignation:  $F = 82$ ,  $\eta^2 = .03$ ) are obtained for these two emotions.

*Schadenfreude* is most likely to occur when a normatively negative goal is not attained, especially if the other person tried hard to attain this goal. Thus, *schadenfreude* is determined by both main effects of goal attainment ( $F = 158$ ,  $\eta^2 = .20$ ) and ought ( $F = 105$ ,  $\eta^2 = .13$ ), as well as interactions of ought x goal attainment ( $F = 61$ ,  $\eta^2 = .09$ ) and goal attainment x effort ( $F = 19$ ,  $\eta^2 = .01$ ).

**Cluster analyses.** As for Studies 1 and 2, we used hierarchical Cluster Analyses to explore differences and similarities between different moral emotions. To allow for comparisons between Studies 1 and 2, the same statistical procedures and methods were used. Apart from the fact that disgust is no longer investigated, the structure of the cluster solution is identical to the cluster solution in Study 1: Admiration, pride, and respect constitute cluster 1 and cluster 2 contains anger, contempt, and indignation: *Schadenfreude* and sympathy are distinct emotions. (Due to space limitations, we do not present a Figure for this cluster solution; the dendrogram is available upon request)

Tests of cluster homogeneity, which were again conducted separately for the eight cells of our experimental design, indicate that both clusters are homogenous: Only two of the 16 F-values were slightly higher than 1 (both cases occurred for O+GA-T+;  $F = 1.01$  for cluster 1,  $F = 1.04$  for cluster 2). For cluster 1 (admiration, pride, respect) a mean value of  $F = .35$  is obtained. For cluster 2 (anger, contempt, indignation) the mean value is  $F = .48$ . The cophenetic correlation of  $r_{\text{coph}} = .95$  ( $p < .001$ ) confirms that our cluster solution represents an excellent fit. The high reliability of this result is demonstrated when using the split half ( $r_{\text{coph}} = .94$ ,  $p < .001$ ) as well as the montecarlo method ( $r_{\text{coph}} = .94$ ,  $p < .001$ ).

Again, we also analyzed the relationships between the two clusters and the two distinct moral emotions. *Schadenfreude* – comparable to the results obtained for the abstract scenarios in Study 1 – appears to be more similar to cluster 2, whereas sympathy appears to be more similar to cluster 1: *Schadenfreude* is positively correlated to cluster 2 ( $r = .27$ ,  $p < .001$ ) and negatively correlated to cluster 1 ( $r = -.27$ ,  $p < .001$ ). No correlations

were found for sympathy. However, in contrast to Study 1, schadenfreude and sympathy show slightly greater distances ( $mEd^2$ ) to cluster 2 (anger, contempt, indignation) and smaller distances to cluster 1 (admiration, pride, respect). (The exact  $mEd^2$  statistics are available upon request).

Taken together, these results imply that the two clusters are highly homogeneous and that our cluster solution has a very good global fit. Only for the analyses of the relationships between the two distinct emotions and the two clusters, the results are not as clear as for Study 1.

**Similarities between Study 1 and 3.** In order to compare the results of Studies 1 (abstract scenarios) and 3 (realistic situations), the standardized mean values obtained for each of the situations characterized by the respective combinations of ought, goal attainment, and effort were correlated separately for each emotion. Data were z-standardized prior to correlations to allow for comparisons. For all emotions, very large effects were obtained (admiration:  $r = .95, p < .001$ , pride:  $r = .95, p < .001$ , respect:  $r = .93, p < .01$ , sympathy:  $r = .80, p < .05$ , anger:  $r = .89, p < .01$ , contempt:  $r = .97, p < .001$ , indignation:  $r = .81, p < .05$ , schadenfreude:  $r = .95, p < .001$ ). Thus, we assume that both studies measured the same constructs and that Study 3 represents a successful replication of Study 1. We will now report the corresponding study investigating the concepts of ought, goal attainment, and effort in realistic contexts for moral actor emotions.

## Study 4

### Method

**Participants.** Fifty-one psychology students (42 female, 9 male) of the University of Chemnitz received course credits for participating in this study. Their age ranged from 18 to 46 ( $M = 22.29$ ).

**Experimental design.** As in the studies before, Heider's concepts of ought, goal attainment, and effort were varied as independent variables. We used the same 16 situations as in Study 3 (see Appendix B); however, we transformed the items from the observer into an actor perspective. For example, a situation with a positive ought, high effort, and attained goal is: "You want to be a good mother/father. You have to work very hard in your job, but you spend every spare minute with your children and care a lot. The children are doing very well and are very happy."

As dependent variables, we presented a set of moral actor emotions. These emotions were embarrassment, guilt, pride, regret, and shame.

**Procedure.** We used same instructions and procedures as in Study 3. The only difference was that participants received two situations for each combination of ought, effort and goal attainment, because there is only one perspective for actor situations.

## Results

As for previous Studies, we conducted 2 x 2 x 2 repeated measures ANOVAS and hierarchical cluster analyses. As in Study 3 we also conducted correlation analyses to assess the similarities between Studies 2 and 4. Additionally, once again, mixed ANOVAS and *t*-tests were conducted to assess the quality of our experimental manipulations and the potential influence of control.

**Control variables and manipulation checks.** Analyses reveal that there is no influence of gender and presentation order on any of the dependent variables. Therefore, we will not consider these factors in the following analyses.

First, we conducted a manipulation checks to ensure that ought, effort, and goal attainment were manipulated as intended. For this purpose, *t*-tests for dependent samples were conducted, comparing means of the two variations of each independent variable. The positive ought conditions received significant higher ratings ( $M = 5.77$ ,  $SD = .35$ ) as compared to the negative ought conditions ( $M = 1.28$ ,  $SD = .34$ ,  $t(50) = 50.82$ ,  $p < .001$ ,  $d = 13.4$ ), the high effort condition received significant higher ratings ( $M = 5.52$ ,  $SD = .40$ ) as compared to the low effort conditions ( $M = 2.20$ ,  $SD = .75$ ,  $t(50) = 25.94$ ,  $p < .001$ ,  $d = 5.5$ ), and the goal attained conditions received significant higher ratings ( $M = 5.73$ ,  $SD = .34$ ) as compared to the goal not attained conditions ( $M = 1.32$ ,  $SD = .41$ ,  $t(50) = 47.59$ ,  $p < .001$ ,  $d = 11.8$ ).

**Analyses of variance.** ANOVA results and effect sizes are provided in Table 4. The respective means for each dependent variable are illustrated in Figure 6 (corresponding tables with means and standard deviations are available upon request).

Insert Table 4

Insert Figure 6

The amount of explained variance is large, ranging from  $\eta^2 = .88$  (pride) to  $\eta^2 = .56$  (regret). Embarrassment, guilt, regret, and shame show very similar patterns when

analyzed according to the independent variables, while pride is characterized by a unique pattern.

*Embarrassment, guilt, regret, and shame* are experienced when someone tried to do something negative. Hence, these emotions are determined by main effects of ought (embarrassment:  $F = 35$ ,  $\eta^2 = .05$ , guilt:  $F = 86$ ,  $\eta^2 = .13$ , regret:  $F = 116$ ,  $\eta^2 = .21$ , shame:  $F = 113$ ,  $\eta^2 = .17$ ). They are also experienced when positive goals are not attained, and therefore are also determined by main effects of goal attainment (embarrassment:  $F = 493$ ,  $\eta^2 = .47$ , guilt:  $F = 356$ ,  $\eta^2 = .27$ , regret:  $F = 133$ ,  $\eta^2 = .16$ , shame:  $F = 346$ ,  $\eta^2 = .27$ ) and interaction of ought x goal attainment (embarrassment:  $F = 63$ ,  $\eta^2 = .06$ , guilt:  $F = 575$ ,  $\eta^2 = .25$ , regret:  $F = 178$ ,  $\eta^2 = .13$ , shame:  $F = 190$ ,  $\eta^2 = .17$ ). These emotions are even stronger, when only little effort was invested in a positive goal which is further qualified by interactions of ought x effort (embarrassment:  $F = 25$ ,  $\eta^2 = .01$ , regret:  $F = 22$ ,  $\eta^2 = .01$ , shame:  $F = 49$ ,  $\eta^2 = .01$ ), effort x goal attainment (guilt:  $F = 33$ ,  $\eta^2 = .01$ , regret:  $F = 41$ ,  $\eta^2 = .01$ ) and ought x goal attainment x effort (embarrassment:  $F = 39$ ,  $\eta^2 = .02$ , regret:  $F = 34$ ,  $\eta^2 = .02$ , shame:  $F = 28$ ,  $\eta^2 = .01$ ).

*Pride* is experienced when both positive and negative goals are actually attained, even more so, when the goal was positive and high effort was invested. Thus, pride does not only depend on ought (pride:  $F = 494$ ,  $\eta^2 = .19$ ), but also on goal attainment (pride:  $F = 822$ ,  $\eta^2 = .48$ ), and effort (pride:  $F = 50$ ,  $\eta^2 = .01$ ). These main effects are qualified by interactions of ought x goal attainment (pride:  $F = 476$ ,  $\eta^2 = .19$ ) and goal attainment x effort (pride:  $F = 49$ ,  $\eta^2 = .01$ ).

**Cluster analyses.** As in Study 2, we obtained one cluster consisting of embarrassment, guilt, shame, and regret. Again, pride represents a distinct emotion. (The shape of the dendrogram closely resembles the shape of the Figure 4. The corresponding Figure is available upon request). Tests of cluster homogeneity (again, conducted separately for the eight experimental cells constituted by ought, goal attainment, and effort) revealed that none of the F-values was greater than 1, indicating that this cluster is highly homogeneous (mean  $F = .50$ ). Pride, again, is a highly distinct emotion, as confirmed by the negative correlation with cluster 1 ( $r = -.79$ ,  $p < .001$ ). This cluster solution was confirmed using different cluster algorithms and distance measures (e.g., mEd<sup>2</sup>). The cophenetic correlation of  $r_{\text{coph}} = .99$  ( $p < .001$ ) shows an excellent global fit. Again, results were entirely replicated when using split half ( $r_{\text{coph}} = .99$ ,  $p < .001$ ) and montecarlo ( $r_{\text{coph}} = .99$ ,  $p < .001$ ) methods.

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**Similarities between Study 2 and 4.** As for the comparison of moral observer emotions, we correlated the z-standardized mean values of the moral actor emotions obtained for abstract scenarios (Study 2) and descriptions of real life events (Study 4). Large effects were obtained for all emotions (embarrassment:  $r = .96, p < .001$ , guilt:  $r = .98, p < .001$ , regret:  $r = .97, p < .001$ , shame:  $r = .94, p < .01$ , pride:  $r = .89, p < .01$ ). The overall correlation of  $r = .82, p < .001$  further underlines the great resemblance of the results of both studies.

### **Discussion of Studies 3 and 4**

To summarize, Study 3 and 4 replicated and extended Study 1 and 2 in several important ways. Studies 3 and 4 revealed that the concepts ought, goal attainment and effort are important determinants of moral emotions when analyzing autobiographical recollections of situations characterized by high ecological validity. The amount of variance explained by these concepts is even higher for these realistic scenarios as compared to the abstract stimulus materials.

The general data patterns are quite similar for Studies 1 and 3 on the one hand and Studies 2 and 4 on the other hand. A common feature of all these findings (across all studies) is that the moral standard (ought) explains the largest amount of variance within the group of observer emotions, whereas goal attainment is the most powerful predictor within the group of actor emotions. For some emotions, however, we found some differences between abstract and realistic stimulus materials:

In case of anger, goal attainment and effort are more important for the realistic situations, especially as more anger is experienced when positive goals are not attained. This is probably due the fact that the realistic scenarios, as intended, facilitate the activation of the emotion (see also Robinson & Clore, 2002). Schadenfreude and sympathy, in contrast, are experienced to a (relatively) lesser degree when using realistic stimulus materials. This might be because some relevant predictors of these emotions have not been manipulated in these scenarios, for example, we did not vary the status of the interaction partners or the deservingness of the non-attainment of the goal for the receiver (e.g., Feather, 1999; Feather & Sherman, 2002), nor hostile feelings or gender of target (e.g., van Dijk, Ouwerkerk, Goslinga, Nieweg, & Gallucci, 2006).

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## General Discussion

In the present paper, we studied the genesis of moral emotions; targets of our analysis were admiration, anger, contempt, disgust, embarrassment, guilt, indignation, pride, regret, respect, schadenfreude, shame and sympathy. Therefore, we varied the moral standards underlying an action (ought), whether the desired goal was actually attained (goal attainment), and whether effort was invested or not (effort). The present results confirm that Heider's (1958) concepts of ought, goal-attainment, and effort explain large amounts of variance in these moral emotions. In addition, the target of the moral-emotional evaluation is important: From the perspective of the moral observer (when judging other persons), the valence of the goal (ought) is the most powerful predictor of moral emotions. From the perspective of the moral actor (when judging one's own actions), in contrast, goal attainment is the most powerful predictor. The degree of effort a person invested in order to attain a positive or negative goal plays a slightly larger role for observers as compared to actors. Thus, from a traditional philosophical point of view, our emotional judgments referring to the actions of others are influenced more strongly by the rather deontological considerations inherent in the concepts of ought and effort (Kant, 1785/1998). In contrast, when evaluating our own actions, consequentialist considerations (goal attainment) are given greater importance (see Bentham, 1789/2010; Mill, 1863/2009). Furthermore, Lewis (2000) argues that both pursuing a negative goal as well as not investing effort into a positive goal constitutes internalized standards or rules according to which one's own actions (actor emotions) or the actions of others (observer emotions) are evaluated. This also implies that ought and effort share certain similarities which – as we have seen – may be traced back to their common deontological background. When these internalized standards (pursuing good oughts and investing effort) are met, positive moral emotions will occur; when they are not fulfilled, negative emotions are elicited. As our data show, these principles are more readily applied to observer than to actor emotions.

Based on these empirical results, we now propose (1) a classification of moral emotions and (2) pathways for future research in this domain.

### A Classification of Moral Emotions

For decades, the field of moral psychology was dominated by a Kantian approach, that is, the analysis of reasoning processes underlying moral judgments. Recent research



emphasized the role of moral emotions within these processes (e.g., Greene et al., 2001; Haidt, 2001). While several authors proposed preliminary theoretical classifications of moral emotions (Haidt, 2003; Tangney et al., 2007; Weiner, 2006), the present research offers the opportunity to test these theoretical propositions with respect to common-sensical (or, in Heider's terms) naïve conceptualization of moral emotions (see also Kelley, 1992). As becomes clear now, several moral emotions have similar cognitive antecedents and can be grouped in joint clusters. Other emotions show distinct combinations of the antecedent cognitions, but still share certain similarities with some of the emotions investigated. In what follows, we will briefly describe these results by taking a closer look at the respective classes of moral emotions with regard to target (actor vs. observer moral emotions) and evaluative content (positive vs. negative).

**Positive observer emotions.** Admiration, pride, and respect are strongly connected to the attainment of highly positive goals, especially when high effort has been invested. To a moderate degree, these emotions are also experienced when positive goals are attained in the absence of effort. Likely, effort and ability are regarded as being compensatory (Heider, 1958). Hence, effortless goal attainment will be attributed to high ability: We do not only admire, respect or feel proud of other people for investing effort (a cause regarded as being controllable, Weiner, 1995, 2006), but also for their ability (regarded as being uncontrollable). In addition, these emotions also emerge (although to a lesser degree) when a normatively positive goal is not attained while high effort was present, which underlines the positive evaluation of the action (investing effort).

Sympathy is connected to a highly specific pattern of ought, goal-attainment, and effort: We predominantly feel sympathy when someone tries hard to attain a positive goal and nevertheless fails, representing a positive evaluation of the actor's behavior. Sympathy may also be experienced (although to a substantially lower degree) when effort had not been invested, which confirms Weiner's (2006) argument that people are sympathetic towards others who are "unable" and whose plight is "uncontrollable" (and therefore cannot invest any effort), such as the physically or mentally handicapped.

Interestingly, moderate degrees of positive moral emotions even occur for non-attained positive goals, and negative moral emotions even occur when positive goals are attained – given that effort was *not* invested. Here we can see the evaluative function of moral emotions most clearly: Despite the fact that a person was not successful, the morally positive behavior is appreciated by eliciting positive moral emotions. Consequently, a

successful person elicits a certain degree of negative moral emotions if the person did not invest effort to attain this positive goal.

**Negative observer emotions.** Anger, contempt, disgust, and indignation are most strongly experienced vis-à-vis negative goals that are actually attained. Moderate degrees of these emotions are also obtained (especially for indignation and anger) when a person pursues a negative goal without attaining it. Finally, these moral emotions emerge when a positive goal was not attained due to the lack of effort. Again, these findings underline Weiner's (2006, p. 92) statement that "anger is a value judgment following from the belief that one 'could and should have done otherwise'." In contrast, *schadenfreude* is most strongly experienced when another person does not attain a negative goal, regardless of whether the actor tried hard or not. In addition, some degree of *schadenfreude* is also experienced when a positive goal is not attained because the actor invested only little effort. Apparently, people do not deserve to attain any negative goal (regardless of how much they tried), and (to a lesser degree) they not deserve to attain a positive goal when effort is absent (see also Hareli & Weiner, 2002).

**Positive actor emotions.** Similar to its observer counterpart, pride is most strongly experienced when highly positive goals are attained due to high effort, underlining the positive evaluative function of pride. However, moderate pride is also experienced for the attainment of positive goals in the absence of effort and for the attainment of negative goals. According to Tangney (1990) as well as Tracy et al. (2005), we distinguish between alpha pride (pride related to one's personal self; see also Lewis, 2000) and beta pride (being proud of one's own behavior). Whereas beta pride is supposed to result from attributions to internal, unstable, controllable causes (i.e., effort, according to our analysis), alpha pride results from attributions to internal, stable, uncontrollable causes (e.g., ability, as derived from effortless goal-attainment). We find almost no pride for situations including characterized by the non-attainment of a goal (regardless of ought and effort). Admiration and respect are experienced (to a certain degree) when effort was invested for non-attained positive goals, representing a positive evaluation of this behavior.

**Negative actor emotions.** Embarrassment, guilt, regret, and shame are most strongly experienced for non-attainment of positive goals and in the absence of effort. As for negative observer emotions, the negative evaluation of lack of effort becomes obvious. In addition, moderate degrees of these emotions are obtained for negative goals, regardless of goal attainment and effort, as well as for the non-attainment of positive goals when

effort was invested. In light of previous research analyzing the differences between these moral emotions (e.g., Haidt, 2003; Tangney & Dearing, 2002; Tangney et al., 2007; Weiner, 2006), it is agreed upon that shame, guilt, and embarrassment as self-conscious emotions are experienced in social contexts and function as a means of behavioral regulation and to avoid negative sanctions from others. The present data suggest that a great amount of the similarities in these negative moral actor emotions can be traced back to the cognitive antecedents of ought, goal-attainment, and effort.

Our results can be summarized as follows:

Positive Observer Emotions (i.e., admiration, pride, respect, sympathy) predominantly occur for positive ought and the presence of effort (i.e., high effort).

