

A model of equal opportunity

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Ein Modell der Chancengleichheit

Die Bedeutung von Chancengleichheit bei Wahrnehmungen von Bildungspolitik

Die Vereinten Nationen betonen das Recht auf Bildung (United Nations, 2008), das durch die Implementierung eines gerechten Bildungssystems verwirklicht werden soll. Dabei zeigen öffentliche Debatten über Reformvorhaben im Bildungsbereich, wie wichtig Gerechtigkeitswahrnehmungen und -urteile für die Akzeptanz solcher Reformen sind.

Ein Beispiel für ein vielfach diskutiertes Modell, dessen Ideen das deutsche Bildungssystem beeinflusst hat, ist die Einheitsschule (Schröder, 2001). Die Einheitsschule wird definiert als eine Schule für „Kinder und Jugendliche[, die diese] unabhängig von ihrer Begabung, Entwicklung, Neigung und sozialen Herkunft [gemeinsam besuchen]“ (Schröder, 2001, S. 82). Begründet wird die Einführung der Einheitsschule mit einer erheblichen Verbesserung der Chancengleichheit für sozial benachteiligte Kinder.

In der Bundesrepublik Deutschland findet das Konzept der Einheitsschule teilweise Umsetzung, aktuell etwa in Hamburg. Dort sollten ab dem Schuljahr 2009/10 alle Schülerinnen und Schüler bis zur 4. Klasse in der gemeinsamen Grundschule unterrichtet werden. Anschließend sollten alle anderen weiterführenden Schulen außer das Gymnasium zu einer gemeinsamen Schule – der Stadtteilschule – zusammengefasst werden, diese hätte dann neben dem Gymnasium bestanden (Hansestadt Hamburg, 2008). In den Stadtteilschulen hätten die Schülerinnen und Schüler im gemeinsamen Unterricht weiterhin alle Schulabschlüsse erwerben können, so etwa die Schule nach der 9. Klasse mit der Berufsschulreife, nach der 10. Klasse mit einem Fachoberschulabschluss oder nach der 13. Klasse mit der allgemeinen Hochschulreife verlassen können.

Befürworter der Einheitsschule argumentieren, dass diese Schulform zur Verbesserung der Chancengleichheit führe, indem Kindern bildungsferner Schichten, die als sozial benachteiligt gelten, weil sie zum Beispiel in ihrem familiären Umfeld weniger Sprach- oder kulturelle Kompetenzen erlernen als andere Kinder, der Zugang zu einem höheren Schulabschluss ermöglicht werde (Oelkers, 2006). Gegner der Einheitsschule argumentieren hingegen, dass im gemeinsamen Unterricht leistungsstarken Schülerinnen und Schülern die Chance auf mehr Bildung genommen werde, weil sie im gemeinsamen Unterricht mit leistungsschwächeren Schülern unterfordert seien (Hertzfeldt, 2008). Chancengleichheit bedeutet demnach, denen die bessere Schulausbildung zu ermöglichen, die mehr leisten.

Sowohl den Befürwortern als auch den Gegnern der Einheitsschule ist es wichtig, dass die Zugangsmöglichkeiten zu den Schulabschlüssen gerecht erfolgen. Als Begründung für die Akzeptanz bzw. Ablehnung der Einheitsschule argumentieren beide mit dem Kriterium der Chancengleichheit. Jedoch definieren sie Chancengleichheit unterschiedlich. Aus psychologischer Sicht können derart unterschiedliche Argumentationsweisen mit unterschiedlichen Einstellungen gegenüber Chancengleichheit und Verteilungsgerechtigkeit sowie Unterschieden in der Wahrnehmung von Chancengleichheit im Kontext erklärt werden. Im ersten Artikel der Dissertation wird zunächst der Begriff Chancengleichheit vor dem Hintergrund der Prinzipien der Verteilungsgerechtigkeit (*need, equality* und *equity*) definiert. Es wird dargelegt, dass Chancengleichheit auf zwei Dimensionen (*Ausgleich* und *Wettbewerb*) basiert, die kognitiv mit den Prinzipien der Verteilungsgerechtigkeit (*need, equality* und *equity*) repräsentiert sind. Zusätzlich wird diese Definition von Chancengleichheit innerhalb des Bildungskontextes untersucht.

Heute wird die Verteilungsgerechtigkeit hauptsächlich mit den drei Prinzipien need (Bedürftigkeit), equality (Gleichheit) und equity (Leistung) in Verbindung gebracht (Törnblom, 1992). Es wird angenommen, dass Verteilungsergebnisse als gerecht empfunden werden, wenn sie einem der drei Prinzipien entsprechen (Schwinger, 1980). Innerhalb der Forschung zur Verteilungsgerechtigkeit hat sich die *Equity-Theorie* (Adams, 1965) als zentrales Erklärungsmodell herauskristallisiert. Die Equity-Theorie postuliert, dass Gerechtigkeitsurteile als Folge sozialer Vergleiche getroffen werden. Gerechtigkeit nach dem Equity-Prinzip besagt, dass Personen die Gerechtigkeit von Verteilungsergebnissen – z. B. Schulabschlüssen – beurteilen, indem sie den selbst geleisteten Input – z. B. Arbeitsaufwand während der eigenen Schulzeit – und den Outcome – etwa eigener Schulabschluss – mit dem Input und Outcome anderer vergleichen. Wird dieses Verhältnis als ausgewogen wahrgenommen, wird das Verteilungsergebnis als gerecht beurteilt. Wird dieses Verhältnis dagegen als unausgewogen wahrgenommen, wird das Verteilungsergebnis folglich als ungerecht beurteilt.

Das Equity-Prinzip findet sich als ein Aspekt in der sozialwissenschaftlichen Definition von Chancengleichheit wieder: Chancengleichheit wird danach „allgemein [als] Prinzip der für alle formell gleichen Voraussetzungen des Erwerbs begehrtter Güter [z. B. hoher Schulabschluss]“ (Schmidt, 2004, S. 133) definiert. In diesem Sinne haben alle Personen die Möglichkeit, die begehrten Güter (Verteilungsergebnis) zu erwerben, doch nur wer dann – dem Equity-Prinzip folgend – die zum Erwerb geforderte Leistung erbringt, erhält das begehrte Verteilungsergebnis. Danach stehen die Personen in einem Wettbewerb um die begehrten und begrenzt zugänglichen Verteilungsergebnisse. Zusammengefasst wird es im sozialen Vergleich nach dem Equity-Prinzip als gerecht empfunden, wenn diejenigen

Schülerinnen und Schüler den besseren Outcome – qualifizierten Schulabschluss – erhalten, die während der Schulzeit den höheren Input – Leistung und Zeit – erbracht haben.

In der angeführten Definition von Chancengleichheit wird als zusätzlicher Aspekt betont, dass für alle die „formell gleichen Voraussetzungen“ (Schmidt, 2004, S.133) bestehen müssen. Damit wird ein weiteres Prinzip der Verteilungsgerechtigkeit, das *Equality-Prinzip*, angesprochen. Gerechtigkeit nach dem Equality-Prinzip liegt dann vor, wenn die Verteilung von bestimmten Verteilungsergebnissen unter allen gleich erfolgt. Jeder hat demnach das gleiche Anrecht auf das Verteilungsergebnis – z. B. gleicher Zugang zum Schulabschluss, unabhängig von Leistung oder Bedürftigkeit.

Das deutsche dreigliedrige Schulsystem berücksichtigt – formell – gleiche Voraussetzungen – nach dem Equality-Prinzip – für den bestmöglichen Schulabschluss für alle: Es können demzufolge alle Schülerinnen und Schüler das Gymnasium besuchen – Equality-Prinzip – wenn sie in der Grundschule entsprechend gute Leistungen erbringen – Equity-Prinzip. Chancengleichheit wird demzufolge nach der sozialwissenschaftlichen wettbewerbsbasierten Definition basierend auf den Prinzipien equality und equity der Verteilungsgerechtigkeit definiert. Diese Dimension von Chancengleichheit wird deshalb im Folgenden Wettbewerb genannt.

Vertreter der Einheitsschule betonen jedoch, dass Kinder bildungsferner Schichten – faktisch – nicht die gleichen Voraussetzungen haben und deshalb unterstützt werden müssen, um überhaupt am Wettbewerb um den bestmöglichen Schulabschluss teilnehmen zu können (Oelkers, 2006). Sie beziehen sich auf die spezielle, sozialwissenschaftliche Definition von Chancengleichheit. Gemäß dieser Definition bedeutet Chancengleichheit die Erzeugung

gleicher Voraussetzungen durch Unterstützung Benachteiligter (Schmidt, 2004). Die Argumentation verbindet die beiden Gerechtigkeitsprinzipien need und equality. Gerechtigkeit nach dem Need-Prinzip bedeutet, die Gerechtigkeit von Verteilungsergebnissen danach zu beurteilen, ob die, die bedürftiger sind, auch die gleiche Chance haben, das gleiche Verteilungsergebnis zu erreichen wie weniger Bedürftige. Kinder aus sozial benachteiligten Familien brauchen zum Beispiel eine intensivere Sprachförderung als Kinder von gutsituierten Eltern. Es muss demzufolge ein Ausgleich für die Kinder aus sozial benachteiligten Familien geschaffen werden – Need-Prinzip –, damit alle die gleichen Chancen haben, einen qualifizierten Schulabschluss zu erreichen – Equality-Prinzip. Befürworter der Einheitsschule argumentieren demnach im Sinne einer Dimension von Chancengleichheit, die den Ausgleich betont. Diese Dimension von Chancengleichheit wird deshalb im Folgenden Ausgleich genannt.

Der im ersten Artikel der Dissertation aufgeführten Definition von Chancengleichheit zufolge beeinflussen die Einstellung zur Chancengleichheit und/oder die Wahrnehmung von Chancengleichheit im Kontext die Gerechtigkeitswahrnehmungen und -urteile nach dem Need-, Equality- oder Equity-Prinzip wie folgt: Wenn Personen die Ausgleichsdimension von Chancengleichheit betonen oder keine Chancengleichheit im Kontext wahrnehmen, beurteilen sie die Gerechtigkeit nach dem Need- oder Equality-Prinzip (siehe Abbildung 1). Wenn Personen dann die Wettbewerbsdimension von Chancengleichheit betonen oder Chancengleichheit im Kontext wahrnehmen, beurteilen sie die Gerechtigkeit nach dem Equality- oder Equity-Prinzip.

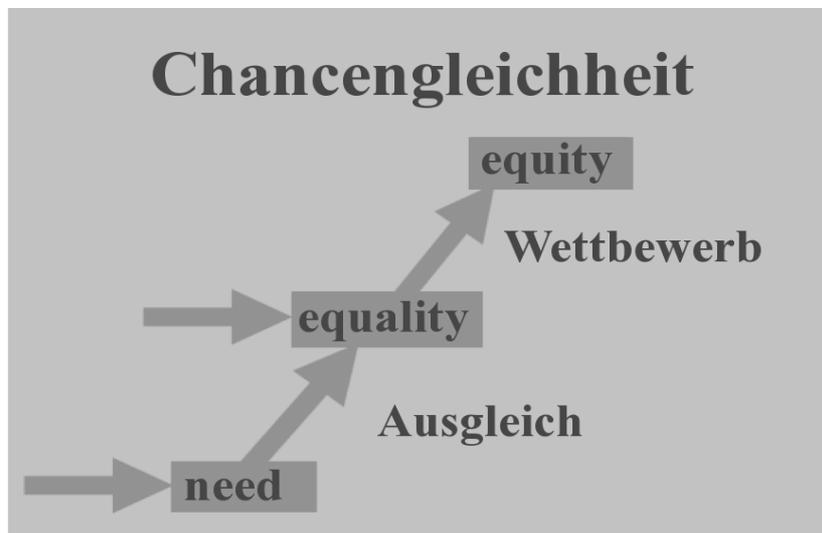


Abbildung 1: Das Modell der Chancengleichheit: Das Ziel ist Wettbewerb auf Basis von Chancengleichheit nach dem Equity-Prinzip. Je mehr Unterschiede zwischen Anspruchsgruppen wahrgenommen werden, desto bedeutender wird das Need-Prinzip, gefolgt vom Equality-Prinzip, um einen Ausgleich herzustellen.

Demzufolge beeinflussen die drei Gerechtigkeitsprinzipien (*need*, *equality* und *equity*) kontinuierlich Gerechtigkeitswahrnehmungen und -urteile: Personen betonen eine der beiden Dimensionen von Chancengleichheit (Ausgleich oder Wettbewerb) und wählen dann innerhalb dieser Dimension eines der drei Gerechtigkeitsprinzipien, welches diese Dimension kognitiv repräsentiert, für ihre Gerechtigkeitswahrnehmungen oder -urteile aus. Je mehr Unterschiede und somit Chancenungleichheit angenommen – oder wahrgenommen – wird, desto eher wird das Need-Prinzip die Gerechtigkeitswahrnehmungen und -urteile beeinflussen, gefolgt vom Equality-Prinzip und zuletzt vom Equity-Prinzip (wenn nahezu keine Unterschiede angenommen oder wahrgenommen werden).