Negative Observer Emotions (i.e., anger, contempt, disgust, indignation, schadenfreude) are predominantly elicited by negative ought and the absence of effort).

Positive Actor Emotions (e.g., pride) are most likely to occur for the attainment of positive goals, especially in the presence of high effort.

Negative Actor Emotions (e.g., shame, guilt, regret) are typically caused by negative ought or the non-attainment of positive goals.

In sum, we suggest that ought, goal-attainment, and effort are powerful sufficient conditions determining the emergence of moral emotions. However, this is not to say that these factors are their only determinants. For example, much research has been devoted to the differences between guilt and shame (e.g., Fromson, 2006; Lewis, 1971; Niedenthal, Tangney & Gavanski, 1994; Silfver, 2007; Tangney, 1991; Tangney & Dearing, 2002; Tangney & Fischer, 1995; Tangney, Miller, Flicker, & Barlow, 1996), offering important additional insights (e.g., Feather & Sherman, 2002; Fischer & Roseman, 2007; Smith & Kim, 2007; Tracy & Robins, 2007). The value of the present research is to offer a comprehensive framework of the moral-emotional landscape, on which more specific analyses, including additional determinants of specific emotions, can be based.

### **Future Research**

In the present studies on the genesis of moral emotions, we have analyzed two new concepts, that is, the concepts of goal-attainment and effort. Early studies mainly focused (1) on the moral standards underlying the actions under consideration, and (2) the reasoning and emotional processes giving rise to moral judgments (see Kohlberg, 1969; Greene et al., 2001; Haidt, 2001). According to our results, moral standards indeed lie at

the very heart of moral judgments. However, the one-sided focus on moral standards seems to disregard some essential information that is accessible to naïve actors and observers. In light of our findings it becomes apparent that goal-attainment and effort indeed are powerful (additional) predictors of moral emotions as well. Taken together, the three concepts of ought, goal-attainment, and effort (as well as their respective interactions) give rise to a large variety of research questions:

First of all, future research should analyze the influence of ought, goal-attainment, and effort on moral behavior. It seems plausible to assume that approach and avoidance as well as reward and punishment vary as a function of the moral standard of a goal, goal-attainment, and effort.

Second, and closely connected to this question, research is needed to elucidate the motivational (i.e., functional) status of moral emotions with respect to moral actions. From an evolutionary point of view, it is reasonable to assume that moral emotions evolved to motivate persons to engage in moral behavior (Greene, 2003). In line with this view, studies on helping behavior and aggression from an attributional viewpoint revealed that these behavioral reactions are predominantly mediated by the experience of sympathy and anger (prototypical moral emotions; see Rudolph et al., 2004). With regard to cooperation, the motivational function of guilt and shame has also been investigated (de Hooge, Zeelenberg, & Breugelmans, 2007; Ketelaar & Au, 2003). Equivalent empirical research on the motivational function of other moral emotions is still missing, however.

Third, it became apparent that the Heiderian concepts of ought, goal-attainment, and effort divide the landscape of moral emotions into meaningful clusters. On the other hand, further research is needed to understand the (probably more subtle) differences of those emotions that map into one and the same cluster. For example, further research is needed to fully understand the differences between admiration, respect, and pride – which build a joint cluster according to their antecedents of ought, goal attainment, and effort, but nevertheless may differ concerning additional antecedents (e.g., status relations) and/or behavioral consequences.

Fourth, it becomes also evident that one and the same emotion can be elicited by a variety of different antecedent conditions. For example, anger is given vis-à-vis persons pursuing negative goals, but also for non-attainment of a positive goal in the absence of effort. Thus, a promising direction for future research is to analyze especially prototypical

situations eliciting the respective emotion especially clearly. Autobiographical recollections of moral emotions and situations might be a promising methodology to answer these questions.

Fifth, we did not provide an empirical distinction between moral and non-moral emotions, rather, the selection of moral emotions discussed in our study was based on literature research. On the basis of the proposed theoretical framework it should be possible to design studies analyzing the differences between moral and non-moral emotions. For example, it seems reasonable that for the elicitation of non-moral emotions (e.g., joy or sadness) goal attainment should be more important than for the elicitation of moral emotions. Again, this is in line with the consequentialist point of view (Bentham, 1789/2010; Mill, 1863/2009) that focuses on the attainment of desirable goals. The rather deontological concepts of ought and effort should play a minor role for the emergence of non-moral emotions (see Kant, 1785/1998).

In sum, we believe that the comprehensive theoretical framework presented here provides a useful tool for future research. From this basis, we will be able (1) to better understand the common underlying concepts of moral emotions, and (2) to further explore the idiosyncratic determinants of specific moral emotions beyond their common characteristics as they have been outlined in the present research.

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## Footnotes

1. We did not include close synonyms (remorse as actor emotion, and empathy, pity, and scorn as observer emotions) as well as emotions which typically occur in highly specific contexts (awe, elevation, gratitude, jealousy). Moreover, we did not include envy because we do not consider this emotion as a moral emotion: As Smith & Kim (2007) noted, envy is characterized by subjective feelings of inferiority produced by social comparison. This implies standards for comparison are not universal (moral), but personal. In contrast to moral emotions, envy does not judge actions as moral or non-moral, but is rather highly dispositional and therefore strongly dependent on personality.
2. Among 11 possible main effects and 33 possible first order interactions of closeness of relationship, just one was significant, explaining only little variance in the data (pride:  $F(1,57) = 3.59, p < .05, \eta^2 < .01$ ).
3. We excluded disgust from study 3 and 4 because this emotion is also connected to highly specific contexts (Gutierrez & Giner-Sorolla, 2007) and thus difficult to assess with scenarios which should elicit a wide range of possible emotions.

Table 1

*Analyses of Variance for Observer Emotions (Study 1): F-Values and  $\eta^2$  (Main Effects and Interactions) for Ought, Goal Attainment, and Effort*

Emotion	Source														$\eta^2_{Treat}$	$\eta^2_{Between}$	$\eta^2_{Error}$	
	Ought		Goal Attainment		Effort		Ought x Goal Attainment		Ought x Effort		Goal Attainment x Effort		Ought x Goal Attainment x Effort					
	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$				
Admiration	312.24***	.33	203.79***	.12	119.96***	.08	149.72***	.08	84.79***	.06	2.53	.00	< 1	.00	.68	.07	.25	
Anger	185.20***	.39	1.93	.00	31.82***	.02	50.16***	.03	54.81***	.04	< 1	.00	2.07	.00	.48	.21	.31	
Contempt	208.68***	.52	14.31***	.00	2.58	.00	32.19***	.01	48.08***	.01	2.68	.00	< 1	.00	.56	.20	.24	
Disgust	149.78***	.47	41.23***	.01	9.16**	.00	45.99***	.01	11.90***	.00	2.23	.00	< 1	.00	.49	.24	.27	
Indignation	271.07***	.46	8.62**	.00	30.50***	.01	72.48***	.04	64.01***	.03	< 1	.00	< 1	.00	.55	.19	.26	
Pride	175.26***	.29	128.25***	.06	107.35***	.09	122.46***	.05	88.96***	.08	10.01**	.00	5.64*	.00	.57	.15	.28	
Respect	249.92***	.35	126.38***	.06	124.68***	.10	54.56***	.03	152.84***	.10	< 1	.00	< 1	.00	.64	.08	.28	
Schadenfreude	204.57***	.15	170.15***	.29	11.16***	.01	126.79***	.10	17.86***	.01	7.63***	.00	20.07***	.01	.57	.13	.30	
Sympathy	57.70***	.06	287.27***	.18	128.30***	.05	250.06***	.16	92.16***	.04	76.56***	.04	99.73***	.05	.58	.17	.25	
<b><i>M</i> (<math>\eta^2</math>)</b>		<b>.34</b>		<b>.08</b>		<b>.04</b>		<b>.06</b>		<b>.04</b>		<b>.00</b>		<b>.01</b>		<b>.57</b>	<b>.16</b>	<b>.27</b>

*Note.*  $\eta^2$  = explained variance for each individual factor in the experimental design;  $\eta^2_{Treat}$  = explained variance by treatment factor,  $\eta^2_{Between}$  = percentage inter-subject variance,  $\eta^2_{Error}$  = percentage error variance, \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ , all  $df = (1,59)$ .

Table 2

*Analyses of Variance for Actor Emotions (Study 2): F-Values and  $\eta^2$  for Main effects and Interactions for Ought, Goal Attainment, and Effort*

Emotion	Source															$\eta^2_{Treat}$	$\eta^2_{Between}$	$\eta^2_{Error}$
	Ought		Goal Attainment		Effort		Ought x Goal Attainment		Ought x Effort		Goal Attainment x Effort		Ought x Goal Attainment x Effort					
	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$				
Embarrassment	6.69**	.00	139.36***	.26	3.12	.00	39.88***	.06	15.58***	.01	10.53**	.01	< 1	.00	.34	.29	.37	
Guilt	34.44***	.06	90.69***	.15	8.99**	.00	151.26***	.13	43.28***	.02	3.15	.00	4.43*	.00	.37	.25	.38	
Pride	88.28***	.05	543.70***	.53	73.78***	.03	95.93***	.06	36.81***	.01	59.22***	.02	13.07***	.00	.72	.07	.21	
Regret	29.58***	.07	54.49***	.05	48.79***	.02	51.00***	.06	42.77***	.02	21.74***	.00	22.51***	.01	.26	.34	.40	
Shame	20.99***	.03	125.21***	.20	1.96	.00	94.11***	.10	21.47***	.01	5.88*	.00	2.02	.00	.34	.33	.33	
<i>M</i> ( $\eta^2$ )		<b>.04</b>		<b>.24</b>		<b>.01</b>		<b>.08</b>		<b>.01</b>		<b>.01</b>		<b>.00</b>	<b>.41</b>	<b>.25</b>	<b>.34</b>	

Note.  $\eta^2$  = variance for each individual factor in the experimental design;  $\eta^2_{Treat}$  = variance explained by treatment factor,  $\eta^2_{Between}$  = percentage of inter-subject variance,  $\eta^2_{Error}$  = percentage error variance, \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ , all  $df = (1,60)$ .

Table 3

*Analyses of Variance for Observer Emotions in Realistic Scenarios: F-Values and  $\eta^2$  (Main Effects and Interactions) for Ought, Goal Attainment, and Effort*

Emotion	Source															$\eta^2_{Treat}$	$\eta^2_{Between}$	$\eta^2_{Error}$
	Ought		Goal Attainment		Effort		Ought x Goal Attainment		Ought x Effort		Goal Attainment x Effort		Ought x Goal Attainment x Effort					
	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$				
Admiration	1138.36***	.41	479.31***	.18	89.12***	.02	423.66***	.16	72.45***	.02	39.34***	.01	53.44***	.01	.81	.03	.15	
Anger	652.95***	.43	140.81***	.08	146.93***	.04	233.62***	.10	114.37***	.03	53.02***	.02	124.79***	.03	.73	.07	.20	
Contempt	899.98***	.61	6.89*	.00	5.23*	.00	64.51***	.03	66.13***	.03	34.74***	.01	16.91***	.00	.68	.11	.21	
Indignation	1020.89***	.56	56.76***	.03	82.37***	.03	134.08***	.06	77.61***	.02	70.00***	.02	56.08***	.02	.74	.08	.18	
Pride	177.02***	.21	76.82***	.09	96.41***	.04	114.50***	.12	119.49***	.04	.39***	.00	.55	.00	.50	.13	.37	
Respect	892.11***	.43	279.59***	.14	150.30***	.04	260.16***	.13	100.64***	.03	22.90***	.00	36.24***	.01	.78	.04	.18	
Schadenfreude	105.48***	.13	158.00***	.20	10.00**	.00	60.80***	.09	3.16	.00	18.68***	.01	9.78**	.00	.43	.08	.47	
Sympathy	20.83***	.03	183.05***	.11	64.24***	.04	146.47***	.11	50.50***	.04	15.37***	.01	49.16***	.03	.37	.21	.41	
<b>M (<math>\eta^2</math>)</b>		<b>.36</b>		<b>.10</b>		<b>.02</b>		<b>.10</b>		<b>.02</b>		<b>.02</b>		<b>.02</b>	<b>.64</b>	<b>.9</b>	<b>.26</b>	

Note.  $\eta^2$  = explained variance for each individual factor in the experimental design;  $\eta^2_{Treat}$  = explained variance by treatment factor,  $\eta^2_{Between}$  = percentage inter-subject variance,  $\eta^2_{Error}$  = percentage error variance, \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ , all  $df = (1,59)$ .

Table 4

*Analyses of Variance for Actor Emotions in Realistic Scenarios: F-values and  $\eta^2$  (Main Effects and Interactions) for Ought, Goal Attainment, and Effort*

Emotion	Source														$\eta^2_{Treat}$	$\eta^2_{Between}$	$\eta^2_{Error}$
	Ought		Goal Attainment		Effort		Ought x Goal Attainment		Ought x Effort		Goal Attainment x Effort		Ought x Goal Attainment x Effort				
	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$	F	$\eta^2$			
Embarrassment	34.67**	.05	492.55***	.47	2.91	.00	62.61***	.06	25.41**	.01	2.83	.00	39.37**	.02	.61	.15	.23
Guilt	85.61***	.13	355.52***	.27	31.14**	.01	574.50***	.25	2.21	.00	33.35**	.01	10.34*	.00	.67	.12	.20
Pride	493.81***	.19	821.83***	.48	49.94***	.01	475.62***	.19	.03	.00	49.33***	.01	1.35	.00	.88	.03	.10
Regret	115.54***	.21	132.70***	.16	44.92***	.02	178.31***	.13	22.33**	.01	41.02***	.01	33.58**	.02	.56	.17	.27
Shame	113.28***	.17	346.12***	.27	3.29	.00	189.82***	.14	48.96***	.01	3.89	.00	28.48**	.01	.60	.17	.23
<i>M</i> ( $\eta^2$ )		<b>.15</b>		<b>.33</b>		<b>.01</b>		<b>.15</b>		<b>.00</b>		<b>.00</b>		<b>.01</b>	<b>.66</b>	<b>.13</b>	<b>.21</b>

*Note.*  $\eta^2$  = explained variance for each individual factor in the experimental design;  $\eta^2_{Treat}$  = explained variance by treatment factor,  $\eta^2_{Between}$  = percentage inter-subject variance,  $\eta^2_{Error}$  = percentage error variance, \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ , all  $df = (1,59)$ .

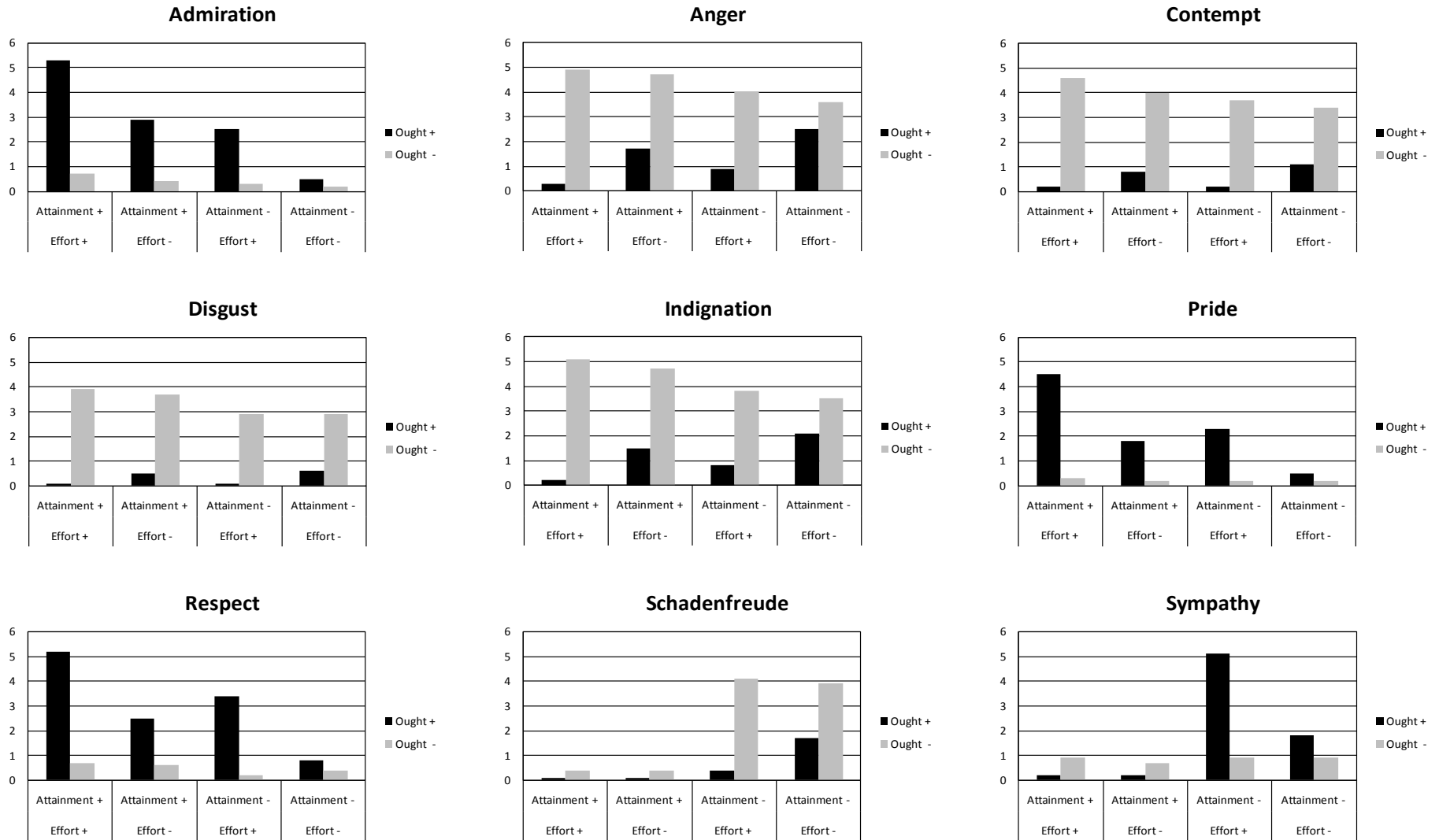


Figure 1. Mean Values for Moral Observer Emotions in Study 1.