Weiterhin beeinflusst der Kontext, Morton Deutsch (1975) zufolge, welches Gerechtigkeitsprinzip (need, equality oder equity) für Gerechtigkeitswahrnehmungen oder -urteile herangezogen wird. Demzufolge könnte das Need-Prinzip für den Bildungskontext relevant sein. Nichtsdestotrotz scheint – wie die oben dargestellten öffentlichen Debatten um die Einheitsschule zeigen – auch das Equity-Prinzip Gerechtigkeitsurteile im Bildungskontext zu beeinflussen. So dass man annehmen kann, dass die Personen beide Einstellungen zur Chancengleichheit haben (Ausgleich und Wettbewerb), welche mit den drei Gerechtigkeitsprinzipien (need, equality und equity) kognitiv repräsentiert sind.

Es werden die Ergebnisse aus drei durchgeführten Studien dargelegt. In den ersten beiden Studien wurden den Versuchsteilnehmern Beschreibungen von Verteilungen im Bildungsbereich (Stipendienverteilung und Schulsystem) nach Ausgleich und/oder Wettbewerb geschildert (Studie 1: Within Subject Design; Studie 2: Between Subject Design). Danach sollten die Versuchsteilnehmer angeben, wie stark sie die Gerechtigkeitsprinzipien need, equality und equity in den beschriebenen Verteilungen verwirklicht sehen. Abschließend füllten sie die Skala „Generelle Einstellung zur Chancengleichheit“ aus. In Studie 3 füllten die Teilnehmer zuerst die Skala „Wahrnehmung zu Chancengleichheit im Bildungskontext“ aus. Danach erhielten sie eine kurze Beschreibung über das Recht auf Bildung, bevor sie dann fünf Euro unter drei Initiativen verteilen sollten, die sich im Bildungsbereich nach dem Need-, Equality- oder Equity-Prinzip engagieren. Die zentralen Ergebnisse sind:

- In den zwei Szenarienstudien nahmen die Versuchsteilnehmer das Need-Prinzip in der Verteilungsbeschreibung nach Ausgleich als stärker verwirklicht wahr als in der Verteilungsbeschreibung nach Wettbewerb. Ferner nahmen die Versuchsteilnehmer

das Equity-Prinzip in der Verteilungsbeschreibung nach Wettbewerb als stärker verwirklicht wahr als in der Verteilungsbeschreibung nach Ausgleich. Zuletzt nahmen die Versuchsteilnehmer für das Equality-Prinzip keinen Unterschied wahr, ob es stärker in der Verteilungsbeschreibung nach Ausgleich oder Wettbewerb verwirklicht sei.

- In den zwei Szenarienstudien nahmen die Versuchsteilnehmer das Equality-Prinzip in der Verteilungsbeschreibung nach Ausgleich umso stärker als verwirklicht wahr, je mehr sie eine wettbewerbsbasierte generelle Einstellung zu Chancengleichheit hatten.
- In den zwei Szenarienstudien nahmen die Versuchsteilnehmer das Equity-Prinzip in der Verteilungsbeschreibung nach Wettbewerb umso stärker als verwirklicht wahr, je mehr sie eine wettbewerbsbasierte generelle Einstellung zu Chancengleichheit hatten.
- Versuchsteilnehmer, die keine Chancengleichheit im Bildungskontext wahrnahmen, spendeten im Vergleich zu den Versuchsteilnehmern, die Chancengleichheit im Bildungskontext wahrnahmen, überproportional nicht für eine Initiative, die sich im Bildungsbereich nach dem Equity-Prinzip engagiert.

Demzufolge bestätigen die Ergebnisse das Modell der Chancengleichheit insofern, dass die Versuchsteilnehmer die drei Gerechtigkeitsprinzipien (need, equality und equity) wie definiert in den Verteilungsbeschreibungen nach Ausgleich und Wettbewerb wahrnahmen. Zusätzlich geben die Ergebnisse Grund zu der Annahme, dass je weniger Unterschiede wahrgenommen werden, desto eher beeinflusst das Equity-Prinzip Gerechtigkeitsurteile. Zuletzt weisen die Ergebnisse darauf hin, dass die drei Gerechtigkeitsprinzipien (need, equality und equity) Gerechtigkeitswahrnehmungen und -urteile kontinuierlich beeinflussen.

Die interaktive Beziehung zwischen der ausgleichs- und wettbewerbsbasierten Einstellung zu Chancengleichheit

Das Modell der Chancengleichheit postuliert, dass Personen zwei Einstellungen zu Chancengleichheit haben (Ausgleich und Wettbewerb), welche mit den drei Gerechtigkeitsprinzipien (*need*, *equality* und *equity*) kognitiv repräsentiert sind. Damit beschreibt das Modell der Chancengleichheit einen kontinuierlichen Einfluss der beiden Einstellungen (Ausgleich und Wettbewerb) auf Gerechtigkeitswahrnehmungen und -urteile.

Hans-Werner Bierhoff und Elke Rohmann (2012) nehmen einen ähnlichen interaktiven Einfluss der beiden Gerechtigkeitsprinzipien *equality* und *equity* auf Gerechtigkeitswahrnehmungen und -urteile in ökonomischen Kontexten an. Weiterhin sind nach Vilfredo Pareto (zitiert nach Nielsen, 2007) Verteilungen in ökonomischen Kontexten, die dem Equity-Prinzip folgen, Verteilungen, die Chancen und Heterogenität berücksichtigen. Das Modell der Chancengleichheit wendet diesen Ansatz von Pareto einer Berücksichtigung der Chancen und der Heterogenität auf Gerechtigkeitswahrnehmungen und -urteile aller Verteilungen mit den drei Gerechtigkeitsprinzipien *need*, *equality* und *equity* an. Zusätzlich können Meinungsunterschiede (ob das *Equality*- und *Equity*-Prinzip oder eben manchmal auch das *Need*-Prinzip die bevorzugte Gerechtigkeitsregel in ökonomischen Kontexten ist) mit Interaktionen zwischen impliziten und expliziten Einstellungen erklärt werden.

Der Implizite Assoziationstest (IAT) wurde entwickelt, um die Form assoziativer Strukturen zu messen (Greenwald, McGhee & Schwartz, 1998). Im zweiten Artikel der vorliegenden Dissertation wird die Annahme untersucht, dass Chancengleichheit ein kontinuierliches Modell sei. Hierzu wird mithilfe eines IATs zwischen impliziten – eben mit

dem IAT gemessen als assoziative Struktur – und expliziten Einstellungen zu Chancengleichheit unterschieden.

Im zweiten Artikel der Dissertation werden die Ergebnisse aus drei Studien vorgestellt, die sich auf die Anwendung eines IATs stützen. Mit der ersten Studie wurde der IAT zur Chancengleichheit entwickelt und validiert. Mit der zweiten Studie wurde untersucht, ob innerhalb der Versuchspersonengruppe die implizite Einstellung zu Chancengleichheit eher mit Ausgleich oder eher mit Wettbewerb assoziiert wurde. Mit der dritten Studie wurde die Zuverlässigkeit (Retest Reliabilität) des IATs überprüft. Demzufolge war es das Ziel, das Ergebnis aus Studie 2 zu wiederholen. Zusätzlich wurde der interaktive Einfluss des IATs und der Skala „Generelle Einstellung zu Chancengleichheit“ auf Gerechtigkeitswahrnehmungen von Verteilungen im Lohnkontext untersucht (quasi-experimentelles Design). Die Versuchsteilnehmer führten zuerst den IAT durch. Danach wurde ihnen beschrieben, dass ein Teil eines Lohnes im öffentlichen Dienst als Zusatzlohn ausgezahlt wird und dass sie im Folgenden Diagramme angezeigt bekommen, die darstellen, wie eine Führungsperson den Zusatzlohn unter den Mitarbeiterinnen und Mitarbeitern verteilt. Diese Diagramme wurden zuvor getestet, um sicherzustellen, dass sie Verteilungen nach dem Need-, Equality- und Equity-Prinzip darstellen. Die Diagramme wurden den Versuchsteilnehmern in zufälliger Reihenfolge nacheinander angezeigt. Die Versuchsteilnehmer mussten daraufhin unter jedem Diagramm angeben, inwieweit die Führungsperson bei der Verteilung des Zusatzlohnes dem Need-, Equality- und Equity-Prinzip folgte. Danach bekamen sie noch mal alle Diagramme – in zufälliger Reihenfolge – auf einer Seite angezeigt, um auszuwählen, welches Diagramm die gerechteste Verteilung des Zusatzlohnes darstellt. Abschließend füllten die Versuchspersonen die Skala „Generelle Einstellung zu Chancengleichheit“ aus.

Die zentralen Ergebnisse sind:

- In den zwei Studien war innerhalb der Versuchsgruppe die implizite Einstellung zu Chancengleichheit nicht stärker mit einer der beiden Dimensionen (Ausgleich oder Wettbewerb) assoziiert.
- Die Versuchsteilnehmer, die eine implizite ausgleichsbasierte Einstellung und eine wettbewerbsbasierte generelle Einstellung zu Chancengleichheit hatten, nahmen eine Gleichverteilung weniger als eine solche wahr – sowohl als die Versuchsteilnehmer, die implizit und generell ausgleichsbasierte Einstellungen zu Chancengleichheit hatten, als auch als die Versuchsteilnehmer, die implizit und generell wettbewerbsbasierte Einstellungen zu Chancengleichheit hatten.
- Die Wahrscheinlichkeit, dass Versuchsteilnehmer eine Verteilung nach dem Need-Prinzip als die gerechteste Verteilung aus allen drei Verteilungen (nach need, equality und equity) auswählten, stieg für die Versuchsteilnehmer, die eine implizite wettbewerbsbasierte Einstellung zu Chancengleichheit hatten, im Vergleich zu denen, die eine implizite ausgleichsbasierte Einstellung zu Chancengleichheit hatten. Allerdings sank diese Wahrscheinlichkeit, wenn die Versuchsteilnehmer zusätzlich eine wettbewerbsbasierte generelle Einstellung zu Chancengleichheit hatten, im Vergleich zu denen, die eine ausgleichsbasierte generelle Einstellung zu Chancengleichheit hatten.

Damit bestätigen die Ergebnisse Chancengleichheit als kontinuierliches Modell insofern, dass die Wahrscheinlichkeit, eine Verteilung nach dem Need-Prinzip als die gerechteste auszuwählen, eben gerade für die Versuchsteilnehmer anstieg, die implizit eine

wettbewerbsbasierte Einstellung hatten. Gerade diese Versuchspersonen scheinen vielfältige Kognitionen zu allen drei Gerechtigkeitsprinzipien entwickelt zu haben. Dass weiterhin keine der beiden Einstellungen zu Chancengleichheit (Ausgleich und Wettbewerb) in den Versuchsgruppen höher ausgeprägt war, kann demzufolge daran liegen, dass vielfältige Erfahrungen in unterschiedlichen Gesellschaften die Bildung einer impliziten wettbewerbsbasierten Einstellung zu Chancengleichheit fördern. Zuletzt bestätigen die Ergebnisse die Annahme des Modell der Chancengleichheit, dass das Equality-Prinzip zu beiden Dimensionen (Ausgleich und Wettbewerb) von Chancengleichheit gehört, eben gerade weil Versuchsteilnehmer mit einer impliziten Wettbewerbseinstellung eine Gleichverteilung auch als solche wahrnahmen und weil sich innerhalb der Versuchsgruppen keine Gruppe herauskristallisierte (mit ausgleichsbasierter oder wettbewerbsbasierter Einstellung zu Chancengleichheit), die eine Gleichverteilung als die gerechteste Verteilung auswählte.

Der Einfluss von Chancengleichheit und Selbstkonzept auf Verteilungswahrnehmungen in den Feldern Lohn und Bildung

Ein wichtiges Thema der Sozialwissenschaften ist die Analyse von Ursachen rücksichtsloser Behandlung – wie zum Beispiel diskriminierendem Verhalten (vgl. Fevre, Lewis, Robinson & Jones, 2011; Pettigrew & Meertens, 1995). Dieses Thema betrifft auch die gerechte Verteilung von Löhnen und Stipendien, weil geringe Löhne manche Gesellschaftsmitglieder von der angemessenen Beteiligung am gesellschaftlichen Leben ausschließen – gerade in einer ökonomisch globalisierten Welt – und weil mit Stipendien viele Bewerber dadurch ausgeschlossen werden, dass ebendie Stipendien hoch bewertet, aber gleichzeitig begrenzt sind. Deshalb betrifft das Thema Ursachen schlechter Behandlung auch die gerechte Verteilung gesellschaftlicher Güter – hier: Löhne und Stipendien.

Das Modell der Chancengleichheit beschreibt ein kontinuierliches Modell, das Gerechtigkeitswahrnehmungen und -urteile in komplexen Gesellschaften auf die zwei Dimensionen Ausgleich und Wettbewerb reduziert. Demnach haben Personen ein generelles Bedürfnis nach Chancengleichheit in Beziehung zu anderen Personen wie zum Beispiel Mitbewerberinnen und Mitbewerber. Ihre Gerechtigkeitswahrnehmungen und -urteile werden durch zwei Einstellungen beeinflusst. Nehmen Personen keine Chancengleichheit wahr, wird das Need- oder Equality-Prinzip ihre Gerechtigkeitswahrnehmungen und -urteile beeinflussen, um Ausgleich für benachteiligte Personen herzustellen. Nehmen Personen hingegen Chancengleichheit wahr, wird das Equality- oder Equity-Prinzip ihre Gerechtigkeitswahrnehmungen und -urteile beeinflussen, um einen Wettbewerb für Güter in begrenztem Umfang zuzulassen.

Innerhalb der aktivierten Einstellung zu Chancengleichheit (Ausgleich oder Wettbewerb), beeinflusst das Ausmaß der wahrgenommenen Unterschiede zwischen den Anspruchsgruppen, welches Gerechtigkeitsprinzip für die Gerechtigkeitswahrnehmungen und -urteile genutzt wird: Je weniger Unterschiede Personen zwischen den Anspruchsgruppen wahrnehmen – nämlich jene Personen, die die ausgleichsbasierte Einstellung zu Chancengleichheit betonen – , desto mehr werden sie die Gerechtigkeit nach dem Equality-Prinzip und nicht nach dem Need-Prinzip wahrnehmen und beurteilen. Gleichermaßen je weniger Unterschiede Personen zwischen den Anspruchsgruppen wahrnehmen – nämlich jene Personen, die die wettbewerbsbasierte Einstellung zu Chancengleichheit betonen –, desto mehr werden sie die Gerechtigkeit nach dem Equity-Prinzip und nicht nach dem Equality-Prinzip wahrnehmen.

Ferner kann das oben genannte diskriminierende Verhalten gegenüber manchen Personen auf verbreitete Vorurteile zurückgeführt werden. Thomas F. Pettigrew und Roel W. Meertens (1995) machen darauf aufmerksam, dass subtile Vorurteile gegenüber anderen auf die Übertreibung von Unterschieden zurückzuführen sind. Das bedeutet, dass unter bestimmten Umständen manche Personen bei anderen Vorurteile hervorrufen, weil sie nicht vollständig den in der Ingroup als gerecht legitimierten Regeln entsprechen. Diese Ingroupregeln führen dann zur Akzeptanz des diskriminierenden Verhaltens gegenüber den Personen, die die Vorurteile ausgelöst haben.

Das Selbstkonzept beschreibt das Ausmaß, wie stark sich Personen mit einer Ingroup identifizieren. Es stellt sich die Frage, ob diskriminierendes Verhalten mit dem Einfluss zwischen dem Selbstkonzept und den in der Ingroup als gerecht legitimierten Regeln erklärt werden kann. Aus diesem Grund untersucht der dritte Teil der vorliegenden Dissertation den

Einfluss zwischen dem Modell der Chancengleichheit und dem Selbstkonzept auf Wahrnehmungen von Verteilungsgerechtigkeit in den Feldern Lohn- und Stipendienverteilung.

Selbstkonzept

Das Selbstkonzept beschreibt die Intensität oder den Umfang, in welchem Personen sich als interdependent oder independent betrachten (Markus & Kitayama, 1991). Personen mit einem independenten Selbstkonzept definieren sich als einzigartige Personen. Personen mit einem interdependenten Selbstkonzept definieren sich über ihre Mitgliedschaft in einer Gruppe. Neben independent und interdependent lässt sich das Selbstkonzept noch in horizontal und vertikal aufteilen (Triandis, 1996). Personen, die ein vertikales Selbstkonzept haben, billigen Statusunterschiede zwischen Personen innerhalb von Gruppen oder der Gesellschaft (Triandis & Gelfand, 1998). Personen, die ein horizontales Selbstkonzept haben, gehen davon aus, dass es keine Statusunterschiede zwischen Personen in Gruppen oder in der Gesellschaft gibt bzw. geben sollte, stattdessen befürworten sie die Gleichheit aller Personen (Triandis & Gelfand, 1998). In jeder Person ist jede der vier Dimension des Selbstkonzepts angelegt, jedoch kann ein Selbstkonzept stärker ausgeprägt sein, und demnach Gerechtigkeitswahrnehmungen und -urteile öfter beeinflussen. Daraus ergeben sich interessante Konstellationen für die Gerechtigkeitswahrnehmungen und -urteile, von denen zwei folgend näher erläutert werden.

Personen, die ein interdependentes, vertikales Selbstkonzept haben, betonen die Mitgliedschaft zu ihrer Gruppe, akzeptieren aber Statusunterschiede zwischen Gruppen (Triandis & Gelfand, 1998). Diese Personen sollten die Gerechtigkeit in Beziehung zu dem Status ihrer Ingroup wahrnehmen und beurteilen. Demnach sollten sie – generell – keine Dimension von Chancengleichheit (Ausgleich oder Wettbewerb) für ihre Gerechtigkeitswahrnehmungen oder -urteile bevorzugen. Jedoch sollten sie die Dimension von Chancengleichheit (Ausgleich oder Wettbewerb) für ihre Gerechtigkeitswahrnehmungen oder -urteile auswählen, welche einen speziellen Wettbewerb zwischen Gruppen ermöglicht.

Personen, die ein interdependentes, horizontales Selbstkonzept aufweisen, definieren sich über die Mitgliedschaft zu ihrer Gruppe – z. B. Gesellschaft. Innerhalb ihrer Gruppe werden alle Mitglieder als ähnlich betrachtet (Equality-Prinzip) (Triandis & Gelfand, 1998). Diese Personen sind besonders sensibel für die Bedürftigkeit von bestimmten Mitgliedern innerhalb ihrer Gruppe (Need-Prinzip), weil sie sich hauptsächlich über zwischenmenschliche Beziehungen definieren und deshalb stark auf andere Gruppenmitglieder achten. Folglich sollten sie die Gerechtigkeit in Beziehung zu ihrer Ingroup nach der Ausgleichsdimension von Chancengleichheit wahrnehmen oder beurteilen.

Es werden die Ergebnisse aus zwei Studien dargestellt. In beiden Studien wurde den Versuchsteilnehmern ein ökonomischer Kontext geschildert. Danach wurden ihnen Beschreibungen von Verteilungen (Zusatzlohn und Dienstwagen) nach Ausgleich und Wettbewerb geschildert. In der ersten Studie gab es zusätzlich eine Kontrollgruppe, welcher keine Verteilungsbeschreibung vorgetragen wurde. Den Versuchsteilnehmern der ersten Studie wurde darüber hinaus mitgeteilt, dass sie im weiteren Verlauf der Studie notieren sollten, wie

der Zusatzlohn verteilt werden solle und dass sie dafür zunächst Informationen lesen sollten, wie der Zusatzlohn verteilt werden könnte. Sie bekamen dann Verteilungsinformationen nach den Gerechtigkeitsprinzipien need, equality und equity präsentiert und sollten nach jeder Information angeben, inwiefern sie zustimmen, dass die vorgestellte Verteilung dem Need-, Equality- und Equity-Prinzip folge. Die Versuchsteilnehmer der zweiten Studie bekamen darüber hinaus mitgeteilt, dass die im Ausgangsszenario dargestellte fiktive Firma zusätzlich eine Stiftung unterhalte, die aktuell vier Stipendien zu verteilen hätte, sich jedoch acht Bewerberinnen und Bewerber dafür bewerben. In zufälliger Reihenfolge erhielten die Versuchsteilnehmer dann Kurzlebensläufe der Bewerberinnen und Bewerber nach Ausgleich und Wettbewerb zur Ansicht. Zu jedem der Lebensläufe sollten sie angeben, ob die Bewerberin oder der Bewerber das Stipendium erhalten solle.

Die Ergebnisse der Studien bestätigten die schon beschriebenen Annahmen. Bezüglich diskriminierendem Verhalten kann der interdisziplinäre Blick auf die Beziehung zwischen Selbstkonzept und dem Modell der Chancengleichheit vielversprechend sein, denn das Ausmaß eines interdependenten Selbstkonzeptes von Personen kann ein Indikator für das Ausmaß von Ingroupbevorzugung sein. Ein hohes Maß an Ingroupbevorzugung könnte insofern diskriminierendes Verhalten auslösen, als dass Personen, die ihre Ingroup sehr stark bevorzugen, nicht die echten Bedürfnisse anderer – echter oder angenommener – Ingroupmitglieder sehen oder akzeptieren, weil sie Informationen über die Mitglieder ihrer Gruppe oberflächlich in Beziehung zu den innerhalb der Gruppe akzeptierten Regeln wahrnehmen und verarbeiten. Der schlimmste Fall eines solchen Szenarios wäre es, keine Vielfalt in der Gesellschaft zuzulassen, z. B. durch rassistisches Verhalten oder mit Regeln, die die Ingroup erhalten, indem die Outgroup unterdrückt oder eliminiert wird.

Zusammengefasst können die dargestellten Studien ein vielversprechender Impuls für den interdisziplinären Blick auf das Modell der Chancengleichheit sein.

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Introduction

Fairness assumptions have a lot of positive consequences. For example, is the perceived justice relevant to job satisfaction and attitudes towards distributions of social goods. But what is a fair distribution of social goods?

In the distributive justice research three principles can be distinguished according to which justice judgments are made: Need, equality and equity. The first article of this dissertation examines how justice for these three principles is perceived. With the model of equal opportunity it is assumed that the assumption of equality between the stakeholders is crucial to the justice judgment. Depending on whether equal opportunity is accepted or not, different principles are perceived. The results in the context of education confirm that the perception of the three principles of justice can be explained by the assumption of equal opportunities.

Whether equal opportunity is accepted or not depends on the attitude to equal opportunities. In attitude research it is becoming increasingly obvious that implicit (automatic) and explicit (reflected) attitudes influence behaviour. The investigation of implicit and explicit attitudes to equal opportunities and the investigation of the model of equal opportunity in a different context are discussed in the second article of the present dissertation. It is discussed whether cognitive dissonance can dissolve the conclusion that people who implicitly assume equal opportunities prefer need-based distributions. The results in an economic context confirm that it is useful in justice research to differentiate between implicit and explicit attitudes.

The third article brings into focus also an economic context it is postulated that the self-

concept, namely the whole set of attitudes, opinions, and cognitions that a person has of himself, has an influence on the perception of the three principles of justice and on the model of equal opportunity. The third article of this dissertation examines whether the interdependent self-concept influences the choice of principles of justice. The results confirm this assumption.

How do People judge the Fairness of Educational Systems? A Model of Equal Opportunity.

Education as a fundamental social good is seen as an essential requirement for long-term personal well-being and economic wealth in general. Accordingly, the United Nations emphasized the right to education via its assertions (United Nations, 2008). The realization of this right should be ensured through a just educational system. However, there are many ways to implement access to both education and possibilities of promotion within an education system. For example, special promotion can be provided for either the needy or high-performing students. These regulations might be perceived as either fair or unfair depending on personal values, or the preference for a specific distribution rule for social goods. Similarly, public debates about reform intentions, in the context of education, also show that perceptions and judgments of justice are crucial for the acceptance of such reforms.

The concept of a comprehensive school is a good example of the perceived differences in the fairness of an educational system. Within the German educational system, the comprehensive school is a frequently discussed model (Schröder, 2001). It is defined as a common school for children and teenagers who attend it regardless of their ability, stage of development or social standing. Supporters of the comprehensive school argue that it leads to more fairness within the educational system as it offers access to a higher standard of graduation to a wide range of different pupils, particularly those who are considered to be socially indigent because they receive, for example, less language support and/or environmental encouragement (Oelkers, 2006). Therefore, the model of a comprehensive

school should be supported because it improves equal opportunities. In contrast, opponents of the comprehensive school argue that this model increases unfairness within the educational system. More talented students are denied the possibility of further joint training when being educated with poorly performing students (Hertzfeldt, 2008). As such, equal opportunity is attained as higher education and intense training is available to those who perform better.

It is important to both supporters and opponents of the comprehensive school system that access to graduation is provided in a just manner. Both sides present equal opportunity as an argument for the acceptance or the rejection of a comprehensive school system. Thus, it could be concluded that their definition of equal opportunity is different. From a psychological viewpoint, such divergent arguments can be explained by differences in attitudes towards equal opportunity and distributive justice, as well as by differences in the perceptions of equal opportunity in this context. This article focuses on the description of an equal opportunity model in an educational context that is derived from distributive justice principles (i.e., equity, equality & need) and an empirical test of this model.

Distributive Justice

Research on distributive justice states that outcomes are perceived as just if the allocation of resources followed distributive justice principles. The most prominent principles are: equity, equality and need (Törnblom, 1992). According to equity-theory (Adams, 1963, 1965), people judge the justice of outcomes (e.g., graduation) by comparing their own input (e.g., effort made during school) and their own outcome (e.g., their own graduation) with the inputs and outcomes of relevant others. If the proportion is perceived as balanced, then the

result of the distribution is perceived as just. If the proportion is perceived as unbalanced, then results are perceived as unjust. In contrast, when applying the equality-principle, everybody receives the same outcome regardless of his/her individual input. When applying the need-principle, only the needy will receive an outcome (Deutsch, 1975; Leventhal, 1976).