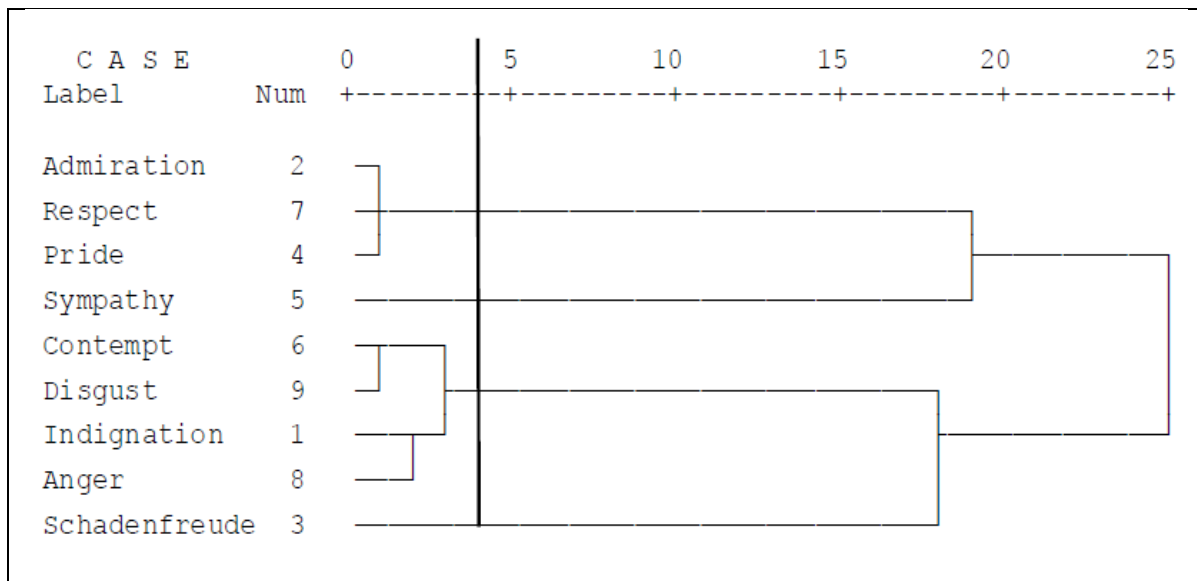


Figure 2. Cluster Analysis (Dendrogram) for Moral Observer Emotions (Study 1).

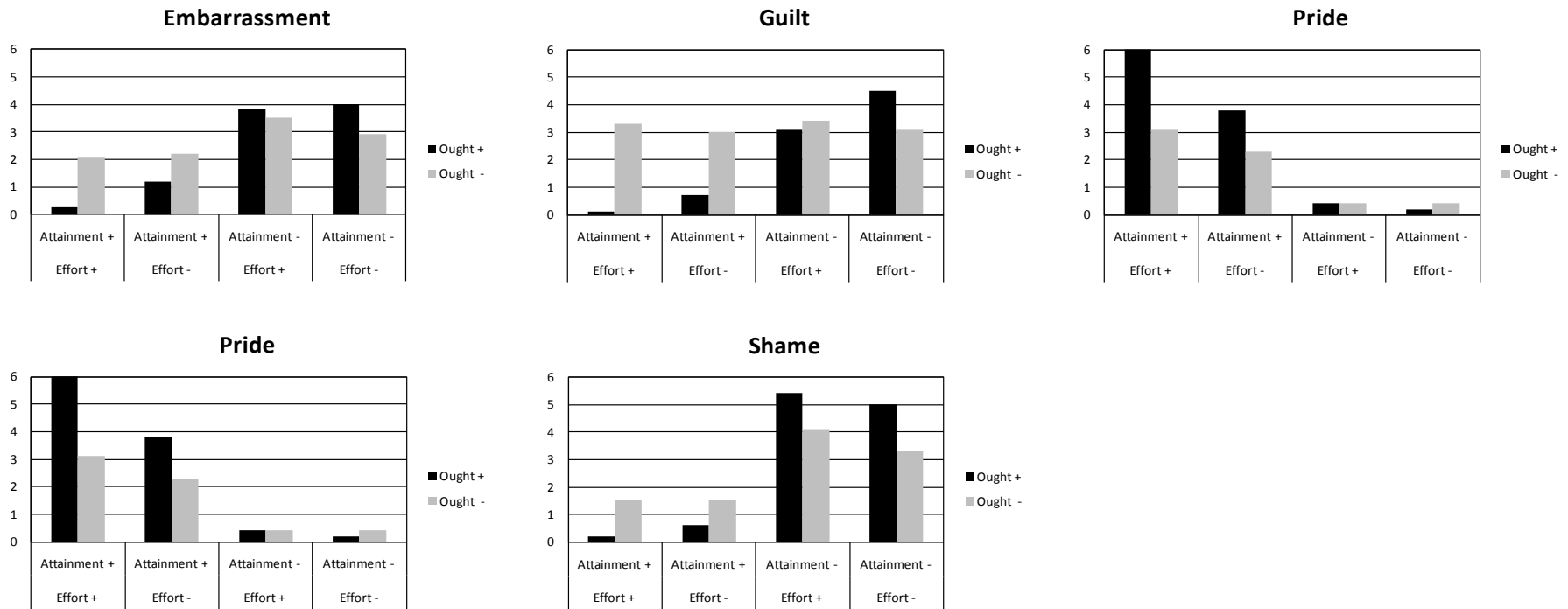


Figure 3. Mean Values for Moral Actor Emotions in Study 2.

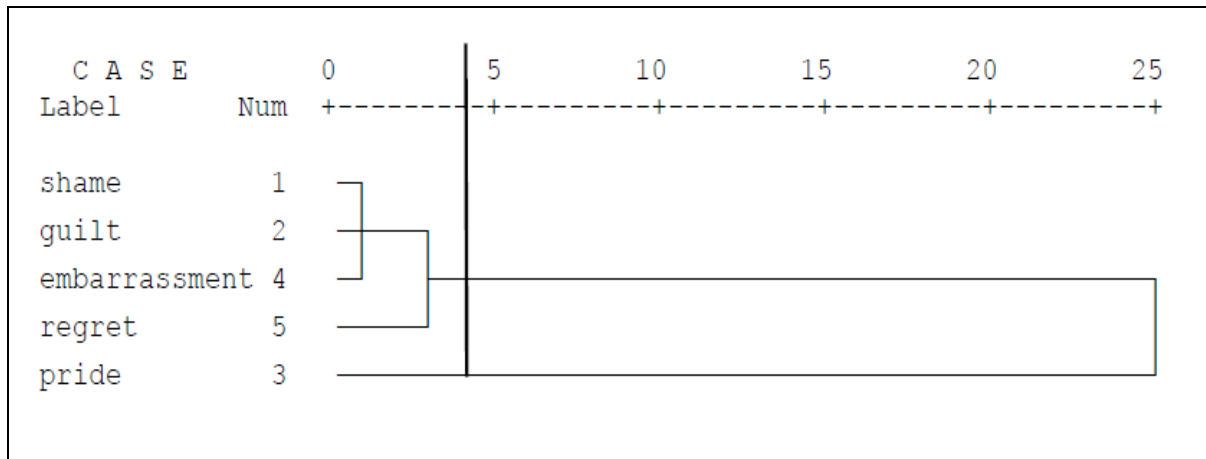


Figure 4. Cluster Analysis (Dendrogram) for Moral Actor Emotions (Study 2).

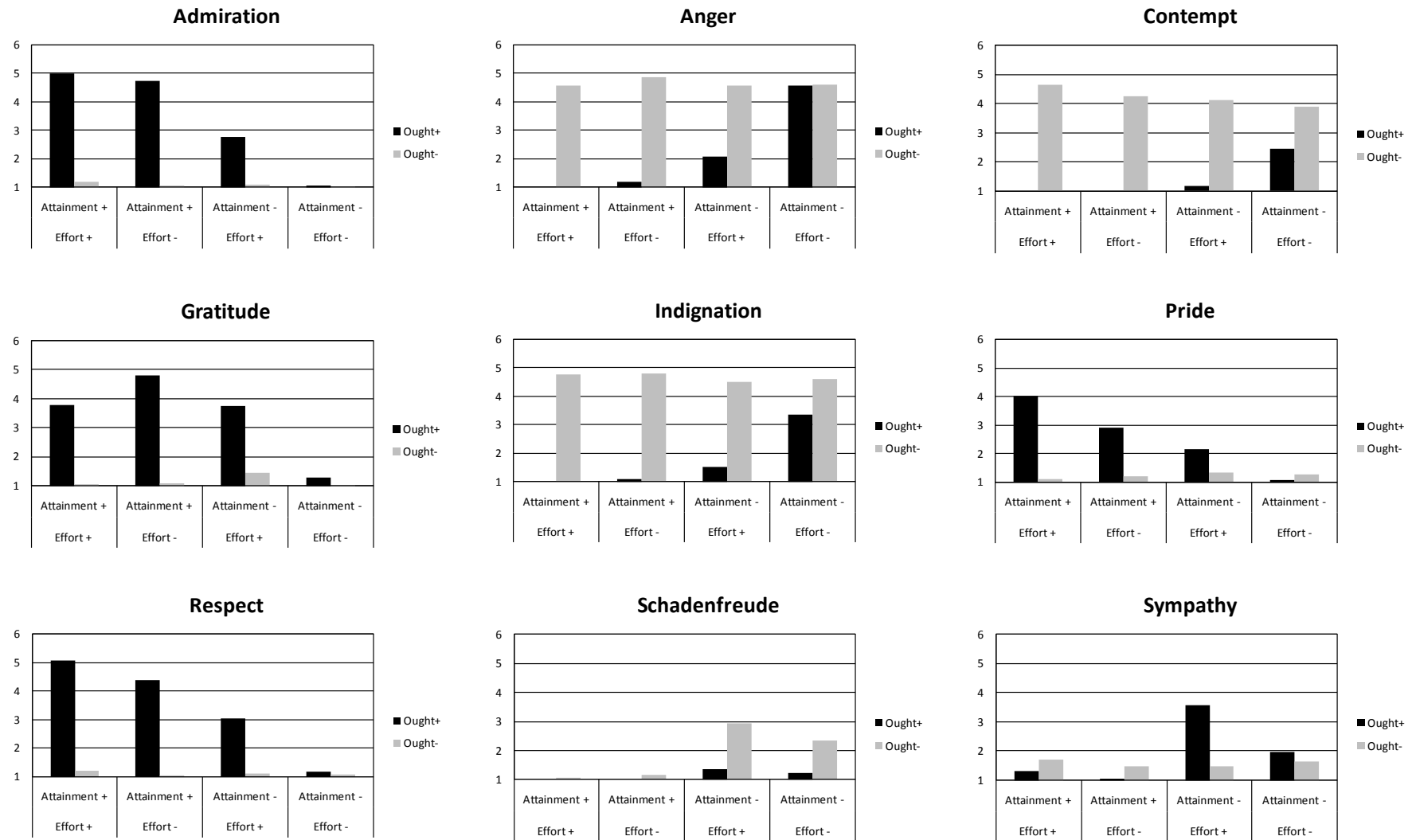


Figure 5. Mean Values for Moral Observer Emotions in Study 3.

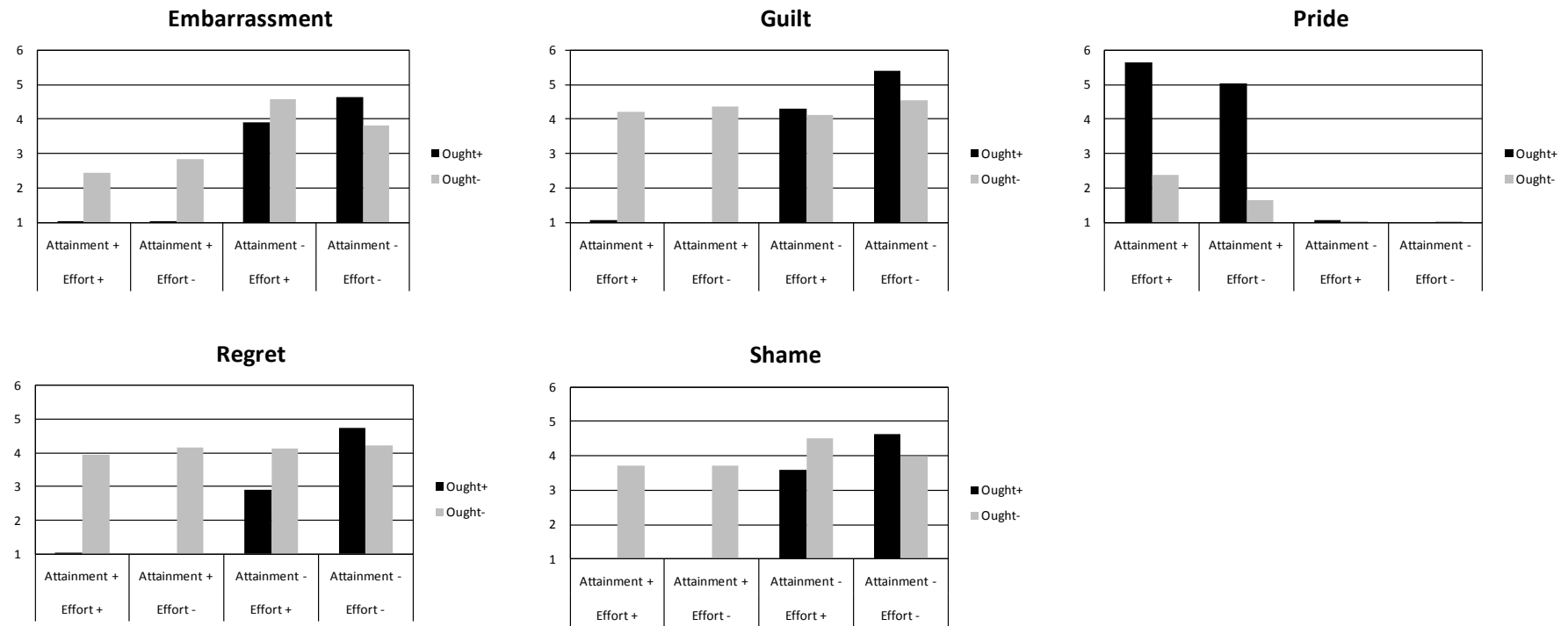


Figure 6. Mean Values for Moral Actor Emotions in Study 4.

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## Appendix A

### Study 1:

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1. Max wants to attain a highly positive goal. He succeeds. He invested a lot of effort to attain this goal.
  2. Max wants to attain a highly positive goal. He succeeds. He invested only little effort to attain this goal.
  3. Max wants to attain a highly positive goal. He fails. He invested a lot of effort to attain this goal.
  4. Max wants to attain a highly positive goal. He fails. He invested only little effort to attain this goal.
  5. Max wants to attain a highly negative goal. He succeeds. He invested a lot of effort to attain this goal.
  6. Max wants to attain a highly negative goal. He succeeds. He invested only little effort to attain this goal.
  7. Max wants to attain a highly negative goal. He fails. He invested a lot of effort to attain this goal.
  8. Max wants to attain a highly negative goal. He fails. He invested only little effort to attain this goal.
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### Study 2

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1. You want to attain a highly positive goal. You succeed. You invested a lot of effort to attain this goal.
  2. You want to attain a highly positive goal. You succeed. You invested only little effort to attain this goal.
  3. You want to attain a highly positive goal. You fail. You invested a lot of effort to attain this goal.
  4. You want to attain a highly positive goal. You fail. You invested only little effort to attain this goal.
  5. You want to attain a highly negative goal. You succeed. You invested a lot of effort to attain this goal.
  6. You want to attain a highly negative goal. You succeed. You invested only little effort to attain this goal.
  7. You want to attain a highly negative goal. You fail. You invested a lot of effort to attain this goal.
  8. You want to attain a highly negative goal. You fail. You invested only little effort to attain this goal.
-

## Appendix B

### Realistic Scenarios

Combination	Scenarios
Ought + Effort + Goal Attainm. +	(1) Your partner wants to please you. He spends all day cooking. Finally, he surprises you with an excellent meal. (2) Sabine wants to be a good mother. After work she devotes every spare minute to the upbringing of her children. Her children are developing very well.
Ought + Effort - Goal Attainm. +	(1) Your car has broken down and no mechanic has been able to help you. A friend offers his help. After taking a short glance under the unsealed cowling, he is able to solve the problem in no time at all. (2) Tom wants to help Simon with his computer that keeps crashing. While watching soccer together and without going to any great lengths, Tom enters a couple of instructions. By doing so, the computer is repaired, quickly.
Ought + Effort + Goal Attainm. -	(1) A friend of yours, a biology student, wants to help you banish rats from your cellar. He collects information on the best method available, monitors the rats behaviour und finally begins the banishment. A week later, the rats have returned to your cellar. (2) Max has a dripping faucet and Fritz wants to help. He spends several hours working under the sink, trying to repair it. At the end of the day, the faucet is dripping again.
Ought + Effort - Goal Attainm. -	(1) An acquaintance wants to take you to the train station. He does not set his alarm and is late. You miss the train. (2) Since Paula grandmother is not able hang up curtains alone anymore, Paula offers to help her. She is not concentrated, keeps looking out of the window and does not hear her grandmother's explanations on the best approach to the problem. At the end, Paula tears the newly sown curtains.
Ought - Effort + Goal Attainm. +	(1) An acquaintance wants to harm you. He goes to great lengths to win your friends over. Now you find yourself abandoned. (2) Moritz is carrying on an affair and wants to keep on doing so, without telling his fiancé. He uses well-considered excuses and plans the whole thing extremely carefully. Thus, his fiancé continues to trust him and he is able to carry on his affaire.
Ought - Effort - Goal Attainm. +	(1) Two adolescences want to damage your new car. Without any effort they pull out a key and scratch your car in passing. Your car now has a long scratch. (2) Bert wants to steal 50 Euro. At some point while he is alone at home, he sees his mum's billfold on the kitchen table. He steals the money quickly and with ease. He does not get caught.
Ought - Effort + Goal Attainm. -	(1) A colleague wants to bad-mouth you. He repeatedly goes to great lengths to think of new vulgarities, to gossip about your way of working and to spread rumours. Even so, all other colleagues stand by you. (2) In a crowded streetcar, a boy does not want to give his seat to a frail, elderly lady. For a long time, he defends his seat with great vigour. Finally, he must stand up because the conductor rebukes him.
Ought - Effort - Goal Attainm. -	(1) In Vienna a taxi driver wants to fool you and charges way too much money from you. Without going to great effort, he airily names a wrong price. Since you are familiar with the prices you detect the swindle and pay the adequate price. (2) Mr. Meier does not want to play with his little sun, since he wants to have his peace and quiet. Every time his sun wants to play with or talk to Mr. Meier, he says that his sun should shut up. He does not take the effort to explain why he does not want to play or talk. Consequently, his sun behaves increasingly rebellious towards him instead of becoming more quite.

*Note.* + = positive or present, - = negative or absent; (1) = Receiver, (2) = Observer

**Moral Emotions at School**

Katrin Schulz, Nadine Tscharaktschiew, Udo Rudolph

Chemnitz University of Technology, Germany

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## Abstract

Willingness to invest effort at school is a question of morality within a social setting: To obey or not obey the “norm of effort” has important social consequences, e.g., reward, popularity, rejection or punishment. We suggest that the norm of effort gives rise to a variety of socially related emotions of a special kind, the “moral emotions”. Three studies investigate the impact of achievement results, effort, and ability on moral emotions within the school setting, including admiration, pride, respect, sympathy, anger, contempt, indignation, and schadenfreude from the perspective of teachers ( $N = 60$ ), elementary school students ( $N = 88$ ) and high school students ( $N = 191$ ). Results reveal a commonly shared code of behavior for these different groups: The genesis of moral emotions is strongly determined by result and effort, whereas the impact of ability is comparatively small. Obtained differences in emotion ratings between the student and teacher samples as well as specific characteristics of the respective emotions are discussed.