Whether a certain principle is preferred over the others depends on the social relationship between stakeholders, the nature of the distributed goods or resources, and the principal context (Schwinger, 1980). For example, equity is favored in competitive situations like sports or performance-based salary schemes, equality is often used within close relationships like partnerships or friendships, and the need principle applies to social security systems and the distribution of aid in general (cf. Deutsch, 1975). Studies revealed that these three principles are used separately or in combination in order to form justice judgments (Törnblom, 1992). For example, Rasinski (1987) found that people who are more egalitarian-oriented preferred both need-based and equity-based distributions. This apparent contradiction can be explained by the high standard of education of these individuals: They believe in social interdependence and social support (the need principle) as well as in individual performance (the equity principle). Two distributional justice principles are also used for reward allocation in work teams (Bierhoff & Rohmann, 2012). Individual achievements and, in order to foster harmony within the team, egalitarian distributions are both considered when group members are rewarded for their performance. It follows then that empirically, allocators strictly adhere to either the equality or equity principle, or apply both principles simultaneously (e.g., by distributing 60% of the reward equally among members and 40% to individuals based on their

performance). In another study, Marin (1985) found that, regardless of the level of friendship between an allocator and a recipient, subjects preferred the equity principle when recipients made different contributions. This seems to contradict classic multidimensional approaches, which assume that the equality principle dominates justice judgments in contexts of personal relationships (Deutsch, 1975). Therefore, contingency approaches set out to explore whether factors like social relationship or cultural context determine which principle predominantly shape distributional justice judgments (Törnblom, 1992). Contingency approaches support the view that under certain circumstances people adhere to one specific principle or compromise between different principles. To date, it has been ambiguous whether distributive justice principles are activated independently or in combination. In this research, it is aimed to explore how and when people use different principles of distribution to form justice judgments in an educational context. In order to do this, first a model of equal opportunity was developed.

Fairness in Education: A Model of Equal Opportunity

Education can be seen as a valuable resource, which is distributed in many different ways to different recipients. For example, handicapped, discriminated or otherwise disadvantaged students are supported with special training programs, all children have free access to basic education or can enroll in some sort of secondary school, only pupils with good grades are eligible for higher education, or only high performing graduates can enroll in specific Ph.D. programs. The principles of need, equality and equity are represented in these examples.

On a wider perspective, in this at hand opinion, fairness-related issues in education oscillate between two questions: Firstly, how to ensure that the disadvantaged have the same fair chance and access to education as everyone else? Secondly, how to promote those who are more gifted or ambitious? For example, educational measures that reflect the need principle (e.g., free private lessons) should be perceived as fair when some pupils are perceived as disadvantaged and need support in order to have the same starting point as their fellow students. In contrast, educational measures that reflect the equity principle (e.g., selection by performance) should be perceived as fair when one perceives all pupils as having the same starting point. From the first viewpoint, the idea of equal opportunity for everyone is violated and, therefore, the needy should be preferentially supported in order to achieve equal opportunities. From the second viewpoint, equal opportunities for everyone exist and, therefore, access to higher education, grants or scholarships should be based on competition and performance. Accordingly, in the model of equal opportunity, it is assumed that the perception of the level of equal opportunity serves as a reference point for judging the fairness of an educational system or measure. If the equality principle is perceived as realized in terms of equal opportunities among fellow stakeholders (i.e., pupils, students, graduates, etc.), then the equity principle shapes fairness judgments. Here, *competition* among fellow stakeholders seems to be the appropriate standard in a just educational system. In order to achieve equality, the perception that the principle of equal opportunities among stakeholders is violated, is directly related to fairness judgments that are driven by the need principle. In this case, *compensation* of disadvantages seems to be the appropriate standard in a just educational

system.

Overall, in terms of distributional justice principles, the model of equal opportunity states that justice judgments in an educational context are based on the combined activation of either need and equality (i.e., if the principle of equality is violated) or equality and equity (i.e., if the principle of equality is not violated). The model of equal opportunity is in line with the definition of equal opportunity in social science. Here, equal opportunity is defined in terms of general formal equal requirements for achieving valued goods and resources (Schmidt, 2004). Hence, people should have the same opportunity to achieve such valued goods, but only those people who, according to the equity principle, provide the required input will be rewarded.

However, perceptions of fairness are subjective and people have different values and attitudes. For example, some people are more motivated to socialize and affiliate with others whereas others are more motivated to compete (Weiner, 2013). It can, therefore, be assumed that people will have a different attitude as to whether systems (e.g., education, economy, society, healthcare, etc.) should be more compensation- or more competition-oriented. Furthermore, preferences towards compensation or competition should be represented in a general attitude of equal opportunity. Accordingly, an equal opportunity attitude can be shaped by the idea that either disadvantages exist and have to be compensated for, or differences in equal opportunities are not significant and, therefore, promotion and other outcomes should be based on performance. According to the model of equal opportunity, a general attitude of equal opportunity should impact on the perception of equal opportunity as

having been violated or established. The degree to which the attitude towards equal opportunity is compensation-oriented is directly related to the likelihood that the current status of equal opportunities among fellow stakeholders is perceived as violated. Conversely, the degree to which the attitude towards equal opportunity is competition-oriented is directly related to the likelihood that the status of equal opportunities is *not* perceived as violated.

In summary, it is argued that the attitude towards, and the perception of, equal opportunity influences whether perceptions and judgments of justice in the educational context are created by the need, equality or equity principles. If people apply a compensation-based attitude towards equal opportunity and/or do assume equal opportunity as having been violated, they will form their justice judgments according to the need and equality principles. On the other hand, if people apply a competition-based attitude towards equal opportunity and/or assume equal opportunity as not violated, they will shape their justice judgments according to the equality and equity principles.

Consequently, need and equity represent two end members of a continuum that can influence perceptions of justice. People emphasize either a compensation- or a competition-oriented attitude towards equality (i.e., equal opportunity) and, as such, select one of the two justice principles (i.e., need or equity), which cognitively represents their attitude and forms the basis for their perception of justice. However, it is important to stress that these two attitudes (i.e., compensation- & competition-oriented) are not in contradiction or exclusive to each other, but rather build on each other. People with a compensation-oriented attitude should also prefer the equity principle and, therefore, competition, that is, if they perceive

equal opportunities among fellow stakeholders. People with a competition-oriented attitude are generally more likely to assume equal opportunities among stakeholders and, therefore, prefer competition. Overall, and independent of the general attitude, the perceived gap of equal opportunities (i.e., the amount of *unequal* opportunities) can be directly related to the influence of the need principle on the perceptions of justice, to a lesser extent the equality principle and, to an even less extent, the equity principle (i.e. if only little differences in equal opportunities are perceived). This corresponds to the findings of Bierhoff and Rohmann (2012) that the differences in inputs among work-team members is directly related to the impact of the equality over the equity principle in generating a fair outcome.

The assumptions and implications of the model of equal opportunities on the perceptions of justice in an educational context can be described with the following formal hypotheses.

Hypothesis 1 (H1): Participants show higher ratings in recognizing the *need* principle after reading a compensation-oriented distribution than a competition-oriented distribution (H1.1). Participants show higher ratings in recognizing the *equity* principle after reading a competition-oriented distribution than a compensation-oriented distribution (H1.2).

Participants show no differences in ratings in recognizing the *equality* principle after reading a compensation-oriented distribution or a competition-oriented distribution (H1.3).

People with a more equity-oriented general attitude towards equal opportunity are likely to assume that fellow stakeholders have equal opportunities, and that competition is justified. If the principle of equal opportunities is violated and compensation is required, an equity-

oriented general attitude should lead to a focus on equality, because equality is the precondition for applying the preferred justice principle (i.e., equity). Therefore, equity-oriented people should focus on equality in compensation-oriented distributions and on equity in competition-oriented distributions.

Hypothesis 2 (H2): An equity-oriented general attitude towards equal opportunities predicts the recognition of the equality principle in compensation-oriented distributions, and the recognition of the equity principle in competition-oriented distributions.

Hypothesis 3 (H3): Participants perception of the principle of equal opportunity as having been satisfied predicts their preference for equity-based educational systems.

Three studies were conducted to test the hypotheses within the context of education. In Studies 1 and 2 participants read either compensation- or competition-based distributions and rated the extent to which the need, equality and equity principles were realized in each description. In Study 3 participants indicated their degree of agreement with the realization of equal opportunities in the German school system, and based on this, donated money to educational institutions, which represented one of the need, equality or equity principles.

Study 1

Method

Participants and Design. A total of 57 participants (including 44 full-time students) were recruited at the University campus and a nearby park. Their age ranged from 17 to 66 years ($M = 26.35$, $SD = 9.26$; 33 female, 24 male). Participants responded to two conditions (*distribution*: compensation vs. competition) of a within-subject design and received course

credit for participation if desired.

Procedure. After agreeing to take part in the study, participants read a short political-themed scenario followed by a questionnaire. First, participants responded to demographic items, then they read that in 2008 the Federal Government of Germany increased the number of available scholarships by increasing total scholarship funding from about 32.7 million Euros to a total of 113.2 million Euros. This neutral information was followed by two scenarios in random order; one describing a compensation-oriented and the other a competition-oriented distribution. In the *compensation* condition, participants read that only disadvantaged students (e.g., low parental income, disabled, migration background) were eligible for a scholarship. In the *competition* condition, participants read that all students were eligible, and that scholarships were allocated on the basis of their school grades. After each scenario, participants rated how much each of the distributional justice principles (need, equality, equity) was realized in the scenario (e.g., “Those that performed better, should get more. How strong do you see this principle realized in the description?”; scale from 1 = *not at all* to 7 = *completely*). Participants were then asked to rank the three principles in order of their importance in allocation of scholarships. Finally, at the end of the questionnaire, participants answered six self-formulated items on their *general attitude towards equal opportunity* (e.g., “I think that everybody in our society has the same opportunities, irrespective of, for example, his/her gender, age or parentage.”; scale from 1 = *totally disagree* to 7 = *totally agree*; $\alpha = .81$). Higher values in this scale indicate a more equity-oriented attitude whereas lower values represent a more need-oriented attitude.

Results and Discussion

Recognition of justice principles (need, equality and equity). In a first step, Hypothesis H1, which relates a compensation-oriented distribution to the need principle, a competition oriented-distribution to the equity principle and the equality principle to both distributions, was tested. T-tests for paired samples revealed that participants perceived the need principle as more realized in the compensation condition ($M = 4.87, SD = 2.06$) compared to the competition condition ($M = 3.60, SD = 2.07$), $t(54) = 2.57, p = .013, d = 1.11$. Furthermore, they saw the equity principle as more realized in the competition condition ($M = 4.87, SD = 1.76$) compared to the compensation condition ($M = 3.80, SD = 1.96$), $t(54) = -2.54, p = .014, d = 0.58$. Finally, there was no significant difference for the equality principle between the compensation condition ($M = 4.42, SD = 1.80$) and the competition condition ($M = 3.89, SD = 1.73$), $t(54) = 1.39, p = .170, d = 0.30$. Results confirm Hypothesis H1.

General attitude towards equal opportunity. It was explored how the general attitude towards equal opportunity predicts the recognition of the need, equality and equity principles in compensation- and competition-oriented distributions. In line with hypothesis H2, results of linear regressions revealed that a general attitude towards equal opportunity significantly predicts recognition of the equity principle in the competition-oriented distribution, $\beta = .28, t(54) = 2.13, p = .038$, and marginally significantly predicts recognition of the equality principle in the compensation-oriented distribution, $\beta = .25, t(53) = 1.84, p = .071$. All other general attitude predictions on the recognition of the distributional justice principles were not significant, all β 's $< .18$, all t 's < 1.30 , all p 's $> .20$. Results confirm Hypothesis H2.

Importance of justice principles (need, equality and equity). It was further explored the nature of the relationship of the three distributional justice principles by assessing their importance in the distribution of scholarships. Out of 54 participants (3 missing answers), 27 (50%) ranked equality as the most important principle. Furthermore, out of these 27 participants, 16 indicated need as the second most important principle and 11 indicated equity. Unfortunately, no significance tests could be conducted for cross-tables because some cells contained less than five values. However, these descriptive results are in accordance with the model of equal opportunity and give some indication of the importance of equality as a reference that connects the need and equity principles.

Results of Study 1 support the assumptions of the model of equal opportunity. Most importantly, compensation-oriented distributions are related to the need principle and competition-oriented distributions are related to the equity principle, whereas the equality principle is related to both types of distributions. Furthermore, the equality principle is rated as the most important justice principle in regard to the allocation of scholarships. These results provide some evidence that the status of equal opportunities serves as a reference point: if the principle of equal opportunity is violated (i.e., compensation-oriented distribution), then the need principle is salient in order to achieve equality by compensation. If equal opportunity is assumed, then the equity principle is salient. Finally, an equity-based general attitude towards equal opportunity seems to cause a shift in the focus from the need to the equality principle for compensation-oriented distributions, and an even stronger focus on equity for competition-oriented distributions.