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## Moral Emotions at School

School is a social setting. Such a social setting is characterized by norms that regulate behavior (Haidt, 2007; Ostermann, 2000). Previous studies have highlighted one such norm regulating achievement behavior, namely the “norm of effort” (e.g., Matteucci, 2007; Weiner, 2003): According to the norm of effort, students should work hard and try to do as well as possible. As a consequence, students who invest much effort are rewarded, whereas students who invest only little or no effort are likely to be punished (e.g., Weiner & Kukla, 1970). The norm of effort also influences the goals and the severity of the punishment: The more a student is held responsible for a bad result at school (because the student did not invest any effort), the more retributive is the punishment (Matteucci, 2007; Reyna & Weiner, 2001; Weiner, Graham, & Reyna, 1997). Therefore, teachers’ assessments of their students are in fact not solely determined by students’ achievements; rather, teachers evaluate whether the student conformed to a certain norm of achievement behavior: Thus, moral considerations influence the feedback given to students.

Students are well aware of the prominent role of effort, and understand this principle early during their school careers. For example, elementary school students believe that teachers prefer those children who invest much effort; hence, they desire to be hard workers. Within this age group, diligent students are considered more popular among their peers (Barker & Graham, 1987; Harari & Covington, 1981). In contrast, it is well documented that students in higher grades judge diligent students as less popular, and low effort promotes peer popularity (Eckert, 1989; Fordham & Ogbu, 1986; Juvonen, 2000). These students still wish to portray themselves as diligent to their teachers, but no longer to their peers (Juvonen, 2000; Juvonen & Murdock, 1995). Hence, both younger and older students obviously know the norm of effort very well, although this norm is evaluated and applied differently.

Willingness to invest effort at school is therefore a moral question within a social setting: To obey or not obey the norm of effort predicts social consequences, e.g., reward, popularity, rejection or punishment. We suggest that the norm of effort gives also rise to a variety of socially related emotions, the so-called „moral emotions“ (Haidt, 2003; Hareli & Parkinson, 2008; Hareli & Weiner, 2002; Rudolph, Schulz, & Tscharaktschiew 2011; Tangney, Stuewig, & Mashek, 2007). These emotions arise when actions are considered to be “good or bad, right or wrong” (Weiner, 2006) and include – to mention a few examples

– admiration, indignation, sympathy, and schadenfreude (joy in the misfortune of others). Thus far, we know little about the role of these emotions in achievement contexts and about emotional reactions of teachers and classmates towards the achievement behavior of other students in general (Graham, 1991; Meyer & Turner, 2006; Schutz & Pekrun, 2007).

The present studies investigate the role of moral emotions within the achievement context. We assume that the emotional reactions concerning achievement results are influenced by the norm of effort, although this norm may be understood and applied in different ways by teachers and students of different age groups.

### **Moral Emotions in Achievement Contexts**

Moral emotions have been classified with respect to their direction (Haidt, 2003; Tangney Stuewig, & Mashek, 2007; Weiner, 2006). Some of these emotions are self-directed and experienced with respect to our own actions, as for example shame and guilt. In contrast, some emotions are other-directed and refer to the actions of other persons, for example admiration and indignation. In the present studies, we will focus on other-directed moral emotions, that is, on the evaluation of achievement results and their perceived causes by others. Moreover, moral emotions can be classified according to their evaluative content (Rudolph et al., 2011): Some other-directed moral emotions evaluate the actions of others as being positive (e.g. admiration, pride, respect and sympathy), whereas other moral emotions represent a negative evaluation of the actions of others (e.g. anger, contempt, schadenfreude and indignation).

Theoretical considerations about moral emotions in achievement contexts have been presented by Hareli and Weiner (2002) and Weiner (2007), with attributional theory (Heider, 1958; Weiner, 1995) providing a theoretical framework. These considerations emphasize the underlying causal structure of achievement outcomes and the important role of effort and ability in predicting emotional reactions such as sympathy and anger in achievement contexts (Weiner, 1995). In line with the suggestions provided by Hareli and Weiner (2002), we will now outline our predictions for specific moral emotions within the achievement setting:

#### **Positive Moral Emotions**

**Pride.** Typically, pride is experienced in response to success in different areas, such as achievement contexts, sports or social relations (Tracy & Robins, 2007). In achievement

contexts, pride is influenced by internal attributions, that is, when the self is credited as the cause of the event (Lewis, 2008; Smith & Lazarus, 1993; Roseman, 1991; Weiner, 1986). Furthermore, Nurmi (1991) has demonstrated that pride is experienced more strongly when success is attributed to effort as compared to ability. Recent research indicates that pride is not only linked to one's own success, but also to the success of others (Chipperfield, Perry, Weiner, & Newall, 2009). Consequently, pride is also related to the positive outcome of another person who invested a lot of effort and is therefore responsible for the outcome (i.e., the outcome is seen as deserved; see Feather, 2006).

**Admiration and respect.** People are admired for several reasons, e.g., outstanding achievements, praiseworthy personal qualities or high moral standards (Schlenker, Weigold, & Schlenker, 2008). Although admiration in achievement contexts is typically experienced in response to a deserved success (Hareli & Weiner, 2000; Feather, 2006), admiration is not only linked to effort, but also elicited by perceptions of high ability (Hareli, Weiner, & Yee, 2006). Thus, admiration should arise when success is ascribed either to high effort or high ability. Moreover, respect shares highly similar characteristics with pride and admiration (Rudolph et al., 2011), and therefore should emerge in similar situations.

In the presence of effort, bad achievement results are evaluated less negatively and punished more mildly (Weiner, 2003). Thus, we suggest that effort has a substantial impact on pride, admiration and respect. We assume that these emotions also arise, although to a lower degree, when a student failed but tried hard (as the student has followed the norm of effort). However, high effort may also result in rejection and dislike among older classmates (Juvonen & Murdock, 1995); thus, the impact of high effort on admiration and respect should be lower among older students.

**Sympathy.** Sympathy is experienced when the affliction of a person is due to an uncontrollable cause (Graham, Doubleday, & Guarino, 1984; Weiner, 1995). The uncontrollable cause may be external (such as a very difficult exam) or internal (such as lack of ability; see Weiner, 1995). In line with these findings (for a summary, see Weiner 2006), we expect that sympathy is closely related to inferences of low ability.

In sum, we propose the following hypotheses concerning positive moral emotions: (1) Success attributed to high effort elicits pride, admiration and respect. (2) High effort – regardless of the achievement result – elicits pride, admiration and respect. (3) Failure

attributed to uncontrollable causes such as lack of ability elicits sympathy. As recent studies indicate that older students do not conform to the norm of effort as closely as younger scholars, we assume weaker effects among older students.

### **Negative Moral Emotions**

**Anger and indignation.** Anger is generated by a judgment of personal responsibility for a transgression or failure (Weiner, 1995). Because effort lies within the responsibility of the student, attributions to lack of effort elicit anger (Clark & Artiles, 2000; Sutton & Wheatley, 2003; Reyna & Weiner, 2001). Indignation shows similar patterns of antecedent conditions as anger, and therefore should arise in similar situations (Rudolph et al., 2011).

In addition, we assume that success is evaluated less positively when attributed to high ability in the absence of effort (Weiner, 2003). Hence, we suggest that anger and indignation arise whenever a person did not invest any effort (as such a behavior represents a violation of the norm of effort). Because high effort often results in rejection among peers (Juvonen & Murdock, 1995), anger and indignation among students may arise in situations when another student invested much effort.

**Contempt.** According to Hutcherson and Gross (2011; see also Izard, 1977), contempt occurs when one feels superior to others, and is closely connected to judgments of incompetence. Hareli and Weiner (2002) suggest that this is the case when a student fails because of low ability. In line with Weiner (2006) we suggest that contempt is a so-called “ability-linked emotion” and will be mainly determined by perceptions of low ability.

**Schadenfreude.** Schadenfreude is the pleasure that is felt vis-à-vis another’s misfortune, and is elicited by the perceived deservingness of a misfortune (Feather, 2006). For example, a deserved misfortune can be a negative event due to an action with a negative valence, such as lying or betraying (Feather & Sherman, 2002). Perceiving a misfortune as deserved is also evoked when a person is regarded as being responsible for the misfortune. Hence, perceived responsibility is an important determinant of schadenfreude as well (van Dijk, Ouwerkerk, Goslinga, & Nieweg, 2005). In the context of the norm of effort, investing no effort is regarded as negative, and the person who does not try is perceived as responsible for a negative outcome. As schadenfreude is even stronger when the person who failed is usually highly successful (Feather, 1999), schadenfreude

might be fostered by perceptions of high ability. Thus, schadenfreude will be evoked by failure attributed to lack of effort, and especially so in the presence of high ability.

In sum, we propose the following hypotheses concerning negative moral emotions: (1) Failure attributed to low effort elicits anger, indignation and schadenfreude. Schadenfreude is even stronger when the student is regarded as high in ability. (2) Perceptions of low effort elicit anger and indignation. (3) Failure attributed to lack of ability elicits contempt. Again, we propose different results for older students compared to elementary school students and teachers.

In the present studies, various moral emotions were assessed in reactions to information about a student's result, effort, and ability. Because teachers, younger students, and older students may perceive achievement-related situations differently (e.g., Chapman & Skinner, 1989; Juvonen, 2000; Lord, Umezaki, & Darley, 1990; Nicholls, Patashnick, & Mettetal, 1986), we investigate the perception of moral emotions in three different samples (Study 1: teachers; Study 2: elementary school students; Study 3: high school students). Finally, we will analyze the differences between the samples.

### Study 1

#### Method

**Participants.** Teachers from five different schools located in three different regions in Germany were asked to participate in this study (response rate was 28%). Four participants were dropped from the analyses because they failed to complete the questionnaire properly. This resulted in the final sample of 14 male and 47 female teachers. Mean age was  $M = 43.9$  years ( $SD = 9.9$ ). 16% were elementary school teachers, the remaining 84% worked in secondary schools.

**Material and design.** Each teacher received a booklet containing eight scenarios describing an achievement event. Each scenario informed about a student who took a test and had just received the result. As independent variables, we manipulated achievement result (excellent result vs. very poor result), invested effort (high effort vs. low effort), and ability (high ability vs. low ability), resulting in a 2 x 2 x 2 repeated measures design. For example, one of the scenarios read as follows: "This student is very clever. He did not invest any effort at all. He achieved a very poor result." As dependent variables, ratings of the moral emotions admiration, pride, respect, sympathy, anger, contempt, indignation, and schadenfreude towards the student were assessed by asking: "To what extent do you now

feel the following emotions towards your student?”. 7-point rating scales, anchored at both ends (0 = not experienced at all, 6 = experienced very strongly) were provided.

**Procedure.** Headmasters of the respective schools informed the teachers about the present study. Questionnaires were placed in teachers’ mailboxes at school; participation was entirely voluntary. Teachers completed the questionnaire either at school or at home, and subsequently placed them anonymously in a box at their school. Each scenario was presented on a separate sheet. Teachers should imagine that they had exact knowledge about their students’ abilities and diligence (as given in the scenarios). They were asked to imagine as vividly as possible that the students in the respective scenarios were their own students, and to imagine how they would react if this kind of situation occurred in reality. Scenarios and dependent variables were presented in random sequences. After reading each scenario, we asked teachers to rate the degree to which they experienced the respective emotions.

## Results

**Control variables.** Multi-factorial analyses of variance were conducted to test effects of gender, age, and type of school. As no systematic effects were obtained, these factors will not be considered in the following analyses.

**Patterns of moral emotions.** Descriptive results are provided in Table 1.

- Table 1 -

Admiration, respect, pride and sympathy receive the highest maximum means. Anger and indignation are reported to a smaller degree, while contempt and schadenfreude are hardly reported at all. Therefore, contempt and schadenfreude will not be considered in the following analyses. Several emotions show quite similar patterns when analyzed with respect to our independent variables (i.e., result, effort, and ability). That is, anger and indignation on the one hand and admiration and pride on the other hand show similar patterns. Respect shows some unique features, but is similar to admiration and pride in some respects. Finally, sympathy is characterized by an entirely unique pattern. We will analyze the respective patterns in the following.

**Determinants of moral emotions.** Repeated measures ANOVAs were computed to analyze the respective moral emotions ( $F$ -values for main factors and interactions as well as the corresponding effect size  $\eta^2$  are summarized in Table 2). Computations of  $\eta^2$  follow the guidelines provided by Cohen (1973; see also Levine & Hullett, 2002). According to

the conventions proposed by Cohen (1988),  $\eta^2 \geq .009$  will be considered as small effects,  $\eta^2 \geq .059$  as medium effects, and  $\eta^2 \geq .138$  will be interpreted as large effects.

- Table 2 -

All moral emotions are strongly determined by main effects of result and effort. For result, medium to large effects sizes are obtained for all emotions; for effort, medium effect sizes are obtained. Taken together, these two factors on average (across all emotions) explain 31% of variance (result: 18%, effort: 9%, result x effort: 4%). No main effects are obtained for ability, and only 5 of 12 possible interactions of ability reveal small effect sizes.

For *admiration* and *pride*, medium to large main effects for result and effort were obtained. These are further qualified by small interaction effects between result x effort. Additionally, we found a small interaction between effort x ability for admiration. Results indicate that admiration and pride are generally experienced when a student achieves a good result. This is especially true when the student invested much effort. The highest ratings of admiration and pride are found for successful students with low ability investing much effort. Unsuccessful students with low ability and high effort are also admired to a small degree.

For *respect*, a large main effect for result, a medium main effect for effort, and small interaction effects between result x ability and effort x ability, are obtained. Thus, respect is experienced when a student succeeds; this is particularly true when effort was invested. In contrast to admiration and pride, teachers also feel considerable amounts of respect towards students who failed, especially in the presence of effort and absence of ability.

For *sympathy*, we found a large main effect for result, a medium main effect for effort and a medium interaction effect between result x effort. Thus, teachers feel sympathy for the unsuccessful students, especially when the student had invested much effort.

For *anger*, a large main effect of result, a medium main effect for effort, and small interaction effects between result x effort and result x ability are obtained. For *indignation*, medium main effects for result and effort, and small interaction effects between result x effort as well as result x ability are obtained. Hence, teachers experience anger and indignation for students receiving a bad result in the absence of effort. This is especially



true for students high in ability. To a low degree, anger is also experienced for students failing in the presence of high ability and high effort.

Before discussing these data patterns, let us now turn to to Study 2, analyzing moral emotions among elementary students.

## Study 2

### Method

**Participants.** Participants were  $N = 91$  3<sup>rd</sup> and 4<sup>th</sup> graders of an elementary school in Germany. All teachers and parents were informed about the present study in advance; parents were requested to provide consent forms. 95% of the parents allowed their children to participate in the present study. Three children were excluded because of language difficulties. The final sample consisted of 88 participants (36 girls, 52 boys;  $N = 44$  3<sup>rd</sup> graders,  $n = 44$  4<sup>th</sup> graders). Mean age was 9.7 years ( $SD = 7.3$  months).

**Material and design.** Each child received eight scenarios informing about a schoolmate who took a test and had just received the result. As in Study 1, we provided information about the student's result, effort, and ability. An interview script was used to ask for the children's ratings of the respective emotions. Children used a 4-point rating scale especially designed for children: Each point of the scale was represented by a circle which was completely colored (i.e., experiencing the emotion strongly), colored up to three quarters (i.e., experiencing the emotion to a moderate degree), up to one quarter (i.e., experiencing the emotion to a small degree), or not at all colored (i.e., not experiencing the emotion at all). To ensure the correct use of the rating scale, children were given a test item ("How much do you like ice cream?").

As in Study 1, the independent variables were achievement result (excellent vs. very poor), invested effort (high vs. low), and ability (high vs. low). To analyze a representative selection of moral emotions, while at the same time restricting the number of dependent variables, one emotion of each cluster of moral observer emotions identified by Rudolph et al. (2011) was selected (i.e., admiration, sympathy, anger, and schadenfreude). Ratings of these moral emotions towards the described schoolmate were assessed as dependent variables.

**Procedure.** To ensure that the children fully understood the instructions, we used structured interviews. These took place in a room within the elementary school. Each child was interviewed individually by one of three trained interviewers (blind to the hypotheses).

Each interview lasted approximately 20 minutes. The interviewers started the sessions by telling the child that the interview was about “feelings and how we sometimes feel”. First, we ensured that the children knew the respective moral emotions by asking: “Do you know the feeling of...? Have you ever felt...? Would you please tell me about this situation?” The children’s answers were protocolled by the interviewers. When a child was not familiar with the emotion under consideration, the interviewers explained the emotion by using a standardized instruction (the complete interview script is available upon request). Subsequently, the children were asked again if they were familiar with this emotion and had ever experienced it. If a child still did not know the emotion, we did not assess that emotion during the interview.

Subsequently, the children were told: “I will now tell you eight little stories. These stories are about eight different children. Imagine that these children are in your class at school and just received the results of a test. After each story, I will ask you how you feel about this child. I would also like to know how strong your feelings are.” Subsequently, each child was asked to imagine the respective situations as vividly as possible.

To facilitate the understanding of the concepts effort and ability, these were explained in more detail: For high ability, the interviewers said: “... this child always knows the right answers. School is very easy for this child.”. To explain low ability, the wording was: “... this child always makes a lot of mistakes. School is very difficult for this child.” High effort was described as “this child has studied a lot at home, has always done its homework, and has always paid attention during the lessons.” Low effort was explained as “... this child has not studied at home at all, has never done its homework and has not paid attention during the lessons.” The children were well familiar with the results (good vs. bad grades) we presented in order to manipulate our third independent variable; thus, no further explanations were required here. Each situation was read out aloud to the child. Subsequently, the child was asked to rate the degree to which he or she felt the respective emotions. Scenarios and emotions were presented in random orders. The answers of the children were transferred to a separate protocol sheet. There were no drop-outs during the interviews.

## **Results**

**Control variables.** We conducted multi-factorial analyses of variance to test the effects of gender, age, grade, and interviewer on the dependent variables. No systematic effects were obtained. Hence, these factors will not be considered in the following

analyses.

**Knowledge about moral emotions.** Descriptive analyses of the children's knowledge of moral emotions reveal that 98% of the children were able to provide a situation in which they experienced anger concerning another person; the remaining 2% were able to do so after receiving the brief instruction. Children described situations including arguments and conflicts at home or with friends, unfairness, as well as unpleasant duties and responsibilities. 76% of the children were immediately familiar with sympathy. When providing a brief explanation, all children were able to provide corresponding examples. Children reported feelings of sympathy when another person was sad or injured, when other children were bashed up, were alone and did not have a friend or were forbidden to do things they would have liked to do. 59% of the children knew the emotion admiration immediately; 39% needed a brief explanation. One child did not know admiration at all. Children reported to admire popular soccer players, other children with special skills (e.g., to perform a cartwheel, to draw very well), or children who invested a lot of effort in goals they wanted to achieve. Finally, 35% of the children knew the emotion of *schadenfreude* without any instruction. The remaining children did so after the explanation. Typical situations included: Another child wobbling on his chair and being admonished by the teacher, another child receiving bad grades at school while they received good results, or someone slipping or banging his head.

**Determinants of moral emotions.** Repeated measures ANOVAs were computed to analyze the influence of the independent variables on ratings of moral emotions (for descriptive results see Table 3). *F*-values for main factors and interactions as well as the corresponding effect sizes  $\eta^2$  are reported in Table 4.