Furthermore, results of Study 1 are in line with contingency approaches of distributional justice, which assume that a combination of justice principles can be applied in forming justice judgments (e.g., Bierhoff & Rohmann, 2012; Lüdtke, Streicher, Traut-Mattausch, & Frey, 2012). However, more evidence in support of the model of equal opportunity is needed since the preference for a specific justice principle, or a specific combination of justice principles, can be sensitive to context. Accordingly, it was aimed to replicate the findings of Study 1 in Study 2 by using a different educational context.

Study 2

Method

Participants and Design. A total of 47 participants (including 46 full-time students) were recruited at the University campus. Their age ranged from 18 to 61 years ($M = 23.41$, $SD = 6.60$; 22 female, 25 male). Participants were randomly distributed to one of two conditions (*distribution*: compensation vs. competition) of a between-subject design and received a candy bar for participation.

Procedure. The same procedure and measurements as in Study 1 was used. However, the distributions were described in a different educational context. As an introduction to the manipulation of distributions, participants read that the convention on disabled people emphasizes the right for education by using inclusive (e.g., disabled and non-disabled students in the same class) educational systems and that one possible approach to inclusive education would be described. In the *compensation* condition, participants read that disabled pupils are fostered by attending additional lessons in a special therapeutic school from the first year of

school onwards. In the *competition* condition, participants read that all pupils (i.e., disabled and non-disabled) attend one primary school, and that admission to high school depends on grades. After reading the descriptions, participants answered the same questions on recognition of distributional justice principles, ranked the justice principle in order of importance for enabling inclusive education, and answered the questions concerning their general attitude towards equal opportunity ($\alpha = .78$) as in Study 1.

Results and Discussion

Recognition of justice principles (need, equality and equity). As in Study 1, it was interested to what extent participants recognized each justice principle in compensation- and competition-oriented distributions. Ranks were compared by using Mann-Whitney-U-tests to test Hypothesis H1 as participants' answers were not normally distributed for some items. Results of the test were again in the expected direction, and were significant for the recognition of the need, $U = 137.50, p = .008$, and the equity principles, $U = 127.50, p = .001$. In the compensation condition, participants had an average rank of 27.77 for recognition of need and an average rank of 17.81 for the recognition of equity. In contrast, in the competition condition, participants had an average rank of 17.55 for recognition of need and an average rank of 30.46 for the recognition of equity. Furthermore, as expected, there was no significant difference, $U = 229.50, p = .314$, in the recognition of equality between the compensation condition, average rank of 25.94, and the competition condition, average rank of 21.98. The results confirm Hypothesis H1 and replicate the findings of Study 1.

General attitude towards equal opportunity. Again, it was explored how the general

attitude towards equal opportunity predicts the recognition of the need, equality and equity principles in compensation- and competition-oriented distributions. In line with hypothesis H2, and the findings of Study 1, results of linear regressions revealed that the general attitude towards equal opportunity significantly predicted recognition of the equity principle in the competition-orientated distribution, $\beta = .41$, $t(21) = 2.06$, $p = .052$, as well as recognition of the equality principle in the compensation-orientated distribution, $\beta = .51$, $t(21) = 2.68$, $p = .014$. All other predictions of the general attitude to the recognition of the distributional justice principles were non-significant, all β 's $< .36$, all t 's < 1.53 , all p 's $> .09$. The results confirm Hypothesis H2 and replicate the findings of Study 1.

Importance of justice principles (need, equality and equity). Below it was further explored the importance of the three distributional justice principles in providing different inclusive educational systems. Out of 45 participants (2 missing answers), 20 (44.44%) ranked equality as the most important principle. From these 20 participants, 10 indicated need as the second most important principle and 10 indicated equity. Unfortunately no significance tests could be conducted for cross-tables, because some cells contained less than five values. However, these descriptive results replicate the findings of Study 1 and are in accordance with the model of equal opportunity. These results support the notion that the perception of equality serves as a reference that connects the need and equity principles.

Overall, the results of Study 2 confirm the hypotheses, replicate the findings of Study 1 in a different educational context and, therefore, provide more evidence in support of the model of equal opportunity. It seems warranted to assume that judgment of the fairness of an

educational system will depend upon the perception of equal opportunity (i.e., the realization of the equality principle). Here equality serves as a reference point. If conceptions of equality and equal opportunity are both violated, then the need principle is salient. In this case, an educational system is perceived as fair when the needy are given support in order to achieve equal opportunities. If equality and equal opportunities are assumed, then the equity principle is salient. Here, an educational system is perceived as fair when promotion is based on performance. Moreover, those with a distinct personal belief in equal opportunities are more likely to realize the equality principle than the need principle in compensation conditions, and have a strong focus on equity in competition conditions.

However, so far the conclusions are based on self-reported variables. In Study 3, now behavior was used as a dependent variable. It has also already investigated the impact of a general attitude towards equal opportunity, but has not yet looked at how perceptions of equal opportunity, in the context of education, contribute to justice judgments and associated behavior. This is relevant because individual beliefs can impact on justice judgments in specific contexts (Kern & Chugh, 2009; Tyler & Smith, 1998). Moreover, results from Studies 1 and 2 demonstrate that a general positive attitude towards equal opportunity is associated with a preference for the equity principle as opposed to the equality principle. Therefore, it is expected that individuals who believe in equal opportunity (either in the context of education or in general) will prefer institutions, which represent the equity principle. Therefore, in Study 3 participants' behavior in donating to an institution, which represents one of the need, equality or equity principles, is taken as a measure of the impact of both the perception of

equal opportunity in education, and the general attitude towards equal opportunity.

Study 3

Method

Participants and Design. A total of 106 non-psychology students were recruited via the mailing list of a laboratory. Participants were aged between 19 and 61 years ($M = 24.36$, $SD = 5.06$; 63 female, 36 male, 7 not given). Each participant received between 13 and 15 Euros for participation depending on whether they participated in an unrelated task or not. All participants received the same materials. There were no different between- or within-subject conditions.

Procedure. On arrival at the laboratory, participants were placed in front of desktop computers in separate cubicles. The participants first answered two self-formulated items on their perception of equal opportunity in education (“In my opinion, everyone in Germany has the possibility to study at University if he/she so wishes.”, “In my opinion, everyone in Germany has the same chance to attain a higher education.”, $r = .574$, $p = .000$, scale from 1 = *strongly disagree* to 7 = *strongly agree*). Participants then read a paragraph where the United Nations emphasized that peoples’ right for an education is warranted by a just educational system. Following that, participants received a virtual 5 Euros and were instructed that they could donate the money to either one of three educational institutions or distribute the money between the institutions. Their donation would be transferred to the selected institutions at the end of the study. All institutions implemented justice in education and each represented one of the need, equality or equity principles: A center for the educational development of impaired

children represented the need principle. A school board that supports all public schools equally represented the equality principle, and an alliance of private schools, where students were selected on performance and ambition, represented the equity principle. Participants made their donation after reading the description of the three institutions. For analytical purposes, only participants who donated a total of 5 Euros were selected ($n = 101$). Finally, as in Study 1 and 2, participants answered the questions concerning their general attitude towards equal opportunity ($\alpha = .79$). After collecting the data, the money was donated to the institutions according to the participants' choices.

Results and Discussion

Donation behavior. Hypothesis H3 states that people prefer equity-based educational systems if their perception on equal opportunity is satisfied. Accordingly, if participants are convinced that equal opportunities in education, or in general, exist, then they should donate more money to an institution representing the equity principle. First, it was used median splits in order to form groups with high versus low perceptions of equal opportunity in education ($Mdn = 4.00$, $M = 3.82$, $SD = 1.59$) and of high versus low general attitudes towards equal opportunity ($Mdn = 3.50$, $M = 3.48$, $SD = 1.06$). Second, these groups were used to test disproportionate donation behavior (donation vs. no donation) towards the institutions (see Table 1 for cross-tables and Chi-Square statistics). As predicted, participants with higher perceptions of equal opportunity in education donated significantly more often to the institution representing equity, than participants with lower perceptions. There was no such relationship between a general attitude towards equal opportunity and donation behavior to

the institution representing equity. Results also showed no significant relationship between equal opportunity (perception and general attitude) and donation behavior to institutions representing the need or the equality principles. Results confirm Hypotheses H3 insofar that a context-relevant perception of the realization of equality is associated with a higher consideration of the equity principle.

Table 1

Cross Table for the Number of Donations to Institutions Representing the Need, Equality or Equity Principle in Dependence of the Perception of Equal Opportunity in Education and the General Attitude towards Equal Opportunity

Equal opportunity in education	Institution					
	Need		Equality		Equity	
	Donation	No donation	Donation	No donation	Donation	No donation
High	31	23	29	25	19	35
Low	29	17	30	16	8	38
Sum	60	40	59	41	27	73
	$\chi^2(4, N = 101) = 0.33, p = .566$		$\chi^2(4, N = 101) = 1.36, p = .243$		$\chi^2(4, N = 101) = 3.99, p = .046$	
General attitude towards equal opportunity						
Competition-oriented	28	19	29	18	13	34
Compensation-oriented	31	20	29	22	13	38
Sum	59	39	58	40	26	72
	$\chi^2(4, N = 98) = 0.02, p = .903$		$\chi^2(4, N = 98) = 0.24, p = .626$		$\chi^2(4, N = 98) = 0.06, p = .808$	

Note. Number of participants varies due to missing answers.

Results of Study 3 indicate that contextual perceptions of equal opportunity have a stronger impact on the perception of fairness of an educational system than general attitudes towards equal opportunity. This is in line with other research that demonstrated that there is an impact of context on the application of justice principles. For example, Fischer and colleagues (2007) showed that employees of a private company preferred distribution of salaries in accordance with the equity principle while employees in the public sector preferred the equality principle. However, the direction of the effect of contextual perceptions of equality remains unclear. Future research should explore whether participants' contextual perceptions of equality in general, and of equal opportunities in education in particular, increase or decrease their preference of equity by using control group design.

General Discussion

Two major findings emerged from this research. First, people use a perceived equality of opportunities as a basis for judging the fairness of educational systems. In compensation-oriented distributions, which emphasize the inequality of opportunities, the need principle is salient. In competition-oriented distributions, which assume equality of opportunities, the equity principle is salient. This means that people apply a combination of either the equality and need principles or equality and equity principles to judge the fairness of an educational system. Second, personal contextual perceptions of, or general attitudes towards equal opportunity influence perceptions of fairness. Strong beliefs in the existence of equal opportunity are associated with a strong focus on the equity principle, whereas strong beliefs in the violation of equal opportunity are associated with a strong focus on the need principle.

Overall, the introduced model of equal opportunity is capable of explaining perceived fairness in the context of education.

The results concerning the combination of different principles of distributional justice in judging the fairness of a distribution are in line with earlier research. For example, Bierhoff and Rohmann (2012) demonstrated that people combine equity and equality in order to achieve fair distributions in the work context. However, it was not clear whether people use different combinations of the distributional justice principles in order to shape fairness judgments in the educational context. This research demonstrates that people use specific combinations, with perceived equality playing a central role. In this regard, other researchers have argued that different perceptions of a just distribution stem from different conceptions of equality (Messick & Sentis, 1983). The model of equal opportunities augments previous research with a more precise definition of the differences in perceived equality. The crucial point is whether differences in opportunities are perceived as significant or not. Similarly, Eckhoff (1974) proposed that the equity principle builds on a perception of relative equality while the need principle is associated with a subjective perception of inequality (Grover, 1991; Mannix, Neale, & Northcraft, 1995)

The results indicate that contextual perceptions of, and general attitudes towards, equal opportunity influence people's fairness perceptions and reactions to distributions. This is in line with earlier research that demonstrated that personal beliefs, such as a belief in a just world (Lerner, 1980), or personality traits, such as sensitivity to (in)justice (Schmitt, Baumert, Gollwitzer, & Maes, 2010), impact on fairness perceptions and reactions. However, exactly

how beliefs in equal opportunity are related to other justice-related beliefs or traits remains unanswered. Belief in equal opportunity could be an independent factor and interact with other justice-related beliefs and traits. On the other hand, strong beliefs in equal opportunity could be strongly correlated with a belief in a just world, and a belief in unequal opportunities could be correlated with sensitivity to injustice. Furthermore, variances in individual perceptions of, and beliefs in, equal opportunity could be explained with other justice-related traits like dispositional victim sensitivity (Baumert, Otto, Thomas, Bobocel, & Schmitt, 2012). Future research is needed to address these issues.