- Table 3 -

- Table 4 -

As in Study 1, result and effort contribute much stronger to the experience of moral emotions than ability. For result, we found small to very large effects sizes; for effort, medium to large effect sizes were obtained. When taken together, these two factors (across all emotions) explain 37% of variance (result: 23%, effort: 10%, result x effort: 4%). No main or interaction effects were obtained for ability.

More specifically, *admiration* is determined by a large main effect of result, a medium main effect of effort and a small interaction effect of result x effort. Admiration is

experienced to a high degree when a student receives a very good result and even more so in the presence of high effort. Admiration is also experienced to a small degree when a student invested a lot of effort but nevertheless failed.

For *sympathy*, we obtained a large main effect for result, a medium main effect for effort and a medium interaction effect of result x effort. Children predominantly feel sympathy when another child received a bad result, and especially so when the child failed in the presence of high effort.

*Anger* is determined by a large main effect of effort, a small main effect of result, and a small interaction effect of result x effort. That is, children are most likely to be angry when another child did not invest any effort, and are especially angry when others were successful in the absence of effort.

*Schadenfreude* is reported to a much lesser degree as compared to the other emotions. We found medium main effects for result and effort and a small interaction effect of result x effort. This emotion is most likely when another child received a bad result and did not try.

Overall, elementary school children are familiar with the moral emotions of admiration, sympathy, anger, and schadenfreude; however, differences between the emotions were observed: Nearly all students were able to provide situations in which they experienced anger concerning another person. This finding is in line with previous research revealing that anger is one of the earliest emotions in life that children are able to experience (Alessandri, Sullivan, & Lewis, 1990; Sullivan & Lewis, 2003). In contrast, it is assumed that social emotions like admiration, sympathy, and schadenfreude require higher cognitive processes and are therefore experienced later in life (Denham, 1998; Lewis, Sullivan, Stanger, & Weiss, 1989). In our study, sympathy, admiration, and schadenfreude were less familiar to our participants. However, qualitative observations during our study reveal that children's ratings of schadenfreude are probably influenced by social desirability processes (e.g., denial, smiling, averting the eyes, indicating good knowledge of the emotion and the corresponding consequences). It is likely that these mechanisms have contributed to the small amounts of schadenfreude reported by the children.

Before discussing the results in more detail, we will analyze the effects of result, effort and ability on the experience of moral emotions among high school students.

### Study 3

#### Method

**Participants.** Participants were  $N = 191$  students (41% girls, 49% boys, 10% unidentified) of three high schools located in two regions of Germany. Mean age was 18.0 years ( $SD = 1.06$ ). 32% were 11<sup>th</sup> graders, 39% were 12<sup>th</sup> graders, and 19% were 13<sup>th</sup> graders, 10% of the students provided no further specifications. 75% of the students visited a Gymnasium (high school); the remaining 25% visited a vocational training school ('Berufsschule').

**Material and design.** Each student received scenarios informing about a schoolmate's result, effort, and ability. As in Study 2, the described schoolmate took a test and just has received the result, and participants were asked to rate their emotions toward this schoolmate. Here, as in Study 1, a questionnaire was following the same design as in Studies 1 and 2. Identical emotion ratings (for admiration, respect, pride, sympathy, anger, indignation, contempt, and schadenfreude) as in study 1 were assessed as dependent variables.

**Procedure.** The same instruction and procedure as in Study 1 were used. Participation was absolutely voluntary. For students younger than 18 years, parents provided consent forms (98% of the parents allowed for participation). Students without parental allowance were not included in the study. Students took part during free periods at school, under guidance of a teacher familiar with the instructions and the procedure.

#### Results

**Control variables.** Multi-factorial analyses of variance were conducted in order to analyze effects of gender, age, type of school, and grade on the dependent variables. No systematic effects were obtained. Therefore, as in the previous studies, these factors will not be considered in the following analyses.

**Patterns of moral emotions.** As in Study 1 and 2, there are large differences between the respective moral emotions (see Table 5): Admiration, respect and sympathy receive the highest maximum means. Pride, anger, indignation, and schadenfreude are reported to a considerably smaller degree, and contempt receives the lowest overall ratings. As in Study 1, several emotions are characterized by highly similar patterns: That is, (1) admiration, pride and respect on the one hand, and (2) anger and indignation on the other

hand show highly similar patterns, while contempt, schadenfreude, and sympathy are characterized by unique patterns.

- Table 5 -

**Determinants of moral emotions.** Repeated measures ANOVAs were computed to analyze the influence of the independent variables on moral emotions. *F*-values for main factors and interactions as well as the corresponding effect sizes  $\eta^2$  are reported in Table 6.

- Table 6 -

Again, the moral emotions are predominantly determined by effects of result and effort. While admiration, pride, respect, schadenfreude and sympathy are strongly determined by result, the impact of this variable is much weaker on anger, contempt and indignation, which in turn are mainly influenced by main effects of effort or interactions between result x effort. No main or interaction effects were obtained for ability, with the exception of indignation and schadenfreude. When taken together, result and effort (across all emotions) explain 26% of variance (that is, result = 17%, effort = 5%, result x effort = 4%).

For *admiration* and *respect*, we found very large main effects for result, and small main effects for effort. For *pride*, there is a large main effect for result and a small main effect for effort, further qualified by a small interaction effect of result x effort. All emotions are typically experienced for successful classmates; this is especially true when high effort is given. Note that respect, and to a smaller degree admiration as well, are also experienced after failure when effort was given. In contrast, pride is not experienced at all when the classmate failed.

For *sympathy*, large main effects were obtained for result and effort, further qualified by a large interaction between result x effort. That is, the students feel sympathy with another student when the student invested much effort, but nevertheless failed.

With regard to *anger* and *indignation*, small effect sizes for result and effort were obtained. Taken together, anger and indignation are mainly determined by interactions of result x effort, with medium effect sizes. Furthermore, indignation is also determined by a small interaction effect of result x ability. Participants feel particularly high degrees of anger and indignation when another student received a good result, but did not invest any effort. This effect is even stronger when the classmate is described as being low in ability.

Additionally, students experience anger and indignation when a classmate failed although the student did invest effort.

*Contempt* is mainly determined by a medium effect of effort; respondents are likely to feel contempt when a student did not invest any effort.

For *schadenfreude*, a large main effect of result and small main effects of effort and ability were obtained. For this emotion, additional interaction effects of result x effort and result x ability qualify the main effects. Thus, *schadenfreude* mainly emerges in situations when a schoolmate received a bad result in the absence of effort, and this is even more so in the presence of high ability. In addition, when a student failed despite high effort and high ability, participants report *schadenfreude* as well. However, *schadenfreude* is not reported when the student tried hard and does not have ability.

### Comparisons across Studies

Overall, we found highly similar results for the different samples. To provide more detailed comparisons, we converted the mean ratings for each sample and for each of the eight scenarios into percentile ranks, and correlated the patterns of the emotions. To further analyze the differences between the three groups, we computed ANOVAs for each emotion, with sample as a between-subjects factor, and result, effort, and ability as within-subject factors. As we already reported the impact of result, effort, and ability, we will now focus on the results for sample. For the sake of simplicity, we only report significant results (all remaining results are available upon request) and the corresponding effect sizes  $\eta^2$ . As not all emotions were assessed for all groups of participants, (1) we present comparisons for admiration, sympathy, anger, and *schadenfreude* for all samples, (2) we present additional comparisons between teachers and high school students for respect, pride, and indignation.

### Admiration, Sympathy, Anger, and Schadenfreude

Teachers, elementary and high school students experience *admiration* in similar situations. The correlations between the respective samples are very high:  $r = .99, p < .001$ , for teachers and elementary school students,  $r = .96, p < .001$ , for teachers and high school students, and  $r = .96, p < .001$ , for students from different age groups (see Figure 1). The ANOVA revealed a significant interaction of effort x sample, which did not reach a meaningful effect size,  $F(2, 307) = 16, p < .001, \eta^2 = .008$ . Nevertheless, as can be seen in Figure 1, for several of the eight experimental conditions, differences in the emotions

ratings can be found: Most obviously, differences for admiration between high vs. low effort are larger for teachers and elementary students as compared to high school students. This result is underlined by the fact that medium effect sizes for effort were obtained in Studies 1 and 2, whereas in Study 3, only a small effect of effort was found. In addition, the overall level of admiration is highest among elementary school children (see Tables, 2, 4, and 6).

- Figure 1 -

For *sympathy*, we found very high correlations between the three samples as well:  $r = .97, p < .001$ , for teachers and elementary school students,  $r = .99, p < .001$ , for teachers and high school students, and  $r = .93, p < .001$ , for students from different age groups. The ANOVA reveals a small effect for the interaction of result x sample,  $F(2, 310) = 28, p < .001, \eta^2 = .02$ . As can be seen in Figure 1, elementary school students feel more sympathy vis-à-vis a failing student than the other two groups. In line with this observation, the largest effect of result on sympathy was obtained for elementary school students (see Tables, 2, 4 and 6).

A closer look at *anger* reveals that the three groups differ strongly from each other, as is reflected by much lower correlations between the different samples:  $r = .24, p = .574$ , between teachers and elementary school students, and  $r = -.22, p = .601$ , between teachers and high school students. In contrast, the two groups of students experience anger in quite similar situations,  $r = .80, p = .016$ . There is a small interaction effect for result x effort x sample,  $F(2,304) = 31, p < .001, \eta^2 = .02$ . Figure 1 shows that (1) teachers experience more anger when a student failed in the absence of effort, and (2) students experience more anger than teachers when a student succeeds although he did not try. Finally, elementary school students feel slightly more anger as compared to high school students when effort was not invested.

Because teachers reported no *schadenfreude* at all, we only computed the correlation between elementary and high school students: The high correlation,  $r = .94, p < .001$ , indicates that the two groups of students experience *schadenfreude* in a very similar way. ANOVA revealed a significant interaction of result x ability x sample; however, the effect size was very small,  $F(2, 260) = 9, p = .003, \eta^2 = .002$ . As can be seen in Figure 1, high school students experience more *schadenfreude* than primary school students when another student fails because of low effort, especially when this student is high in ability. Consequently, for elementary school students, we only found main effects of result and



effort accompanied by a small interaction effect of these factors. In contrast, for high school students, we additionally obtained a main effect for ability as well as an interaction effect for result x ability (see Tables 4 and 6).

### **Respect, Pride, and Indignation**

Teachers and high school students show highly similar patterns of respect and pride ( $r_{\text{respect}} = .91, p < .001$ ;  $r_{\text{pride}} = .97, p < .001$ ) (see Figure 2). For *respect*, the ANOVA revealed significant interactions of result x sample,  $F(2, 232) = 11, p < .001, \eta^2 = .006$ , and effort x sample,  $F(2,232) = 13, p < .001, \eta^2 = .006$ . Results indicate that teachers feel more respect than students when a student succeeded due to high effort. Furthermore, teachers experience more respect than students in case of failure when effort was invested (and even more so when ability was low). In line with this finding, respect is only determined by main effects of result and effort for high school students, whereas for teachers, these main effects are further qualified by interactions of result x ability and effort x ability.

- Figure 2 -

For *pride*, there was a significant interaction of result x effort x sample,  $F(2, 232) = 29, p < .001, \eta^2 = .006$ . Although the highest ratings were obtained for both samples when the student succeeded due to high effort, emotion ratings for successful students were generally higher for teachers as compared to students (see Figure 2). Thus, pride is more pronounced for teachers when a student succeeded due to high effort. Correspondingly, there are main effects for result and effort as well as an interaction effect for both samples. The effects only differed in size showing larger effect sizes for the sample of teachers (see Tables 2 and 6).

The results for *indignation* differ strongly between the two groups: The correlation between teachers and high school students is small ( $r = .20, p = .628$ ). The ANOVA for indignation reveals a small interaction effect for result x effort x sample,  $F(2,235) = 67, p < .001, \eta^2 = .03$ . Again (as in the case of anger), results indicate that teachers experience more indignation vis-à-vis failure in the absence of effort, whereas students feel more indignation vis-à-vis success in the absence of effort (see Figure 2). In addition, students also feel more indignation than teachers when a student failed despite the fact that effort was invested. Again, these differences are also reflected by different effect sizes for the two samples. For teachers, medium main effects are found for result and effort, and only small effects are found for high school students. In contrast, we obtained a medium

interaction effect for result x effort for high school students, accompanied by a small interaction effect for result x ability for indignation (see Tables 2 and 6).

### **Discussion**

Recent studies have shown that the school is a social setting with specific norms (e.g., “the norm of effort”, Matteucci, 2007, Weiner, 2002). Theorists assume that within this setting, moral emotions arise, because such emotions evaluate behaviors related to these norms (Hareli & Weiner, 2002; Weiner, 2007). Thus far, moral emotions at school have been analyzed on a theoretical level and several authors emphasized the need for empirical investigations of emotions in achievement settings (Graham, 1991; Meyer & Turner, 2006; Schutz & Pekrun, 2007). In the present studies, we investigated the influence of result, effort, and ability on moral emotions at school (see also Weiner, 2007), both among teachers and students. Across all samples, moral emotions are predominantly determined by result and effort, whereas ability has only negligible effects on moral feelings. Thus, to a large extent, findings are in line with the theoretical predictions made by Hareli & Weiner (2002) and Weiner (2007). In addition, the present research also offers some interesting extensions of previous considerations. We now separately discuss results for positive moral emotions and negative moral emotions. Finally, we outline implications for future research.

#### **Positive Moral Emotions**

Across the different samples analyzed in the present studies, positive moral emotions are experienced in similar situations, indicating high consensus among teachers and students of different ages towards the underlying norm. Because admiration, respect, and pride show similar patterns, we first discuss the results of these emotions; subsequently, we will have a closer look at the results obtained for sympathy.

**Admiration, respect, and pride.** Success because of high effort leads to the highest degrees of admiration, respect and pride; success in the absence of effort also elicits these positive moral emotions, although to a smaller degree. For teachers, we also found a small impact of ability on admiration and respect: If a student invested effort, the information about low ability intensifies the respective emotion. Thus, for these emotions, low ability may imply especially high effort (see also Meyer, 1982).

When comparing the different samples, elementary school students reported more admiration than the other two groups. One might argue that younger students accept the

moral standards of adults more strictly, and thus adopt a norm of effort in this context to a higher extent than older students and teachers (Berndt, 1979; Steinberg & Silverberg, 1986). In contrast, the lowest degrees for admiration, respect, and pride were found for high school students. Thus, although this group values effort as well, older students evaluate norm-conforming behavior slightly less positively (Juvonen & Murdock, 1995). Additionally, result and effort explained substantially larger amounts of variance in pride for teachers as compared to students. Results indicate that the nature of the relationship may influence feelings of pride towards another person – the stronger a person feels committed to the achievements of another person, the stronger is the experience of pride towards that person (Ben Ze'ev, 2001). Teachers may attribute their student's success not only to characteristics of the student, but also to their general ability as a teacher or to their own efforts (e.g., preparation of lessons or teaching methods).

When comparing admiration, respect, and pride, our data reveal that respect, as compared to admiration and pride, is more strongly determined by effort and is even experienced in case of failure given that effort had been invested. Thus, the present study hints at differences between these emotions: In line with different traditions within moral philosophy, admiration and pride are obviously more strongly determined by the consequences of behavior (referring to theories of consequentialism, see Bentham, 1789/2008 and Mill, 1863/2006), whereas respect more strongly evaluates the behavior itself (in line with deontological conceptions of morality; e.g. Kant, 1785/2004).

**Sympathy.** From an attributional point of view, sympathy should be experienced for those who lack ability. However, our results indicate that the highest levels of sympathy are reported for those who failed although effort had been invested. Thus, it seems as if failure despite the investment of effort can become an even better sign of uncontrollability than lack of ability itself. This might be because ability and effort are represented within a compensatory principle (e.g., Meyer, 1982): When effort is high, a resulting failure will be attributed to low ability to an even greater extent.

Finally, as for admiration, elementary school students report generally more sympathy than the other two groups, again indicating the importance of the norm of effort at this age.

### **Negative Moral Emotions**

Overall, negative emotions are reported to a much lesser degree than positive moral emotions. For the negative moral emotions, teachers and students differ substantially from each other.

**Anger and indignation.** Before focusing on differences between the samples, it is interesting to note that for all groups anger and indignation are more strongly determined by effects of effort or the interaction of result and effort (as compared to admiration and pride). Thus, when it comes to a morally negative evaluation, behavior is more important than result, which again represents a deontological perspective (Kant, 1785/2004).

When comparing the different samples, teachers experience more anger and indignation than students. This is probably due to the fact that anger and indignation are strong motivators of change (e.g., Fischer & Roseman, 2007), which conforms to the occupational role of a teacher: Teachers should support their students to attain their achievement-related goals, and to express negative emotions can serve as a tool to provide critical feedback (Hareli et al., 2009).

A closer look at the different situations in which teachers and students experience anger reveals that teachers predominantly report anger and indignation for those who failed due to low effort. Moreover, it is especially the smart student who elicits anger (because perceptions of low effort are strengthened in the presence of high ability). In addition, teachers also feel a certain extent of anger in case of failure despite high effort and high ability. This finding is surprising, because failure given high ability and high effort should lead to attributions of external causes – and thus should not result in anger (Weiner, 1995). The perceived anger may result from trying to interpret given information about result, effort, and ability against the background of internal causes: In this case, the highly able student who failed actually did not try sufficiently (otherwise he would have succeeded; see Meyer, 1982), thus promoting feelings of anger. This finding might be traced back to certain characteristics of our method (we return to point later).

Students feel particularly angry when other students were successful although they did not try. Thus, anger arises due to an undeserved result (Feather, 2006): Because the student did not invest any effort (= negative action) and received a good result (= positive outcome), the result is evaluated as being undeserved, a causal pattern eliciting anger.

The evaluation of low effort as a negative action (a violation of the norm of effort) contradicts findings that among their peers, students might face social rejection because of high effort and thus favor attributions of lack of effort for bad results (Juvonen & Murdock, 1995). Study 2 shows interesting results with regard to the fact that elementary school students report more anger than older students. Again, this finding underlines the results for admiration and sympathy and further emphasizes the strong commitment to the norm of effort of this group.

**Contempt.** There are reasons to expect contempt in achievement contexts, with contempt being an emotion of social exclusion, and social exclusion being a widespread reality at school (Fischer & Roseman, 2007; Kiesner & Pastore, 2005). However, ratings for contempt were remarkable low in the present studies. Social desirability considerations may have prevented our respondents from reporting contempt. In addition, although contempt is supposed to be elicited in response to violations of the ethic of a community (Rozin, Lowery, Imada, & Haidt, 1999), it might be that a transgression of the norm of effort is not severe enough to elicit such an extreme negative reaction (Fischer & Roseman, 2007).