For the first time, it is provided evidence that the model of equal opportunity is useful in explaining the process of forming justice judgments and reactions regarding the fairness of educational systems. However, results are limited to reactions of personally unaffected participants, who responded to scenario distributions and descriptions. Therefore, more research is needed to test the validity of the model in real-life situations. Furthermore, a promising avenue for future research would be to test the model in different contexts. There is evidence that the model can explain distributional justice perceptions in the context of ecological problems like a just distribution of costs of climate protection (Lüdtke, Streicher, Traut-Mattausch, & Frey, 2012). It would also be expected that the model of equal opportunity can be applied to the distribution of goods among stakeholders in very different contexts. In addition, the model could help explain processes of fairness-related information searches, and reactions to perceived (un)fair distributions. Moreover, the model has some important practical implications as well. It could be applied to predict people's reactions to

specific systems or distributions, and help plan distribution of goods in a fair manner. This is of particular importance where support of recipients is needed for success (e.g., implementation of political reforms or organizational change) since perceived unfairness is associated with resistance to change (Tepper, Eisenbach, Kirby, & Potter, 1998; Theoharis, 2007) and retaliative behavior (e.g., Greenberg, 1990).

In summary, this study provides a useful model for understanding how people judge the fairness of educational systems. The good news is that people care about equal opportunities. The perception of equal opportunities among stakeholders is the starting point from which people either favor compensation of the needy or competition among equals.

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The Relationship between Implicit and Explicit Attitudes towards Equal Opportunity and Perceptions of Distributive Justice

There is no doubt in social psychology that perceptions of justice have great influence on people's well-being (for example, job satisfaction) or their opinions about change (for example political reforms) (e.g. Ambrose, 2002; Barsky & Kaplan, 2007; Brotheridge, 2003; Cohen-Charash & Spector, 2001; Greenberg, 2006). But it is unclear how perceptions of justice are created and how they influence such emotions and opinions (e.g. Ambrose, 2002; Colquitt & Jackson, 2006; Holtz & Harold, 2009).

So social psychology justice research indicates that one in three justice principles influences perceptions of distributive justice (Deutsch, 1975; Fischer, Smith, Richey, Ferreira, Assmar, Maes & Stumpf, 2007; Kashima, Siegal, Tanaka & Isaka, 1988; Schwinger, 1980; Törnblom, Jonsson & Foa, 1985). In short, the three justice principles are as follows. Need: There are needy people who need to get something extra. Equality: All get the same. Equity: Whoever provides more, will get more.

Which of these rules is perceived as just depends firstly on the situation (Deutsch, 1975), but also on whether it is assumed that all participants had the same opportunity for participation or performance (equal opportunity). In a model for equal opportunity (Lüdtke, Streicher, Traut-Mattausch & Frey, 2012) it is assumed that people have two attitudes towards equal opportunity: compensation and competition. These two attitudes are cognitively represented with three justice principles: need, equality, and equity. Accordingly, the model of equal opportunity describes the continuous influence of the two attitudes towards equal

opportunity (compensation and competition) on perceptions and judgments of justice.

Thus, the goal is to enable competition after the equity-principle on the basis of equal opportunity. But the more one perceives distinctions between the stakeholder, the more important becomes the need-principle, followed by the equality-principle, for the purpose to create equal opportunity with compensation. Thus, (a) if equal opportunity is not assumed or perceived as given, the compensation attitude will be activated and the need- or equality-principle will provoke perceptions of distributive justice. In other words, people in need must obtain the same possibilities or start positions (equality) as other people. (b) If then equal opportunity is assumed or perceived as given, the competition attitude will be activated and the equality- or equity-principle will provoke perceptions of distributive justice. With regard to the possibility of an equal start for all people, those who achieve more should get more (equity).

With both attitudes the equality-principle will be activated. This is consistent with the following observations: Psychology of perception, the eye is horizontally orientated; for example, one perceives one of two identical magnitude persons as major when this person is nearer to the eye than the other person (as cited in Dix, Finlay, Abowd & Beale, 1993), and the observation from evolution theory that human hunter and collector societies were organized in an egalitarian way, because there were barely power and resource differences between the members of such societies (as cited in Fetschenhauer, 2010). So from different theory approaches the perception of the equality-principle seems to be genetically manifested in human behavior. Depending on the attitude towards and/or perception of equal opportunity

as not given or given people prefer first rather need-, second rather the equality- and third rather equity-distributions.

Bierhoff and Rohman (2012) assume a similar interaction of the two justice principles equality and equity on perceptions and judgments of justice in economic contexts. According to them, people make in performance situations a compromise between equity and equality principle. And from Pareto's (cited by Nielsen, 2007) point of view distributions, coming after the equity principle in the field of economics are distributions of chance and heterogeneity. A model of equal opportunity united Pareto's point of view about chance and heterogeneity with perceptions and judgments of distributive justice with all the three justice principles (need, equality and equity).

Such differences of opinion (whether the equality and equity principles are the preferred rules or whether also the need principle is sometimes the preferred rule in economic contexts) could be explained by the interaction between implicit and explicit attitudes. The Implicit-Association-Test (IAT; Greenwald, McGhee & Schwartz, 1998) has been developed with the intention of measuring implicit mental representations of attitudes by measuring the form of their associative network. The present article aims to investigate a model of equal opportunity for the purpose for the acceptance or refusal of equal opportunity as a continuous model by the differentiation in implicit and explicit attitudes towards equal opportunity by using an IAT.

Attitude research teaches us that behavior is influenced by implicit or automatic and explicit or reflected attitudes (Ajzen & Fischbein, 2005). Explicit attitudes are conscious cognitions, which directly influence behavior. Implicit attitudes are unconscious cognitions,

which are based on past experiences and indirectly influence behavior. From cognitive dissonance theory (Festinger, 1957; Frey, 1981) we know that acting against one's attitude—cognitive represented by a number of cognitions – could lead to negative arousal – called cognitive dissonance. Hence if implicit cognitions outweigh explicit cognitions, a great of negative arousal would have to act against the implicit attitude. Then it should be easier to act against the explicit attitude and add or subtract explicit cognitions to reduce the negative arousal there. Therefore differences in results regarding which justice principle influences perceptions of distributive justice might be due to the fact that the implicit attitude towards the justice principles sometimes influences perceptions of distributive justice without the awareness of the researcher.

If people do not have the motivation or cognitive resources to act elaborately based on their explicit attitude, they will act based on their implicit attitude because this runs automatically. (Strack & Deutsch, 2004; Wilson, Lindsey & Schooler, 2000). Thus, explicit justice attitudes and motives could be measured through self-reflection with self-report questionnaires (Spence, 2005) – because self-report questionnaires are going to activate elaboration of such motives. But until now implicit justice motives – such as belief in a just world – are also measured through reflection with a questionnaire (Dalbert & Umlauf, 2009). With such explicit methods participants evaluate their implicit motives in a reflective, controlled way. This could lead to intentional decision biases.

Consequently, to measure implicit attitudes other methods, which measure the association of the implicit attitude in an impulsive way, are needed. The Implicit-Association-Test (IAT;

Greenwald, McGhee, & Schwartz, 1998) has been developed with the intention of measuring implicit mental representations of attitudes by the form of their associative network. In fact the IAT is going to measure implicit attitudes by measuring associations between the target attitude (e.g. justice) and the attributes: positive (often operationalized by “pleasant”) versus negative (often operationalized by “unpleasant”) (e.g. Fazio & Olson, 2003; Nosek, Greenwald & Banaji, 2007; Spence, 2005). The benefit of IAT measures is that they are unaffected by intentional decision biases (Greenwald, McGhee, & Schwartz, 1998).

Implicit-Association-Test (IAT)

After its initial publication, the IAT became a popular tool in social cognition research for measuring implicit attitudes (e.g., Lane, Banaji, Nosek & Greenwald, 2007). The IAT is used in lots of fields like social psychology (e.g., Rudolph, Schröder-Abé, Riketta, Schütz, 2010; Carlsson & Björklund, 2010), clinical psychology (e.g., Cohen, Beck, Brown, Najolia, 2010; Egloff & Schmukle, 2002, Houben, Nosek, Wiers, 2010), business (e.g., Gibson, 2008) and marketing research (e.g., Friese, Wänke, Plessner, 2006; Maison, Greenwald, & Bruin, 2004).

In fact, the IAT is mostly used to measure specific attitudes in a particular context, such as prejudice or attitudes towards special consumer products. The IAT locates associations between two target attitudes (e.g., *brand 1* vs. *brand 2*) and attributes (e.g., *pleasant* vs. *unpleasant*) in two critical blocks, using a response-time technique. The participants have to react to pleasant and brand 1 as well as unpleasant and brand 2 in one critical block and vice versa (pleasant and brand 2 vs. unpleasant and brand 1) in the other critical block. The assumption is that participants who favour brand 1 react faster to the association pleasant-

brand 1 and unpleasant-brand 2 than to the association pleasant-brand 2 and unpleasant-brand

1. Data indicates the robustness of the IAT measures: participants seem to have stereotype affirmative associations (e.g., Greenwald, McGhee & Schwartz, 1998; Hummert, Garstka, O'Brien, Greenwald & Mellott, 2002).

Dasgupta (2010) presents the concern that the robustness of the IAT measures is influenced by the specifics of the attitude object. Dasgupta (2010) says that very specific attitude objects affect other concepts such as the importance of the self. Hence these other concepts could influence the performance of the IAT-effect. For example, the black vs. white IAT affects a self-definition as xenophile, and this self-definition moderates the IAT effect, by the way that situations in which someone xenophile and xenophobe acted are activated. Therefore IAT research needs to investigate more general attitude objects like perceptions of justice. Perceptions of justice influence behavior in a lot of areas such as organizational context (Cohen-Charash & Spector, 2001). In summary, a justice based IAT seems to be promising because (a) justice research needs to research implicit attitudes with implicit measures, and (b) IAT research needs to investigate in more general attitude objects.

Against the background of a model of equal opportunity, the following hypotheses are postulated.

Hypothesis 1 (H1): Participants implicit attitude towards equal opportunity is equally related to compensation or competition.

Furthermore based on model of equal opportunity the equality-principle belongs to both attitudes towards equal opportunity: compensation and competition. Therefore those people

who have implicitly and explicitly the same attitude towards equal opportunity should perceive an equality-distribution as such, because they can explain the additional need for other justice principles (need or equity) with their implicit and explicit attitude and so do not perceive cognitive dissonance. In contrast people whose implicit attitude towards equal opportunity is compensation-based and whose explicit attitude is competition based should perceive an equality-distribution not as such. Their implicit and explicit attitudes towards equal opportunity competes with each other. Their implicit attitude—based on past experiences – should be stronger than their explicit attitude. Not to get into any situation to support any competition against their implicit attitude and so feeling cognitive dissonance they should fixate on inequalities even of equality-distributions and thus do not perceive an equality-distribution as such. With the same argument of minimizing cognitive dissonance, people whose implicit attitude towards equal opportunity is competition-based and whose explicit attitude is compensation based should perceive an equality-distribution as equality-distribution. This leads to the following hypothesis.

Hypothesis 2 (H2): There is an interactive relationship between one's implicit attitude towards equal opportunity (compensation-based or competition-based) and one's general attitude towards equal opportunity (compensation-based or competition-based) on the strength of the perception of an equality related distribution.

Furthermore people whose implicit attitude is competition-based should feel cognitive dissonance when they are confronted with statements about people in need because they assume that equal opportunity and therefore compensation for people in need is given. Then,

confronted with people in need, they see that equal opportunity is not given at all. Hence the probability that they judge distributions based on the need-principle as most just should increase because it offers them the possibility to decrease cognitive dissonance by adding cognitions like “in general equal opportunity is given, but sometimes in special situations it is not given and thus, in this special situations distribution based on need are necessary”. This relationship should decrease for those people whose explicit attitude towards equal opportunity is also competition-based because they should be more sure in their attitude that equal opportunity is given. This leads to the following hypothesis.

Hypothesis 3 (H3): There is an interactive relationship between one's implicit attitude towards equal opportunity (compensation-based or competition-based) and one's general attitude towards equal opportunity (compensation-based or competition-based) on the probability of selecting a need principle-related distribution as being most just.

Hypothesis 4 (H4): There is no interactive relationship between one's implicit attitude towards equal opportunity (compensation or competition) and one's general attitude towards equal opportunity (compensation-based or competition-based) on the probability of selecting an equality principle-related distribution as being most just.

Model of equal opportunity states that the equality-principle belongs to both attitudes towards equal opportunity: compensation and competition. Hence judging the equality-distribution as most just should not increase or decrease for one of both groups (people with compensation- or with competition-based attitude).

Hypothesis 5 (H5): There is no interactive relationship between one's implicit attitude

towards equal opportunity (compensation or competition) and one's general attitude towards equal opportunity (compensation-based or competition-based) on the probability of selecting an equity principle-related distribution as being most just.

Selection of the equity-distribution as most just from all three distributions (need, equality, and equity) should not increase for those people whose implicit attitude is competition-based in comparison to those people whose implicit attitude is compensation-based. The reason for this is that they are also confronted with information about people in need.

In the current research it was aimed to test these hypotheses. With the first study (divided into eight validation studies), an IAT was designed and validated to measure implicit attitudes towards equal opportunity. With the second study, it was tested as to whether within the group of all the participants the overall implicit attitude towards equal opportunity was more related to compensation or competition. With the third study, the re-test test's reliability was tested; thus, goal was to repeat the IAT result from study 2 and, moreover, to measure the interaction influence of the IAT and the general attitude towards equal opportunity (compensation-based or competition-based) scale in relation to perceptions and preferences of justice principle-related distributions in the context of the distribution of salaries.