**Schadenfreude.** In line with our hypotheses, students report schadenfreude following a failure due to low effort, a failure that is thus perceived as being deserved (Feather, 2006). In line with Feather (1999), schadenfreude is even stronger when it comes to the „fall of the tall poppy” – that is, a highly able student (usually a high achiever) who fails. Our respondents reported schadenfreude to different degrees: Younger students report less schadenfreude than older students (but showed remarkable signs of social desirability during the interview). For teachers, we did not find any reports of schadenfreude. Social desirability concerns might also be present within this sample, as teachers are expected to guide and foster their students. Thus, it might be considered as inappropriate to express such a negatively marked emotion (Ben Ze’ev, 2001). Additionally, one basic component of schadenfreude is social comparison and perceived competition (Smith, 2000). It is quite likely that social comparison arises among different members of a peer group; however, it is less likely to occur within the relationship between teachers and students.

## **Conclusions**

Before discussing the implications for future studies, let us briefly summarize our findings:

(1) The school is a “courtroom” (see Weiner, 2006), with a major goal (to attain good results) and a fostering norm (the norm of effort) that gives rise to a variety of moral emotions. This courtroom is based on a fair principle, as it relies on a commonly shared code of behavior and is largely unaffected by information about ability as an uncontrollable cause (Weiner, 1995).

(2) On the one hand, ability itself does not predict moral emotions at school. Rather, ability represents indirect and compensatory information with regard to a student’s invested effort (as is the case for admiration or respect). On the other hand, ability is a causal factor that should motivate to conform to the norm of effort even more strongly, as negative (emotional) reactions for those who fail although they have high ability are even stronger (as is the case for anger and schadenfreude).

(3) Emotional reactions of both teachers and students conform to the norm of effort. In achievement situations, students are emotionally rewarded for highly similar situations by teachers and classmates.

(4) Note that there are differences between the two main groups encountered at school as well: For example, teachers experience more pride than students, classmates experience more schadenfreude than teachers, and anger is experienced in different situations by both groups.

(5) The youngest students actually do process information about the causes of achievement results just as good as older students and teachers. In addition, it is the group of the youngest scholars who conform to the norm of effort the most.

(6) Some moral emotions are most strongly predicted by results (e.g., admiration, pride), whereas other moral emotions are most strongly determined by invested effort (e.g., anger, respect). This points to different targets of moral evaluations: Moral life consists of moral emotions targeting the underlying behavior, while others predominantly focus on the results of the respective behaviors.

### **Limitations and Future Research**

We used a scenario approach in our studies. In doing so, we presented two situations that typically lead to external attributions of the achieved result (1) low ability, low effort, excellent result, and (2) high ability, high effort, poor result. For these situations, several teachers expressed their astonishment and considered these situations as “impossible”. Thus, the present method might activate schemas connected with internal

causes of achievement and thus block schemas connected to external causes (see also Robinson & Clore, 2002). Other methods, such as narrative analyses, stimulated recall or memory protocols may complement our findings in this regard (e.g., Schutz, Hong, Cross, & Osbon, 2006).

Another limitation of the present research is that students in our studies were either very young or very advanced in their school career. Thus, our results should not be automatically transferred to all age groups: We did not include students about the age of 15, when social exclusion based on high achievements and high effort is especially likely (Juvonen & Murdock, 1995; Kiesner & Pastore, 2005). At this age, this may function as a demarcation to the norms of adults, which may be less prominent for our samples of students. Further studies are needed to understand under which circumstances students disagree with the norm of effort.

Additionally, further research is needed to understand the motivational status of moral emotions at school with respect to specific behaviors in class (e.g., Sutton & Wheatley, 2003). Studies on helping behavior and aggression revealed that behavioral reactions are predominantly mediated by the experience of sympathy and anger (see Rudolph, Roesch, Greitemeyer, & Weiner, 2004). Analogous empirical research on the motivational status of other moral emotions is still missing. This is an important topic for future research, as it is very likely that the emotional reactions of teachers and peers have important psychological consequences for students (Hareli & Weiner, 2002). In this regard, it seems especially important to analyze the impact of positive moral emotions like admiration, respect, or pride. The analysis of these emotions hardly received any attention yet. However, this is particularly interesting because teachers' expressions of positive emotions significantly affect achievement motivation in students, and are strong predictors of persistence and performance (Greitemeyer, 2009; Meyer & Turner, 2006; Wentzel, 1997, Williams & DeSteno, 2008).

To conclude, our present analysis of moral emotions at school represents a further step for a better understanding of the role of moral emotions at school. Moreover, we highlighted various research questions which should be analyzed in more detail in future studies in order to better understand the moral landscape of achievement settings.

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Table 1

*Mean Values and Standard Deviations for Moral Emotions of Teachers (Study 1)*

Emotion	result +				result -			
	effort + ability + <i>M</i> ( <i>SD</i> )	ability - <i>M</i> ( <i>SD</i> )	effort - ability + <i>M</i> ( <i>SD</i> )	ability - <i>M</i> ( <i>SD</i> )	effort + ability + <i>M</i> ( <i>SD</i> )	ability - <i>M</i> ( <i>SD</i> )	effort - ability + <i>M</i> ( <i>SD</i> )	ability - <i>M</i> ( <i>SD</i> )
Admiration	3.97 (1.72)	4.55 (1.58)	2.73 (1.95)	2.19 (2.11)	.32 (.82)	1.05 (1.49)	.14 (.57)	.10 (.47)
Anger	.03 (.18)	.05 (.23)	.66 (1.18)	.77 (1.40)	1.63 (1.89)	.86 (1.44)	3.41 (2.01)	2.82 (1.98)
Contempt	.02 (.13)	.02 (.13)	.12 (.46)	.18 (.63)	.03 (.18)	.05 (.22)	.53 (1.18)	.50 (1.13)
Indignation	.02 (.14)	.07 (.32)	.37 (.95)	.70 (1.25)	.64 (1.24)	.38 (.95)	2.73 (2.29)	1.78 (1.90)
Pride	3.64 (2.12)	4.04 (1.99)	1.49 (1.81)	1.46 (1.88)	.31 (.73)	.67 (1.32)	.15 (.61)	.03 (.18)
Respect	4.80 (1.34)	4.91 (1.31)	3.36 (1.98)	2.61 (2.06)	2.31 (1.99)	3.05 (1.90)	1.27 (1.90)	1.37 (1.88)
Schadenfreude	.02 (.13)	.05 (.13)	.07 (.41)	.05 (.23)	.05 (.22)	.03 (.18)	.59 (1.30)	.28 (.78)
Sympathy	.03 (.18)	.17 (.84)	.07 (.31)	.16 (.82)	3.81 (1.77)	3.97 (1.91)	.90 (1.56)	1.03 (1.43)

*Note.* + = positive or present, - = negative or not present

Table 2

ANOVAs for Moral Emotions of Teachers (Study 1)

Emotion	Source													
	result		effort		ability		result x effort		result x ability		effort x ability		result x effort x ability	
	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$
Admiration	315***	.46	67***	.06	5 <sup>c</sup>	.00	18***	.02	2	.00	30***	.01	0	.00
Anger	104***	.22	90***	.12	9**	.00	17***	.03	12***	.01	2	.00	0	.00
Indignation	50***	.12	58***	.12	5 <sup>c</sup>	.00	23***	.03	12***	.02	1	.00	7**	.00
Pride	136***	.33	77***	.10	2	.00	53***	.05	0	.00	8**	.00	0	.00
Respect	99***	.19	92***	.13	0	.00	2	.00	14***	.01	19***	.01	0	.00
Sympathy	177***	.33	184***	.13	2	.00	186***	.13	0	.00	0	.00	0	.00
<i>M</i> ( $\eta^2$ )		.21		.09		.00		.04		.00		.00		.00

Note.  $\eta^2$  = explained variance for each individual factor in the experimental design; \*  $p < .05$ .

\*\*  $p < .01$ . \*\*\*  $p < .001$ , all  $df = (1,52)$ .

Table 3

*Mean Values and Standard Deviations for Moral Emotions of Elementary School Students**(Study 2)*

Emotion	result +				result -			
	ability + <i>M</i> ( <i>SD</i> )	effort + ability - <i>M</i> ( <i>SD</i> )	ability + <i>M</i> ( <i>SD</i> )	effort - ability - <i>M</i> ( <i>SD</i> )	ability + <i>M</i> ( <i>SD</i> )	effort + ability - <i>M</i> ( <i>SD</i> )	ability + <i>M</i> ( <i>SD</i> )	effort - ability - <i>M</i> ( <i>SD</i> )
Admiration	2.13 (.91)	2.35 (.76)	1.31 (1.12)	1.39 (1.17)	.56 (.92)	.74 (1.02)	.13 (.92)	.14 (.38)
Anger	.21 (.49)	.16 (.52)	2.29 (1.07)	1.27 (1.06)	.38 (.70)	.26 (.64)	.76 (1.00)	.74 (1.01)
Schadenfreude	.07 (.33)	.03 (.18)	.20 (.53)	.19 (.50)	.33 (.64)	.14 (.44)	.75 (.93)	.65 (.90)
Sympathy	.10 (.34)	.10 (.34)	.05 (.21)	.05 (.21)	2.24 (.83)	2.39 (.75)	.93 (.93)	.99 (1.03)

*Note:* + = positive or present, - = negative or not present



Table 4

ANOVAs for Moral Emotions of Elementary School Students (Study 2)

Emotion	Source													
	result		effort		ability		result x effort		result x ability		effort x ability		result x effort x ability	
	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$
Admiration	276**	.36	71***	.09	5*	.00	7*	.01	0	.00	3	.00	0	.00
Anger	7**	.01	110***	.16	0	.00	27***	.03	0	.00	0	.00	0	.00
Schadenfreude	37***	.07	31***	.05	7*	.00	15***	.02	0	.00	0	.00	0	.00
Sympathy	682***	.48	186***	.09	1	.00	120***	.08	0	.00	0	.00	0	.00
<i>M</i> ( $\eta^2$ )		.23		.10		.00		.04		.00		.00		.00

Note.  $\eta^2$  = explained variance for each individual factor in the experimental design; \*  $p < .05$ .

\*\*  $p < .01$ . \*\*\*  $p < .001$ , all  $df = (1,82)$ .

Table 5

*Mean Values and Standard Deviations for Moral Emotions of High School Students (Study 3)*

Emotion	effort +		result +		effort -		result -	
	ability + <i>M</i> ( <i>SD</i> )	ability - <i>M</i> ( <i>SD</i> )	ability + <i>M</i> ( <i>SD</i> )	ability - <i>M</i> ( <i>SD</i> )	ability + <i>M</i> ( <i>SD</i> )	ability - <i>M</i> ( <i>SD</i> )	ability + <i>M</i> ( <i>SD</i> )	ability - <i>M</i> ( <i>SD</i> )
Admiration	3.41 (1.86)	3.87 (1.80)	3.14 (1.98)	2.81 (2.25)	.55 (1.16)	.97 (1.38)	.30 (.71)	.17 (.66)
Anger	.68 (1.19)	.73 (1.23)	1.69 (1.69)	2.16 (2.04)	1.04 (1.48)	1.16 (1.54)	.86 (1.38)	.75 (1.38)
Contempt	.51 (1.06)	.47 (.94)	.97 (1.45)	1.39 (1.88)	.43 (1.00)	.36 (.85)	1.01 (1.52)	1.43 (1.83)
Indignation	.47 (.96)	.83 (1.41)	1.47 (1.71)	2.48 (1.99)	2.03 (1.84)	1.85 (1.73)	1.44 (1.74)	1.30 (1.82)
Pride	1.62 (1.79)	2.19 (1.89)	.98 (1.41)	1.11 (1.50)	.37 (.82)	.59 (1.12)	.30 (.72)	.22 (.67)
Respect	3.80 (1.83)	4.20 (1.62)	3.26 (1.92)	2.90 (2.18)	1.18 (1.57)	1.55 (1.64)	.54 (1.04)	.44 (1.09)
Schadenfreude	.20 (.66)	.32 (.88)	.34 (.97)	.31 (.98)	1.35 (1.75)	.50 (1.05)	2.35 (2.06)	1.70 (1.94)
Sympathy	.22 (.67)	.34 (.90)	.28 (.97)	.19 (.77)	3.30 (2.05)	4.07 (1.70)	.78 (1.22)	.77 (1.40)

*Note:* + = positive or present, - = negative or not present

Table 6

ANOVAs for Moral Emotions of High School Students (Study 3)

Emotion	Source													
	result		effort		ability		result x effort		result x ability		effort x ability		result x effort x ability	
	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$	<i>F</i>	$\eta^2$
Admiration	648***	.43	57***	.02	2	.00	1	.00	0	.00	31***	.00	1	.00
Anger	14***	.01	57***	.02	5*	.00	107***	.06	2	.00	1	.00	8**	.00
Contempt	0	.00	85***	.07	8**	.00	1	.00	0	.00	23***	.00	0	.00
Indignation	16***	.01	27***	.01	18***	.00	102***	.07	26***	.01	10**	.00	4*	.00
Pride	165***	.14	68***	.03	16***	.00	38***	.01	8**	.00	18***	.00	0	.00
Respect	633***	.39	109***	.04	1	.00	0	.00	1	.00	31***	.00	2	.00
Schadenfreude	198***	.14	87***	.04	35***	.01	69***	.03	36***	.02	0	.00	2	.00
Sympathy	513***	.26	432***	.15	10***	.00	432***	.14	11***	.00	21***	.00	7**	.00
<i>M</i> ( $\eta^2$ )		.17		.05		.00		.04		.00		.00		.00

Note.  $\eta^2$  = explained variance for each individual factor in the experimental design; \*  $p < .05$ .

\*\*  $p < .01$ . \*\*\*  $p < .001$ , all  $df = (1,182)$ .

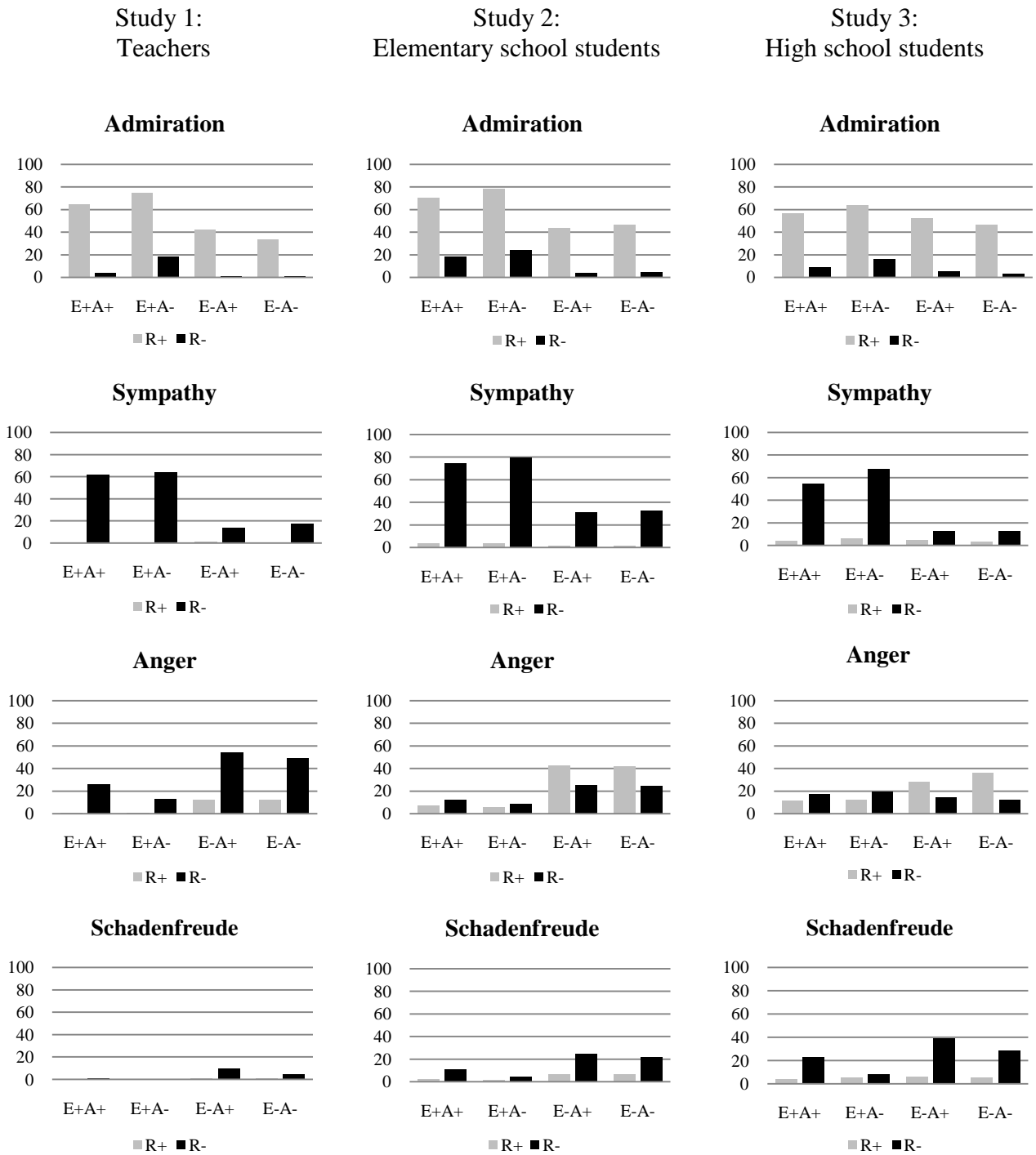


Figure 1. Mean Values for Moral Emotions in Teachers (Study 1) and Students (Study 2 and 3) by Result, Effort, and Ability.

Note. Mean values were transformed into percentile ranks. R = result, E = effort, A = ability; + = positive or present, - = negative or not present.