Pretesting

Study 1

Methods, Results and Discussion. In order to design an IAT for equal opportunities in a first step justice related words were collected by using an online dictionary and by asking participants for synonyms for the justice-principle related words ("Please name at least three

adjectives and nouns, respectively, that also express the words equity, equality and need”). In order to test whether the synonyms are representative for justice, injustice and need, equality and equity and whether they do not differ from reaction times people need to react to them seven tests were conducted.

Thus, in a second step this list was presented to 15 participants (11 female; 4 male; age: $M = 30.47$, $SD = 9.47$). The participants rated the justice-related words, whether they were positively- or negatively-related and whether they were representative of justice and for the justice-principle related words first, whether these words were related to the target attitudes competition and compensation or whether these words were not related to the discussion. Second, whether these words were representative of their related justice principle (need, equality or equity) in exchange for a candy bar. Only justice-related words fulfilled the criteria of clearly relating to their proximate target attitude and attribute. The results indicate that the equality principle seems to be more connected to the compensation-based than the competition-based attitude towards equal opportunity. However, this could be due to the fact that the word *compensation* [*Ausgleich*], in the German language, is similar to the German word for *equality* [*Gleichheit*].

In a third step with now metric answer categories first the goal was tested whether the justice principle related words are representative for need, equality and equity by presenting the questionnaire to 28 participants (20 female; 8 male; age: $M = 29.21$, $SD = 13.78$) and second whether these words are related to the target attitudes (compensation and competition) by presenting the questionnaire to 17 participants (3 female; 4 male; age: ($M = 26.50$, $SD =$

4.15) in exchange for a candy bar. For the need principle-related words, only five words fulfilled the criteria of being representative for the need-principle. Many need and equality principle-related words fulfilled the criteria of being related to the target attitude even though they did not fulfilled criteria of being representative for the need-principle. For the purpose of another testing those words from the need- and equality principle-related words were chosen, which fulfilled criteria from the study representative for the justice principle. And from the equity principle-related words 18 were chosen by chance, because a lot of equity-principle related words fulfilled both criteria of being representative for the equity-principle and of being related to the target attitude competition. In contrast with the model assumption of equal opportunity, only equity principle-related words were associated with the target attitude competition, while primary equality principle-related words were associated with the target attitude compensation.

In a fourth step with now metric answer categories the goal was tested whether the justice related words are related to the concept justice and the attributes positive-negative by presenting the questionnaire to 17 participants (12 female; 4 male; age: $M = 33.80$, $SD = 9.74$) in exchange for a candy bar. Almost all of the opposite word pairs fulfilled the criteria. Thus, 11 word pairs were chosen by chance for the last validation study.

In a fifth step the goal was to get some more justice-related words for the final IAT task. Therefore firstly participants from Colloquium Social Psychology (mostly colleagues of the chair of Social Psychology at Ludwig-Maximilians-University Munich) wrote down synonyms for justice and injustice. And secondly words were tested in a similar way as

described in the previous studies. Therefore 119 participants (55 female; 64 male; age: ($M = 25.84$, $SD = 5.68$) filled out the questionnaire in exchange for a candy bar. Again, almost all words fulfilled the criteria. Thus, 36 words were chosen by chance for validation study 5. The word *Vernachlässigend* [*negligent*] changed into *Vernachlässigt* [*neglected*] and the word *Ausschließend* [*exclusive*] into *Anschließend* [*connected*] in the next validation study 5.

In a last step the goal was to find words that generate similar response times in a response time test in order to erase errors in the calculation of the IAT measurement. This was achieved by asking participants to sort real and made-up words as quickly as possible with the target concepts' *real word* and *made-up word*. 17 participants (9 female; 7 male; age: $M = 23.06$; $SD = 2.54$) fulfilled the test for the justice-based words and 19 participants (11 female; 8 male; age: $M = 23.06$; $SD = 2.54$) fulfilled the test for the justice principle related words in exchange to a candy bar. Initially, the procedure was to choose the real words which generated a similar response time by testing the null hypothesis with t-test for one sample ($p \geq .20$). The divergence of the null hypothesis of the response time from the average ($M = 96.90$; $SD = 0.01$ and $M = 89.72$, $SD = 0.12$) was tested. For the justice principle-based words first a t-test for paired samples for each justice principle-related word combination. The procedure was to choose those words for the next test that did not differ significantly from the value $p \geq .40$ from mostly of the other words (most were not specified accurately).

In contrast to targeting more specific attitudes IATs an IAT was developed which targets a more general attitude object. This offers the possibility to test the robustness of IAT measures. Therefore with several test words which are representative for the targets and which do not

differ from each other were chosen. The final IAT classification task used 32 stimulus words: 8 positive justice-related words, 8 negative justice-related words, 8 equity-related words, 6 equality-related words and 2 need-related words. In the final IAT version, an error occurred where the word *Unangemessen* [*inadequate*] changed to the word *Unangenehm* [*awkward*]. Thus, the word *Unangenehm* [*awkward*] never passed through any of the pre-tests. However, one word should not influence the information value of the IAT because the IAT D-Score building procedure (explained in the next study) should avoid it in case this word generates different response times by decoding.

However, the response times were not log-transformed, with a view to transferring them into a curve for standard distribution. Moreover, the practised methods in the validation studies did not generate opposite word pairs for the targets compensation vs. competition and positive vs. negative, which is contrary to what is commonly found in IAT research. It should also be pointed that some oversights (three words changed into other words during the tests) affected the quality of the validation studies. But the developed IAT can still be used well, because correct words were selected by several tests, if they are approximate related to their category and the target category. Anymore the correct words fulfil criteria of being similar in their response times people need to react to them, which seems to be important for the analysis of IAT data.

Main Studies

Study 2

The goal of study 2 was to explore whether equal opportunity could be seen as a

continuous model. Therefore, among all participants none of the two attitudes towards equal opportunity (compensation or competition) should be presented with a higher score than the other.

Method.

Design of the IAT. The IAT reviews the association between the target attitude equal opportunity (compensation vs. competition) and the attribution positive vs. negative. The participants have to react to stimulus material in five blocks. The first, second and fourth blocks are practice blocks, in which the participants learn to react to the stimulus material. In the first block, the participants grade equity-related words to the target attitude competition, and equality- and need-related words to the target attitude compensation. In the second block, the participants grade justice-related words to the attributions positive and negative. The third block is the first data collection block. In this third block, the participants have to grade justice principle-related and justice-related words; one key is used for the targets competition and positive and another key is used for the targets compensation and negative. The fourth block is another practice block, in which the participants relearn the reactions to the stimulus material. This block is equivalent to the first block, with only one difference: the participants have to react to converse target attitudes (compensation vs. competition). The fifth block is the second data collection block. This block is equivalent to the third block, with only one difference: the participants have to react to converse targets (compensation and positive vs. competition and negative). In all of the blocks, they do grading by using the E and I key on their keyboard. The participants should react more quickly to one of the combined reaction

tasks (third and fifth blocks) if they have associated the target attitudes differentially.

Participants. 106 participants from a list from a laboratory were recruited (63 female; 36 male; age: $M = 24.36$, $SD = 5.06$). The only limitation was that the participants could not be psychology students. 93 of the participants stated themselves as being students while 6 stated that they were not students.

Procedure. Java Script was used to design the IAT for the web browsers. The measurements of the response times were taken by the function Java Script Timer, which allows for time measures in milliseconds. The participants sat around 60 centimetres away from the display screen, which had a frequency of 50/60 hertz.

The participants were asked to take a seat in front of computers in a laboratory. The interviewer read out the instructions and the participants began the experiment. Each participant received a minimum of 13 Euros and a maximum of 15 Euros, depending upon whether they participated in an extra task for another integrated experiment. The participants knew before the experiment that they would be paid and by how much.

The IAT was presented on a black background with a field marked by a green border; the stimulus material was displayed in a white font. If the participants gave an incorrect answer, a red X let them know that it was wrong. Before each block, the participants were instructed to make their answers as quickly as possible, by pressing either the *E* key or the *I* key on the stimulus material. The introduction also explained the function of the various keys. During the block, the categories were shown to the left (for the *E* key) and to the right (for the *I* key) on top of the screen. The participants were randomly assigned to one of two versions of the IAT.

In the first version, the participants began in the first critical block with the classification of the words into the targets *competition-positive/compensation-negative*, and ended in the second critical block with the classification into the targets *compensation-positive/competition-negative*. In the second version, however, the participants classified the words into the critical blocks, first, with *compensation-positive/competition-negative* and, second, with *competition-positive/compensation-negative*. Each block consisted of 10 trials, which meant that each participant had to categorize each word 10 times. Next, the participants were directed towards an online questionnaire and answered questions regarding the demographic items.

Preparation of response times. For the preparation of the response times, only those from the two main blocks were used for the analysis. Because the response times differed from the Gaussian distribution, they were log-transformed. However, the report here shows the means and standard deviations in milliseconds.

Next, the response times were averaged in their blocks (positive-competition, negative-compensation, positive-compensation, negative-competition). Lastly, the example of Brendl, Markmann and Messner (2001) was followed, whereby response times fewer than 300 mss and over 3,000 mss were marked as missing values in order to exclude them from the analysis. Only those response times of the participants who immediately pressed the correct key were used. 7 subjects were excluded from the analysis because they had over 40% missing values in one response block caused by response times that were either under 300 mss or over 3,000 mss or else constituted incorrect answers.

Four scales were created, two in each version for each critical block; first version: competition-positive/compensation-negative ($\alpha = .93$) and compensation-positive/competition-negative ($\alpha = .94$); second version: compensation-positive/competition-negative ($\alpha = .96$) and competition-positive/compensation-negative ($\alpha = .91$). Next, the IAT D-Score was calculated in accordance with Greenwald, Nosek and Banaji (2003). Thus, for each version of the IAT the difference between the scales of the two critical blocks was calculated, and this difference was divided by the standard deviation of these two scales. Next, these two different measures were averaged into one measure – the IAT D-Score. Accordingly, a high value indicated a competition-based attitude and a low value indicated a compensation-based attitude.

Results and Discussion.

Implicit attitude towards equal opportunity. Hypothesis H1 was tested by a t-test, namely as to whether among all participants none of the two attitudes towards equal opportunity (compensation or competition) was presented with a higher score than the other. Accordingly, a significant value across zero indicated a high competition-based attitude and below zero indicated a high compensation-based attitude. Overall, the participants' implicit attitude was not more strongly related to either of the two dimensions compensation or competition ($M = 223.68$, $SD = 1.94$), $t(98) = 0.30$, $p = .765$. Thus, and in accordance with hypothesis H1, the assumption that among all the participants both attitudes (compensation and competition) were implicitly presented can be confirmed. Therefore, study 2 showed that, in contrast to more specific IATs, neither of the two target concepts was more central in the participants'

minds than the other.

Thus, this result affirms equal opportunity as a continuous model. Consequently socialization at least in the German university system does not mean that an attitude towards equal opportunities compensation or competition develops more than the other. For the distributive justice research this means that the three justice principles seem to influence justice judgments in interactive dependence to each other, because both attitudes are similar strong developed.

But maybe this result results from an implicit competition-based attitude, because the competition-based attitude is built on the compensation-based and therefore participants should have multiple cognitions towards the compensation- and competition-based attitude. Or maybe this result results from the non robustness of the here used IAT measure. Thus, more investigation in IATs which measure general attitude objects is needed, to deduce the robustness of these IAT measures.

Study 3

The goal of study 3 was two-fold: Firstly the goal was to test the re-test reliability of the IAT by the replication of the results of study 2. Secondly the goal was to measure the interactive influence of the implicit attitude towards equal opportunity (compensation or competition) and the general attitude towards equal opportunity (compensation or competition) in relation to perceptions of distributive justice in the context of salaries.

Method.

Participants and Design. 127 participants (69 female; 44 male; age: $M = 23.63$, $SD = 3.65$)

were recruited for a laboratory study in exchange for 15 EUR and randomly assigned to one of the four condition a 2 (*implicit attitude towards equal opportunity*: compensation or competition) x 2 (*general attitude towards equal opportunity*: compensation-based or competition-based) quasi-experimental subject design. The participants were recruited from a list from a laboratory. 107 of them declared themselves to be students while 4 stated that they were not students. For study 3, the same material as in study 2 was used.

Procedure. The procedure in study 3 was the same procedure as was used in study 2. In study 3, the participants received after completing the IAT task and before completing questions regarding the demographic items the scenario information, namely that one part of the salaries is an additional salary, which is paid independent from time and dependent from results. Next, the participants were informed that they would see diagrams as to how the leader distributed this additional salary among the employees. Figure 1 shows the diagrams. The participants were presented these diagrams, which showed (pre-tested) distributions based on need, equality and equity in randomized sequences on several pages.