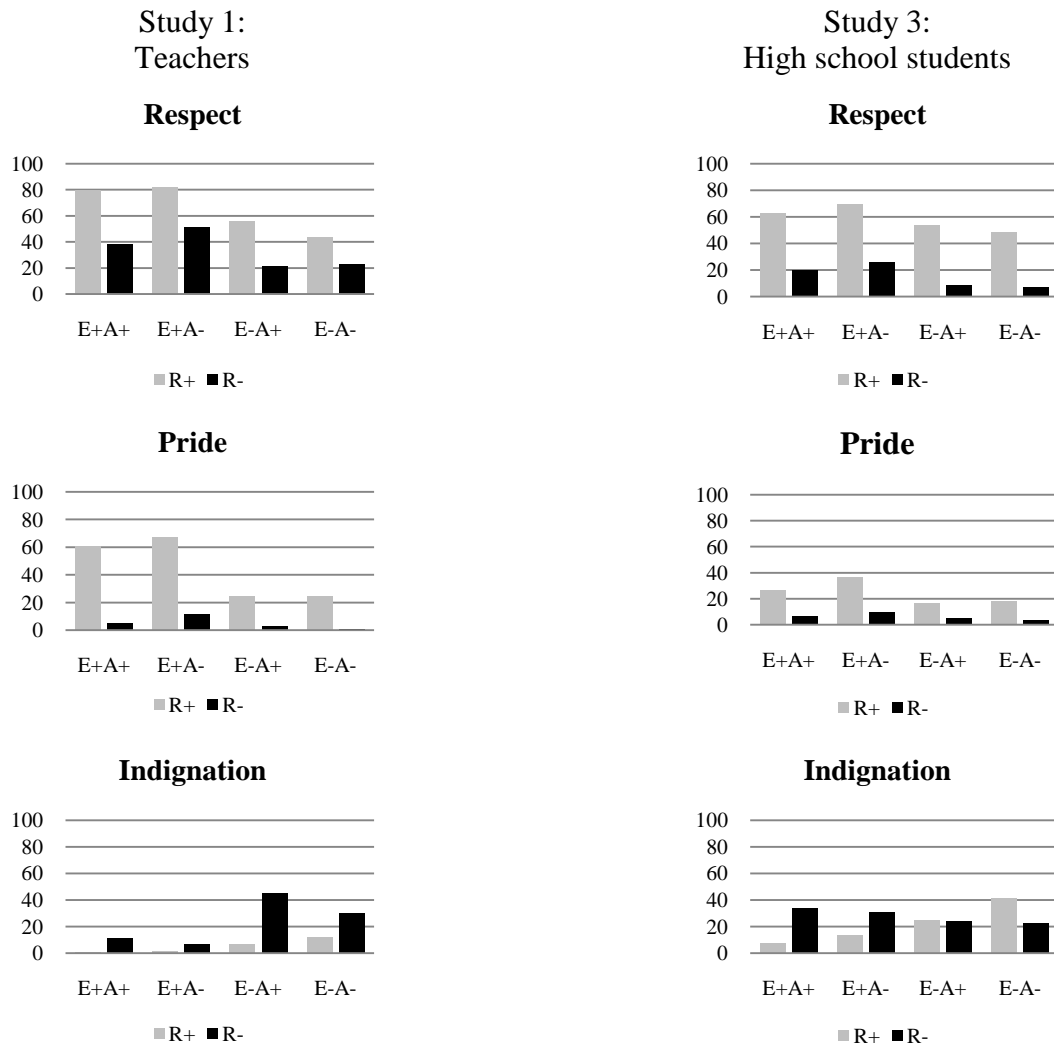


Figure 2. Converted Mean Values for Moral Emotions in Teachers (Study 1) and High School Students (Study 3) by Result, Effort, and Ability.

Note. Mean values were transformed into percentile ranks. R = Result, E = Effort, A = Ability; + = positive or present, - = negative or not present.

**Daniel has fallen into a Muddy Puddle -  
Schadenfreude or Sympathy?**

Katrin Schulz, Nadine Tsharaktschiew, Udo Rudolph  
Chemnitz University of Technology, Germany

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## Abstract

The present study investigates the experience of schadenfreude among children. Participants were 4 to 8 year old children ( $N=100$ ) who were told stories of another child experiencing a misfortune while pursuing a morally positive vs. morally negative goal. Schadenfreude, sympathy, and helping behavior towards the suffering child were assessed. Results show that beginning at the age of 4, emotional and behavioral reactions towards a misfortune of another child are predicted by the moral valence of the other child's goal. Differentiation between positive versus negative goals was equally pronounced in younger and older children for schadenfreude, but increased with age for sympathy and helping behavior. Furthermore, results indicate that morally negative goals decrease helping behavior and that this effect is mediated by schadenfreude. Helping behavior is more likely for morally positive goals, and this effect is mediated by sympathy.

**Keywords:** moral emotions; development; childhood (birth-12 yrs); preschool age (2-5 yrs); prosocial behavior

## Daniel has fallen into a Muddy Puddle - Schadenfreude or Sympathy?

Imagine Daniel has fallen into a muddy puddle, and now he is very upset. Anthony observed the situation – and he begins to laugh. What might have happened before and what makes Anthony laugh at Daniel, who is suffering such a misfortune? When it comes to the misfortune of another person, two different emotional reactions may arise: We might feel sympathy, or we might experience pleasure in the others' misfortune (schadenfreude). There is a huge body of literature analyzing the psychological meaning of sympathy (e.g. Batson, Duncan, Ackerman, Buckley, & Birch, 1981; Batson et al., 1988; for reviews see Dovidio, Piliavin, Schroeder, & Penner, 2006; Rudolph, Roesch, Greitemeyer, & Weiner, 2004; Weiner, 1986). In contrast, it was only recently that researchers began to analyze the conditions eliciting schadenfreude (e.g. Feather & Sherman, 2002; Hareli & Weiner, 2002; Leach & Spears, 2009; Smith et al., 1996; Van Dijk, Ouwerkerk, Wesseling, & van Koningsbruggen, 2011). For example, inspection of the latest edition of the excellent "Handbook of Emotions" (Lewis, Haviland-Jones, & Feldman Barrett, 2010) reveals that the emotion of schadenfreude is not mentioned at all. This shadowy existence of this emotion seems striking, as schadenfreude is an emotion very present in social life (e.g., with regard to gossip or television shows), and it is supposed to influence social relationships strongly: On the one hand, the experience of schadenfreude is quite delightful for the person who feels it, because it is associated with greater positive self-evaluation (Leach & Spears, 2009). On the other hand, schadenfreude implies a devaluation of the other person or group, and thus may be painful for the target of this emotion (Heider, 1958; Rubin & Hewstone, 1998).

Thus, schadenfreude is a pleasant but at the same time a potentially painful or even harmful emotion, implying a conflict between the person who feels schadenfreude and the person being the target of schadenfreude. As a consequence, Heider (1958) labeled schadenfreude a "discordant" emotion, and the appropriate expression and understanding of this emotion are of high importance to early emotional education, to enable children to foster the quality of peer relationships. To date, no empirical data exist that analyze the development of schadenfreude in children. Interestingly, schadenfreude is also quite disregarded in the current children's literature: We checked 60 children's books on emotional education (recommended for children age 4 - 8) with regard to the frequency of anger, schadenfreude and sympathy: We found 114 situations on anger, 80 situations dealing with sympathy, and only 11 situations on schadenfreude. Therefore, the present study aims to gain first insights with regard to the conditions and consequences of schadenfreude among children.



### **Schadenfreude as an Emotional Reaction: Necessary and Potential Requirements**

One necessary condition for the emergence of schadenfreude is that a misfortune of another person or group has occurred. However, additional conditions must exist, as misfortunes of other persons might as well elicit sympathy. As van Dijk and colleagues (2011) have recently pointed out, schadenfreude seems to be a “multi-determined emotion”. Several candidates have been identified as potential facilitating conditions for eliciting schadenfreude (in what follows, the person who is the target of schadenfreude will be labeled as target, while the person experiencing schadenfreude will be labeled experiencer): (a) Envy towards the target (Feather & Sherman, 2002; Smith et al., 1996; van Dijk, Ouwerkerk, Goslinga, Nieweg, & Gallucci, 2006), (b) negative self-evaluation of the experiencer (Leach & Spears, 2009; Leach, Spears, Branscombe, & Doosje, 2003; van Dijk et al., 2011), (c) ascriptions of personal responsibility to the target and perceived deservingness of the misfortune (Feather & Sherman, 2002; van Dijk, Ouwerkerk, Goslinga, & Nieweg, 2005), (d) dislike towards the target (Hareli & Weiner, 2002), and (e) a morally negative valence of the target’s goal (Rudolph, Schulz, & Tscharaktschiew, 2011). This moral valence of the goal represents an appraisal whether the target had good or bad intentions in mind when the misfortune took place. We assume that this variable is a crucial factor in determining whether either schadenfreude or sympathy is experienced vis-à-vis the misfortune of another person.

While there has been no research on schadenfreude among children thus far, we argue that our understanding of the development of schadenfreude in children will benefit from developmental studies analyzing emotions that are likely to have similar requirements: this is the group of the so-called moral emotions (Rudolph et al., 2011; Weiner, 2006). As there is a large body of evidence dealing with other kinds of moral emotions in children, we will now turn to a brief analysis of the development of moral emotions, with special emphasis on the counterpart of schadenfreude, that is, sympathy.

#### **Children’s Understanding of Moral Emotions**

The majority of research on emotional development has focused predominantly on the primary emotions, such as joy, anger, fear and sadness. In contrast, the moral emotions such as, guilt, pride, or shame (e.g. Harris, 1989; Kochanska, Gross, Lin, & Nichols, 2002; Saarni, 1999) received considerably less attention. Recent research revealed that the emotional life of children advances considerably during the preschool period, because children at this age acquire cognitive prerequisites that are crucial to the understanding of the more complex moral emotions (e.g., Denham, von Salisch, Olthof, Kochanoff, & Caverly, 2002; Harris, 2010). Thus, the experience of moral emotions is based on comparatively elaborated cognitive processes, such as growing self-awareness, and understanding of commonly shared rules and norms. Studies reveal that children

consider a violation to moral rules as a transgression quite early in life (Keller, Lourenço, Malti, & Saalbach, 2003; Lagattuta, 2005; Nunner-Winkler & Sodian, 1988). It has been shown that the awareness of such transgressions is possible by three years of age (Lewis, 1995). Thus, children at this age are able to evaluate their own behavior and the behavior of others with regard to a commonly agreed moral standard. Hence, children begin to express and understand moral emotions such as sympathy, pride, embarrassment, shame and guilt as young as at the age of two or three (Barrett, 1995; Denham et al., 2003; Reissland & Harris, 1991).

In our context, sympathy is of special interest, as this emotion – like *schadenfreude* – is experienced vis-à-vis the misfortune of another person. To feel sympathy, children need to be aware of the plight or misfortune of another person, and at the same time they have to understand that the misfortune does not affect themselves; otherwise the situation would cause personal distress rather than sympathy. Such distress has been shown for one year old children or even newborn babies who react to other babies' crying (Dondi, Simion & Caltran, 1999; Friedman, Zahn-Waxler, & Radke-Yarrow, 1982; Hoffmann, 2000; Martin & Clark, 1982). Moreover, children as young as two years of age are able to interpret another person's emotional states, to feel sympathy in response, and to attempt to comfort the other person by hugging, giving physical assistance or getting some other person to help (Friedman et al., 1982; Phinney, Feshbach, & Farver, 1986; Zahn-Waxler & Radke-Yarrow, 1990). Thus, children who already have acquired a stable self-other distinction (probably emerging at the age between two and three) are more likely to show a sympathetic reaction to another's plight (Bischof-Köhler, 1988; Zahn-Waxler & Radke-Yarrow, 1990).

Taken together, children are able to experience and express sympathy vis-à-vis another persons' plight or misfortune quite early in life. We assume that *schadenfreude* requires some additional cognitive competencies that enable children to differentiate between sympathy- versus *schadenfreude*-eliciting situations. Let us briefly consider two examples:

- (1) Daniel has fallen into a muddy puddle. → Daniel is sad. → Anthony feels sympathy with Daniel.
- (2) Daniel has fallen into a muddy puddle. → Daniel is sad. In addition, one or several of the following conditions (as outlined above) may influence Anthony's emotional reaction: (a) Anthony envies Daniel (e.g., because Daniel possesses many toys), (b) Daniel has elicited feelings of inferiority in Anthony before (e.g., he refuses that Anthony joins in a game) (c) Daniel has been responsible for his misfortune und thus deserves it (e.g. he did not pay attention to what his mother said), (d) Daniel has elicited hostile feelings in Anthony in other situations (e.g. Daniel repeatedly cheated on Anthony), or (e) Daniel has had a bad

goal (e.g., Daniel intended to harm another child). → Anthony may experience Schadenfreude.

In the present study, we focus on the influence of the valence of the goal (i.e., condition e). We examine whether the valence of an observed goal of another child influences the emotional reactions towards the misfortune of this child. The understanding that a certain action represents a transgression of a moral standard is the central element of this appraisal process. As pointed out before, children are able to do so at about three years of age. To summarize, by the age of three years children are able:

- to detect a misfortune of another person by means of a clear self-other distinction,
- to evaluate behavior with respect to binding norms and rules, and
- to consider certain behaviors as a transgression of these rules.

### **Aims of the Present Study**

Based on these findings, we hypothesize that children are able to experience schadenfreude at about three years of age. As either sympathy or schadenfreude may be experienced vis-à-vis the misfortune of another person, we also analyze the emergence of sympathy. Furthermore, as helping behavior is a typical reaction following a misfortune (for a summary, see Rudolph et al., 2004; Weiner, 1995), we additionally analyzed the impact of schadenfreude and sympathy on helping behavior. Our predictions are as follows:

- (1) The valence of the goal of a person suffering a misfortune has a strong impact on the experience of schadenfreude versus sympathy towards this person. Morally good goals elicit sympathy, whereas morally bad goals elicit schadenfreude. Helping behavior is increased following morally good goals and decreased following morally bad goals.
- (2) The influence of good versus bad goals on the experience of schadenfreude and sympathy increases with age, representing a stronger differentiation between the antecedent conditions of both emotions.
- (3) Both schadenfreude and sympathy serve as mediators between the valence of the goal and helping behavior: While sympathy promotes helping behavior, we assume that schadenfreude reduces the likelihood of helping behavior.

## **Method**

### **Participants**

Participants were  $N = 110$  children from four kindergartens and one primary school in Germany between 3 years 5 months and 8 years 6 months. The 10 youngest children (between 3.5

and 4.0 years) had to be excluded from data analyses due to task difficulties (e.g., difficulties caused by misunderstandings concerning the rating scales or the interviewer's questions). Thus, the final sample included 100 children from 4 to 8 years ( $M = 6.5$  years,  $SD = 14.14$  months; 52 girls, 48 boys). 32 children were 49 to 68 months ( $M = 61.09$  months, 53% girls), 35 children were 69 to 86 months ( $M = 78.98$  months, 57% girls), and 33 children were 87 to 102 months old ( $M = 93.61$  months, 46% girls). Prior to the study, parents were requested to provide written consent forms.

### Material and Procedure

We used a story task to analyze children's emotional and behavioral reaction towards a misfortune of another child. For this purpose, we created four different stories describing a target child (1) falling from a tree, (2) breaking his beloved shovel, (3) rushing into stinging nettles, and (4) slipping and falling into a muddy puddle. Prior to the misfortune, the target child followed a morally good vs. morally bad goal (varied as independent variable). As a good goal we used a prosocial action, such as to help or please another child. As a bad goal, we used an antisocial action, such as to hurt another child or to destroy something dear to another child. This manipulation resulted in eight scenarios (4 stories x 2 goals: good vs. bad; see Appendix A).

To reduce response burden, each child was told four stories, two with a good goal, and two with a bad goal of the protagonist (resulting in a nested design). One group of children (Group A:  $n = 56$ , mean age = 78.75,  $SD = 14.42$ ) received scenario 1 and 2 with a good goal and scenario 3 and 4 with a bad goal. The other group (Group B:  $n = 44$ , mean age = 77.16,  $SD = 13.90$ ) received scenario 1 and 2 with a bad goal and scenario 3 and 4 with a good goal. Assignment to these experimental groups was random.

All stories were designed in the same way. For each story, three pictures were used to illustrate the respective text during task presentation. Picture 1 and 3 were identical for each scenario, while we varied picture 2, showing either a prosocial versus an antisocial goal of the protagonist (i.e., the target child). An example is given in Figure 1.

Insert Figure 1

Stories and picture sets were designed carefully to control for several potentially confounding factors: As recent research has shown a significant effect of participant's gender and protagonist's gender on schadenfreude and sympathy (von Dijk et al., 2006; Phinney et al., 1986), we counterbalanced protagonist's gender. Hence, we described two female and two male protagonists. The names of protagonists were held constant with respect to valence and attractiveness (by using German norms for first names, see Rudolph, Böhm & Lummer, 2007). Finally, in the last picture of each story, the protagonist always showed the same sad emotional

expression. As dependent variables, the children answered five questions. Three questions assessed emotional reactions: (1) “How much do you feel sorry for (e. g. Sarah)?”, (2) “How pleased are you that (e.g. Sarah has fallen from the tree)?”, (3) “How funny do you think is it that (e.g., Sarah has fallen from the tree)?”. Two questions assessed potential helping behavior with respect to the plight of the protagonist: (4) “How much would you like to comfort (e.g. Sarah)?”, (5) “How much would you now like to (e.g. help Sarah pick up the plums)?”

**Task presentation.** Children were tested individually by one of three interviewers in a quiet room at kindergarten or school. The interviewer read aloud each story to the child while at the same time showing the respective pictures. The pictures, presented on laminated 6 x 6 in. cards, were laid out on the table in front of the child. Children made their judgments by using a pictorial rating scale. The scale was presented on a laminated 4 x 6 in. card showing a colored right-angled triangle, with one ascending shank leading from the left bottom to the right top. At the beginning of each session, the interviewer instructed the children to “use the triangle to show your answers”. They explained that, for example, for question (1) “the one side of the triangle means that you do not feel sorry at all” (pointing to the left side of the triangle, where the shank was still at the bottom of the triangle) and “the other side of the picture means that you feel sorry to a very high degree” (pointing to the right side of the triangle, where the shank had reached at the top of the triangle). In addition, the children were told that any point between the left and right side of the triangle should be used to indicate different degrees of feeling sorry. The children were trained to make their judgments by using two trial tasks (e.g., “How much do you like ice cream?”). For the experimental task, the interviewer transformed the childrens’ ratings into a 9-point rating scale, anchored at both ends (0 = *not at all*, 8 = *very much*). Each individual session took approximately 20 minutes. Subsequently, children were told a story from a book of their choice. To control for order effects, stories and questions were presented in 8 different test orders randomly assigned to the participants.

## Results

### Preliminary Analyses

**Treatment of variables.** The variables “How pleased are you that...?” and “How funny do you think is that...?” correlate highly for all four scenarios,  $r_{\text{plum}} = .69, p < .001$ ,  $r_{\text{nettles}} = .60, p < .001$ ,  $r_{\text{puddle}} = .64, p < .001$ ,  $r_{\text{shovel}} = .68, p < .001$ . Therefore, we combined both to one variable named „schadenfreude“. The same is true for “How much would you now like to comfort...?” and “How much would you now like to help...?”,  $r_{\text{plum}} = .67, p < .001$ ,  $r_{\text{nettles}} = .62, p < .001$ ,  $r_{\text{puddle}} = .73, p < .001$ ,  $r_{\text{shovel}} = .67, p < .001$ , which were thus combined to one variable named „helping

behavior“. Analyses for combined versus separate dependent variables are exactly identical; thus we will restrict ourselves to presentation of the combined measures.

**Control variables.** Preliminary analyses tested effects of gender of participants by means of t-test for independent samples, and effects of protagonist’s gender by means of t-tests for paired samples. Analyses reveal no significant effects for both variables (all  $p < .10$ ). Therefore these variables are excluded from subsequent analyses. The respective means and standard deviations are provided in Table 1.

Insert Table 1

Furthermore, to analyze whether the scenarios used in the different test versions measure the same construct, we correlated the respective ratings for each of the dependent variables: For schadenfreude, scenario 1 and 2 and scenario 3 and 4 correlate with  $r_{1\&2} = .55, p < .001, r_{3\&4} = .54, p = p < .001$ . For sympathy, scenario 1 and 2 and scenario 3 and 4 correlated with  $r_{1\&2} = .42, p < .001, r_{3\&4} = .50, p < .001$ . For helping behavior, scenario 1 and 2 and scenario 3 and 4 correlate with  $r_{1\&2} = .57, p < .001, r_{3\&4} = .70, p < .001$ . Thus, scenarios 1 and 2 (labeled as scenario 1/2 in what follows) and scenarios 3 and 4 (labeled as scenario 3/4) were combined for subsequent analyses.

Moreover, we conducted independent t-tests between Group A (scenario 1/2 with a good goal and scenario 3/4 with a bad goal) and Group B (scenario 3/4 with a good goal and scenario 1/2 with a bad goal). Five of the resulting six t-tests reveal a significant difference between the groups (all  $p < .10$ , with the exception of helping behavior after a bad goal,  $t(97) = 1.67, p = .098$ ), indicating that scenario 1/2 and scenario 3/4 measured identical constructs.

### Schadenfreude, Sympathy, and Helping Behavior

To analyze the effects of the valence of goal on children’s ratings of schadenfreude, sympathy, and helping behavior, we conducted t-tests for paired samples. Corresponding effect sizes (Cohen’s  $d$ ) are reported. A first inspection of the mean values reveal that overall, ratings of sympathy ( $M = 5.57, SD = 2.61$ ) and helping behavior ( $M = 6.09, SD = 2.25$ ) were much higher than those for schadenfreude ( $M = 1.42, SD = 1.97$ ).

In addition, results indicate that children’s responses were sensitive to the goal of the protagonist: Children reported significant lesser degrees of schadenfreude for good ( $M = .62, SD = 1.23$ ) as compared to bad goals ( $M = 2.23, SD = 2.23$ ),  $t(98) = 7.33, p < .001, d = .89$ . For good goals, children reported significantly more sympathy ( $M = 6.34, SD = 2.33$ ) as compared to bad goals ( $M = 4.59, SD = 2.62$ ),  $t(97) = 6.40, p < .001, d = .71$ . In line with the results for

schadenfreude and sympathy, children offered significantly more help to a protagonist who pursued a morally good ( $M = 6.78$ ,  $SD = 1.63$ ) as compared to a morally bad goal ( $M = 5.45$ ,  $SD = 2.52$ ),  $t(97) = 5.92$ ,  $p < .001$ ,  $d = .62$ .

**The influence of age.** We analyzed whether the differentiation between good versus bad goals varies with age of the children. To quantify the magnitude of differentiation, we computed the difference between the means for positive versus negative intentions for each of the dependent variables. The respective means for these differences are  $M = 1.62$  (ranging from -2.25 to 8.00) for schadenfreude,  $M = 1.75$  (ranging from -4.50 to 8.00) for sympathy, and  $M = 1.32$  (ranging from -3.25 to 7.50) for helping behavior, with positive values indicating a differentiation according to our hypotheses. Subsequently, for each of the dependent variables, we conducted correlations between age and difference.

For schadenfreude, 62% of the children reported more schadenfreude when the protagonist had a bad goal. The correlation between the difference value and the age of the children is not significant for schadenfreude,  $r = .03$ ,  $p = .743$ . 55% of the children experienced more sympathy for morally good goals. With increasing age, children show a stronger differentiation between good versus bad goals,  $r = .31$ ,  $p = .002$ . With regard to helping behavior, 62 % of the children indicated more willingness to help the target child when the pursued goal was morally positive. The correlation with age is marginally significant,  $r = .17$ ,  $p = .087$ .

### Schadenfreude and Sympathy as Mediators

To analyze whether schadenfreude and sympathy mediate the relationship between the valence of a person's goal and helping behavior after a misfortune, we applied the three-step method for mediation analyses as proposed by Baron and Kenny (1986, see also Kenny, Keshy, & Bolger, 1998).

**Schadenfreude.** (1) We conducted a regression analysis for helping behavior as a dependent variable and valence of a goal as a predictor. Helping behavior is predicted by the valence of a goal, with  $\beta = .28$ ,  $t(98) = 4.04$ ,  $p < .001$ . (2) Furthermore, we tested whether the valence of a goal is a predictor for the potential mediator schadenfreude. Schadenfreude is also predicted by the valence of a goal, with  $\beta = -.41$ ,  $t(98) = -6.34$ ,  $p < .001$ .

(3) Subsequently, we estimated the regression coefficients in a multiple regression equation with helping behavior as the dependent variable and the valence of a goal and schadenfreude as explanatory variables. Here, schadenfreude is a significant predictor of helping behavior, with  $\beta = -.53$ ,  $t(98) = -7.94$ ,  $p < .001$ . Furthermore, the inclusion of schadenfreude reduces the variance explained by the valence of a goal, and the relationship between the goal and helping behavior is no

longer significant,  $\beta = .05$ ,  $t(98) = .81$ ,  $p = .418$ . The Sobel-test for the mediator model is significant,  $z = 4.96$ ,  $p < .001$  (Sobel, 1982). The resulting model explains 30% of variance in helping behavior. In sum, these findings indicate that schadenfreude completely mediates the effect of goals on helping behavior.

**Sympathy.** (1) As outlined above, the valence of a goal is significantly related to helping behavior. (2) The valence of a goal also has a significant effect on sympathy, with  $\beta = .34$ ,  $t(98) = 5.03$ ,  $p < .001$ . (3) The multiple regression with sympathy and goal as explanatory variables and helping behavior as dependent variable reveals a significant effect of sympathy on helping behavior,  $\beta = .45$ ,  $t(98) = 6.96$ ,  $p < .001$ . Within this regression analysis, the impact of the goal on helping behavior is not significant anymore, with  $\beta = .12$ ,  $t(98) = 1.88$ ,  $p = .062$ . Again, the Sobel-test for this mediation model is significant, with  $z = 4.09$ ,  $p < .001$ . The resulting model explains 26% of variance in helping behavior. These findings indicate that sympathy completely mediates the effect of goals on helping behavior.

### Discussion

Schadenfreude is an emotion inherent to social life. Because it is a discordant emotion (Heider, 1958), and thus at the same time pleasing for the experiencer and painful to the target, it should be of high interest in educational context. To the best of our knowledge, there have been no studies investigating schadenfreude in children thus far. Hence, the present study was conducted to gain first insights into the experience of schadenfreude among children. More specifically, we analyzed whether children are able to differentiate their emotional reactions (schadenfreude vs. sympathy) towards a person who suffers a misfortune, depending upon the moral valence of the goal the person had in mind when the misfortune happened.

In line with our expectations, results indicate that children differ strongly in their emotional reaction towards the misfortune of another child, predicted by the goal (good versus bad) of the observed child. This is in line with findings demonstrating that an evaluative dimension (good vs. bad) is highly salient when younger children reason about people (Alvarez, Ruble, & Bolger, 2001; Cain, Heyman, & Walker, 1997; Hamlin, Wynn, & Bloom, 2007; Stipek & Daniels, 1990). Moreover, our results corroborate findings revealing that children at a very young age are able to judge other persons' actions as transgressions and to label them as bad (Harris, 1989; Lagatutta, 2005; Keller et al., 2003). Finally, our results underline the findings of Rudolph and colleagues (2011) indicating that the valence of the goal of the suffering person determines whether schadenfreude or sympathy is experienced towards the plight of another person.



This differentiation between good and bad goals is very pronounced, even among the youngest children, and especially so for the emotion of schadenfreude: With respect to schadenfreude, the majority of the children (almost two-thirds) differed in the predicted way between good and bad goals (e.g. low schadenfreude in response to a good goal and high schadenfreude in response to a bad goal). We did not find a significant influence of age on the differentiation between good and bad goals. Additionally, schadenfreude was almost entirely absent when the suffering child has had a good goal. In contrast, for sympathy, we found a significant age change for the differentiation between good and bad goals, and only half of the children differed in the predicted way. For helping behavior, the differentiation between the two goals also increases with age. In contrast to schadenfreude, sympathy and helping behavior are only reduced (but far away from absent at all) when the child has had a bad goal. These results highlight two complementary issues:

(a) As expected, schadenfreude is not the first reaction to a misfortune – in order to experience schadenfreude, additional appraisals are necessary, such as the perception of bad goals (Rudolph et al., 2011; for other cognitive prerequisites see Feather & Sherman, 2002; Hareli & Weiner, 2002; Smith et al., 1996; van Diik et al., 2005; 2011). If there are no additional necessary appraisals, schadenfreude is completely absent towards a misfortune. This is not the case for sympathy: Thus, (b) it seems as if sympathy is an innate reaction towards the misfortune of another child, and – at least to a certain degree – less influenced by situational factors in younger children (as compared to schadenfreude). This is in line with studies showing that personal distress vis-a-vis other children's distress is experienced very early in life (Friedman et al., 1982; Hoffman, 2000; Martin & Clark, 1982). Similarly, helping behavior seems to be the appropriate reaction towards the misfortune of another child and thus, the behavior does not disappear completely for actors pursuing morally bad goals. This is not surprising, because children are educated to help suffering children quite early in life (for a review see Eisenberg, Fabes, & Spinrad, 2006). When children advance in age, additional information, such as the goals or intentions of the child, receive comparatively greater weight. As we found an influence of the valence of goals on schadenfreude for very young children, we finally conclude that young children are nevertheless well able to perceive and process this variable and make use of this information when reacting towards the plight of another child (see also Graham & Hoehn, 1995).

Further insights arise when analyzing the overall intensities of schadenfreude, sympathy, and helping behavior. We observed much smaller levels for schadenfreude as compared to sympathy and helping behavior. This finding may have different causes: (a) children of very young age are already aware of the fact that schadenfreude holds negative connotations, and thus we may be faced with social display rules even at this young age. Although only little empirical research

has examined young children's' understanding of display rules, we know that at about four years of age children develop an understanding of dissemblance of emotions and display rules (Banerjee, 1997; Zeman, Penza, Shipman & Young, 1997). (b) As already mentioned, children might have learned that it is praiseworthy to express sympathy and to offer help towards the plight of another child. Indeed, many studies have shown that by the age of four, children had multiple opportunities to learn these rules of social behavior (for a review see Eisenberg et al., 2006). (c) The ratings of schadenfreude may depict the actual amount of emotional experience (i.e., emotional intensity) of the children. Given that this is the case, feelings of sympathy would be much more common than feelings of schadenfreude. However, answering this question is beyond of the scope of the present article; future research such as observational studies of free play interactions would extend the present study in important ways.

Another aim of the present study was to analyze whether schadenfreude and sympathy (i.e., emotions) actually mediate between the valence of the observed goal of the child (i.e., cognitions) and the resulting helping behavior (i.e., behavioral reactions; see also Schuster, Rudolph & Försterling, 1998). Results suggest that schadenfreude and sympathy mediate between the valence of the goal of the suffering person and helping behavior. While schadenfreude reduces the likelihood of helping behavior, sympathy increases the likelihood of helping. Thus, our results corroborate existing findings that sympathy is a strong motivator of helping behavior, which is well in line with previous research on this topic (Rudolph et al., 2004; Weiner, 1986). More importantly, for the first time, our data demonstrate the help-reducing effects of schadenfreude. This is well in line with studies with adults, indicating that schadenfreude is an emotion that is likely to impair social relationships (Leach & Spears, 2009; Rubin & Hewstone, 1998). Note, however, that a causal pathway cannot be derived from our data, as sympathy and schadenfreude were not manipulated experimentally (for a further discussion of this issue see Bullock, Green & Ha, 2010; Spencer, Zanna & Fong, 2005). Thus, additional research analyzing the causal status of schadenfreude is certainly needed.

### **Concluding Remarks**

Our findings provide the first empirical demonstration that schadenfreude is already experienced by children as young as four years of age. Thus, schadenfreude is experienced when an observed child suffers a misfortune, and has had a bad goal when performing the behavior eliciting this misfortune. Moreover, the influence of good versus bad goals on the experience of schadenfreude is equally strong among younger and older children. Research has repeatedly stressed the importance of understanding moral emotions to improve the understanding of moral behavior (Arsenio & Lover, 1995; Gummerum, Hanoch, Keller, Parsons, & Hummel, 2010; Malti,

2007). In line with this view, our data revealed that schadenfreude has an important impact on social (i.e., helping) behavior even among young children. Thus, it is highly important to further analyze the determinants and consequences of schadenfreude. Right now, we are standing at the beginning of the understanding of this emotion.

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Table 1  
*Mean Values and Standard Deviations*

	schadenfreude <i>M</i> ( <i>SD</i> )	sympathy <i>M</i> ( <i>SD</i> )	helping behavior <i>M</i> ( <i>SD</i> )
Gender of Participants			
Female	1.46 (1.47)	5.54 (1.98)	6.31 (1.81)
Male	1.42 (1.33)	5.22 (2.15)	5.66 (2.06)
Gender of Protagonists			
Female	1.32 (1.57)	5.52 (2.26)	6.12 (2.07)
Male	1.54 (1.67)	5.51 (2.39)	6.12 (1.89)
Scenario			
Good Goal			
Group A	.67 (1.24)	6.15 (2.41)	6.58 (1.82)
Group B	.55 (1.21)	6.61 (2.20)	6.88 (1.68)
Bad Goal			
Group A	2.06 (2.32)	5.03 (2.55)	5.93 (2.39)
Group B	2.37 (2.17)	4.23 (2.62)	5.09 (2.57)

Figure 1 Sample Pictures and Stories from the Task.

(1) Sarah and the plums (good goal)



(1) This is Sarah. Sarah wants to climb on this tree to pick up some plums.



(2a) Sarah wants to pick up the plums to give them to her little baby brother. Sarah's brother really loves plums! But he is too small to climb on the tree. He will be so happy about the plums! Now, Sarah reaches for another plum and ...



(3)...bang! She has fallen from the tree and is rubbing her bottom.

(2) Sarah and the plums (bad goal)

(same picture and text as above)



(2b) Sarah wants to pick up the plums to throw them after her little baby brother to tease him. Sarah's brother is very small, so the plums will really hurt him. He will be very upset! Now Sarah reaches for another plum and ...



(same picture and text as above)

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## Appendix A

### Scenario 1: Plum tree

(1) This is Sarah. Sarah wants to climb on this tree to pick up some plums. (2a = positive goal) Sarah wants to pick up the plums to give them to her little baby brother. Sarah's brother really loves plums! But he is too small to climb on the tree. He will be so happy about the plums! Now, Sarah reaches for another plum and ... (2b = negative goal) Sarah wants to pick up the plums to throw them after her little baby brother to tease him. Sarah's brother is very small, so the plums will really hurt him. He will be very upset! Now Sarah reaches for another plum and ... (3)...bang! She has fallen from the tree and is rubbing her bottom.

### Scenario 2: Shovel

(1) This is Max, he is at the beach. Max has got a fantastic shovel. It is great to dig in the sand with this shovel. Max really loves his shovel and takes it wherever he goes. Now, Max sees another child who is building a sandcastle. (2a = positive goal) Max wants to help the other child with his shovel building the sandcastle. The other child will be very happy! When Max digs in the sand for the first time ... (2b = negative goal) Max wants to destroy the sandcastle with his shovel so that he can play alone at the beach. The other child will be very angry! When Max digs in the sand for the first time... (3)... it gives a crack and the shovel is broken!

### Scenario 3: Stinging Nettles

(1) This is Laura. Laura watches Philip building up his new wooden railroad. It is a big railroad, so Philip is taking a long time for building it. (2a = positive goal) Laura rushes into the house and came bag with a big hammer: She wants to help Philips building the railroad. Philip will be very happy! Because Laura is in such a hurry she does not look and... (2b = negative goal) Laura rushes into the house and comes back with a big hammer: She wants to destroy Philip's railroad. Philip will be very angry! Because Laura is in such a hurry she does not look and... (3)...rushes into stinging nettles! Ouch- that really itches!

### Scenario 4: Muddy Puddle

(1) This is Daniel, he is at the park. Now, Daniel sees Toni who is playing with a ball. Toni is quite upset because he is playing alone. (2a = positive goal) Daniel wants to cheer up Toni, and so he decides to play with him. Toni will be very happy! Daniel is running over the lawn towards Toni, does not realize that there is a big muddy puddle and... (2b = negative goal). Daniel wants to tease Toni, so he decides to go over and shoot the ball at him! Toni will be very upset! Daniel is running over the lawn towards Toni, does not realize that there is a big muddy puddle and... (3)...Splat! Daniel has fallen into the muddy puddle and is over and over covered with mud!

# LEBENS LAUF

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## **Persönliche Daten**

Name	Katrin Schulz
Geburtsdatum	04.11.1978, Duisburg
Staatsangehörigkeit	Deutsch

## **Ausbildung**

seit 2005	Ausbildung zur Psychologischen Psychotherapeutin Institut für Psychologische Psychotherapie, Bochum
2000-2004	Diplom in Psychologie (Note 1.1) TU Chemnitz  Nebenfach: Pädagogik Titel der Diplomarbeit: „Die Veränderung des Selbstkonzeptes von Kindern und Jugendlichen mit einer Aufmerksamkeitsdefizit-/Hyperaktivitätsstörung durch ein multimodales Förderkonzept“
1999-2000	Lehramt Sek.II (Fächer: Psychologie, Englisch) Universität Duisburg
1999	Abitur (Note 2.1) St. Suitbertus Gymnasium, Düsseldorf

## **Beruflicher Werdegang**

seit 2007	Wissenschaftliche Mitarbeiterin TU Chemnitz, Professur für Allgemeine Psychologie und Biopsychologie
seit 2004	Freiberufliche Tätigkeit Erwachsenenbildung, Fortbildungen an Schulen und Kindertagesstätten
2006-2007	Psychologin Erwachsenenpsychiatrie, Klinikum Chemnitz
2005-2006	Wissenschaftliche Mitarbeiterin, Beratungs- & Forschungsstelle TU Chemnitz, Professur für Entwicklungs- und Pädagogische Psychologie

# LEBENS LAUF

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- 2004-2005 Freiberufliche Tätigkeit  
Praxis für Neurologie und Kinder- und Jugendpsychiatrie, Meissen  
Ambulantes Rehabilitationszentrum Zwickau
- 2001-2004 Studentische Hilfskraft  
TU Chemnitz  
Integratives Zentrum zur Förderung hyperkinetischer Kinder, Chemnitz

## **Projekte**

- seit 2009 Projektleitung: HUCKEPACK – Mentorengestützte Prävention  
aggressiven Verhaltens im Vorschulalter
- 2011 Projektleitung: Normierungsstudie ET 6-6 R, Teilbereich Ostdeutsche  
Stichprobe  
Kooperation mit Universität Bremen
- 2010 Projektleitung: Normierungsstudie SON R, Teilbereich Ostdeutsche  
Stichprobe  
Kooperation mit Universität Bremen

## **Drittmittelaquise**

- 2011 Rudolph, U. & Schulz, K.  
Get started: Praxisorientierte Zusatzausbildung im Bachelor  
Psychologie  
gefördert durch die Sächsische Aufbaubank (Fördervolumen: 183.481,- €)

## **Organisation und Durchführung von Tagungen**

- 2011 Symposium Identität und Entwicklung:  
Die Bedeutung praktischer Lernerfahrungen  
gefördert durch die Fritz Thyssen Stiftung, Chemnitz

# ERKLÄRUNG

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Ich erkläre, die vorliegende Arbeit selbstständig verfasst zu haben. Ich habe keine anderen als die angegebenen Hilfsmittel verwendet.

Katrin Schulz  
Chemnitz, den 06.07.2011