Next, there followed the query of this first criterion variable (*need-, equality- or equity-*) *diagram illustrating a (need-, equality- or equity-) distribution*. Under each diagram, the participants were asked to determine how the leader distributed the salary for each justice principle (“who provides more will get more,” “all should get the same,” “the distribution acts in accordance with the need of the person”) on a scale from 1 (*not at all*) to 7 (*completely*). Then, the participants were presented with all of these diagrams on one page – but in a randomized sequence – and were asked to choose the second criterion variable *the diagram*

that demonstrated the most just distribution of the additional salary. Next, and before completing the demographic items, the participants completed the *general attitude towards equal opportunity*, $\alpha = .87$ on a scale from 1 (*do not agree at all*) to 7 (*totally agree*).

Preparation of response times. The response times in study 3 were prepared in the same way as in study 2. No subjects were excluded from the analysis. Once again, the analysis was based on log-transformed response times, but the presentation here shows the means and standard deviations in milliseconds. Again, and altogether, four scales were created, with two in each version for each critical block: first version: competition-positive/compensation-negative ($\alpha = .94$) and compensation-positive/competition-negative ($\alpha = .98$); second version: compensation-positive/competition-negative ($\alpha = .95$) and competition-positive/compensation-negative ($\alpha = .94$).

Results and Discussion.

Implicit attitude towards equal opportunity. To test the hypothesis H1, which states that there is no difference overall as to whether the participants' implicit attitude is more closely related to compensation or competition; once again, a t-test against zero was conducted for IAT D-Scores. The analysis again confirmed the null hypothesis H1, namely that overall participants had no significant difference in their attitudes towards compensation or competition ($M = 228.48$, $SD = 1.94$), $t(126) = 0.62$, $p = .537$. Thus, study 3 also demonstrated that neither of the two target concepts (compensation or competition) was more central for all of the participants than the other. As a result, the assumption can be confirmed, namely that equal opportunity in relation to the two attitudes compensation and competition

could be seen as a continuous model.

Distribution Diagrams

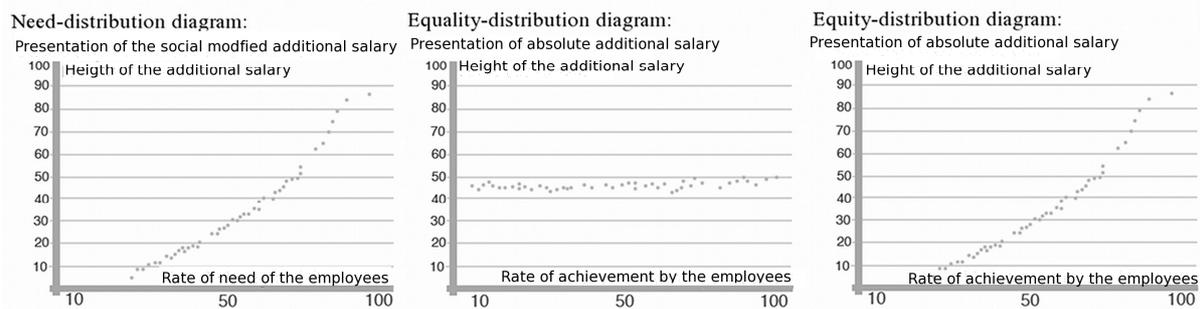


Figure 1. Illustration of the distribution diagrams for the dependent variable (need-, equality- or equity-) diagram illustrates a (need-, equality- or equity-) distribution.

(Need-, equality- or equity-) distribution diagram illustrating a (need-, equality- or equity-) distribution. To explore hypothesis H2 – which states that there is an interactive relationship between the participants' implicit attitude towards equal opportunity (compensation-based or competition-based) and the participants' general attitude towards equal opportunity (compensation-based or competition-based) on the strength of the perception of an equality related distribution a linear regression analysis with inclusion was run. Therefore, the z-standardized IAT D-Score, general attitude towards equal opportunity and there interaction term were put as predictor and the equality-distribution diagram illustrating an equality-distribution was put as criterion in the regression analysis. Before, to make sure that the IAT D-Score and the general attitude towards equal opportunity scale did

not correlate with each other a two-sided bivariate correlation – following Pearson – for these two variables was run. The results confirmed the non-correlation, $r = .05$, $p = .621$, $N = 113$.

There was an interaction between the predictor variables' IAT D-Score and the general attitude towards equal opportunity scale, with the criterion variable equality-distribution diagram illustrating an equality-distribution ($\beta = .19$, $p = .040$), $F(3, 108) = 2.28$, $r^2 = .06$, $p = .084$. A simple slope analysis after Aiken and West (1998) was run in order to research the relation of the interaction. Figure 2 shows the relation of the interaction. Among participants who had an implicit compensation-based attitude towards equal opportunity the general attitude towards equal opportunity was a predictor for the strength of the perception of an equality related distribution: Those participants who had a competition-based general attitude towards equal opportunity perceived to a lesser extent an equality related distribution in the equality-distribution diagram than those who had a compensation-based general attitude towards equal opportunity ($\beta = -.41$, $p = .011$). Whereas, among participants who had an implicit competition-based attitude towards equal opportunity the general attitude towards equal opportunity was no predictor for the strength of the perception of an equality related distribution: Those participants who had a compensation-based general attitude towards equal opportunity perceived to the same extent an equality related distribution in the equality-distribution diagram as those who had a competition-based general attitude towards equal opportunity.

Among participants who had a competition-based general attitude towards equal opportunity the implicit attitude towards equal opportunity was a predictor for the strength of

the perception of an equality related distribution: Those participants who had a competition-based implicit attitude towards equal opportunity perceived to a higher extent an equality related distribution in the equality-distribution diagram than those who had a compensation-based implicit attitude towards equal opportunity ($\beta = .27, p = .066$). Whereas, among participants who had a compensation-based general attitude towards equal opportunity the implicit attitude towards equal opportunity was no predictor for the strength of the perception of an equality related distribution: Those participants who had a competition-based implicit attitude towards equal opportunity perceived to the same extent an equality related distribution in the equality-distribution diagram as those who had a compensation-based implicit attitude towards equal opportunity.

Thus, hypothesis H2 was confirmed. Participants whose implicit attitude was compensation-based seem to have strength cognitions to inequalities in society, and therefore seem to be fixed on details of differences in the equality-distribution diagram which supports their implicit attitude. Would they see in this equality-distribution diagram an equality-distribution, they would act against their implicit attitude and could feel cognitive dissonance, because their implicit attitude – built on past experiences – seems to have more big cognitions than their explicit attitude and should be therefore after theory of cognitive dissonance more resistant against changes. Thus, it should be easier to ad cognitions on the explicit attitude side than on the implicit.

To explore whether there may be additional non-postulated interaction effects on the other criterion variables the same regression analysis for these dependent variables was run. Table 1

shows there were no other interaction relationships.

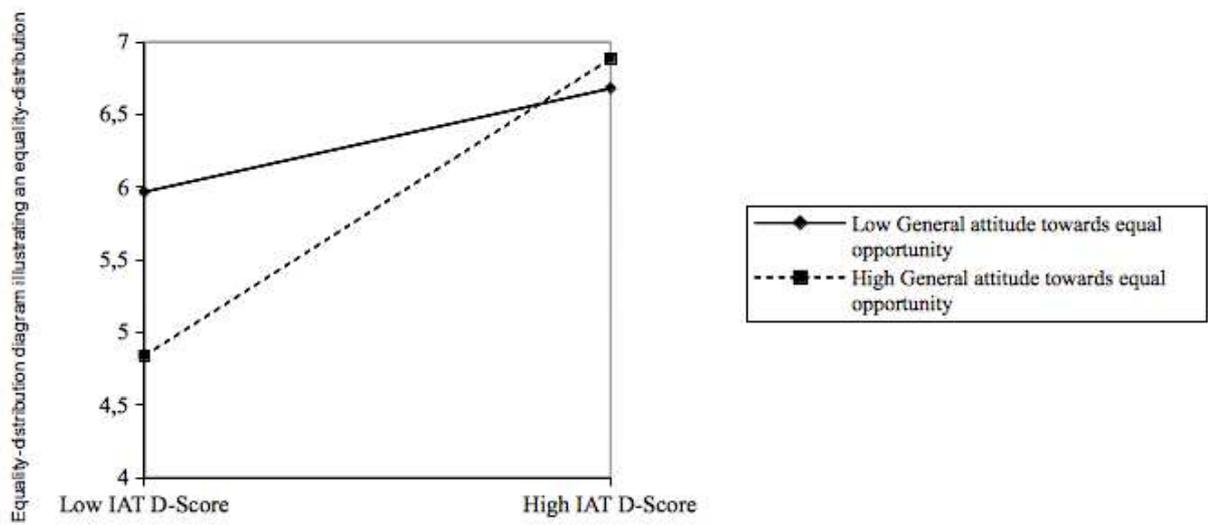


Figure 2. Illustration of the interaction between the predictor variables IAT D-Score and general attitude towards equal opportunity scale to the criterion variable equality-distribution diagram illustrating an equality-distribution.

Table 1

Interaction Analysis from the IAT D-Score with the General Attitude Towards Equal Opportunity Scale to the Criteria Variables Need-, Equality- or Equity-Distribution Diagram Illustrating a (Need- Equality- or Equity-) Distribution

Simultaneous Regression Analyses Predicting Need, Equality, and Equity Distributions with IAT D-Score and Explicit Attitude Towards Equal Opportunity.

Predictor	Distribution					
	Need		Equality		Equity	
	β	p	β	p	β	p
<i>Figure of need distribution presented</i>						
IAT D-Score	.010	.917	.020	.837	.062	.515
General Attitude	-.097	.310	.019	.847	.118	.221
Interaction	.122	.204	.079	.806	-.119	.216
R^2	.025		.007		.033	
F	.939		.242		1.210	
<i>Figure of equality distribution presented</i>						
IAT D-Score	.077	.420	.040	.667	.021	.829
General Attitude	.090	.349	-.135	.152	.036	.706
Interaction	-.143	.138	.194	.040	-.138	.153
R^2	.035		.059		.021	
F	1.299		2.276		1.833	
<i>Figure of equity distribution presented</i>						
IAT D-Score	-.106	.271	.200	.039	.053	.584
General Attitude	.021	.826	.010	.918	.037	.701
Interaction	-.142	.142	-.076	.430	.032	.737
R^2	.032		.045		.005	
F	1.162		1.046		.190	

Diagram that demonstrated the most just distribution. To explore hypothesis H3, which states that there is an interactive relationship between the implicit attitude towards equal opportunity (compensation or competition) and the general attitude towards equal opportunity (compensation or competition) on the probability of selecting a need principle-related distribution as most just a logistic regression analysis was run. Therefore, the IAT D-Score, the general attitude towards the equal opportunity scale and their interaction term were made as a predictor and the variable selection of the need-distribution diagram as the most just as criterion in the analysis.

The results for the interaction between the IAT D-Score and the general attitude towards equal opportunity scale showed that for those participants who had a competition-based implicit attitude towards equal opportunity, the probability of selecting a need-distribution diagram as being most just was raised by about four units ($b = 1.42$, $OR = 4.14$, $p = .057$) in comparison to those participants who had a compensation-based implicit attitude towards equal opportunity, as can be seen in Figure 3. Indeed, there was no effect on the part of the general attitude towards equal opportunity scale in the probability of selection of a need-distribution diagram as being most just ($b = -0.60$, $OR = 0.55$, $p = .120$); the general attitude towards equal opportunity scale influenced this effect. Among those participants who had a competition-based implicit attitude towards equal opportunity for those participants who had a compensation-based general attitude towards equal opportunity the probability of selecting a need-distribution diagram as most just increases in comparison to those participants who had a competition-based general attitude towards equal opportunity for about a half unit ($b = -$

0.60, $OR = 0.55$, $p = .029$), $N = 113$, *Nagelkerke R-square* = .16. Thus, hypothesis H3 could be confirmed.

To explore the hypotheses H4 and H5 that there is no interaction influence between the implicit attitude towards equal opportunity (compensation or competition) and the general attitude towards equal opportunity on the other criterion variables the same logistic regression analysis for these dependent variables was run. As was hypothesized, there was no interaction influence on the part of the IAT D-Score and the general attitude towards equal opportunity scale on the criterion selecting an equality-distribution diagram as being most just ($b = 0.89$, $OR = 1.09$, $p = .534$), $N = 113$, *Nagelkerke R-square* = .05. There was also, as hypothesized, no interaction influence on the part of the IAT D-Score and the general attitude towards equal opportunity scale on the criterion selecting an equity-distribution diagram as being most just ($b = -0.60$, $OR = 1.06$, $p = .642$), $N = 113$, *Nagelkerke R-square* = .07.

Thus, hypotheses H4 and H5 can be confirmed. For the purpose that the model of equal opportunity states that the equality principle belongs to both attitudes towards equal opportunity: compensation and competition, the selection of the equality-distribution as most just did not saw an increase or a decrease for either of both groups (participants with compensation- or competition-based attitudes towards equal opportunity). And, for the reason that the participants were also confronted with information about people in need, the selection of the equity principle-related distribution as being most just from all three distribution descriptions (need, equality and equity) did not increased for those participants whose implicit attitude was competition-based in comparison to those participants whose implicit attitude

was compensation-based.

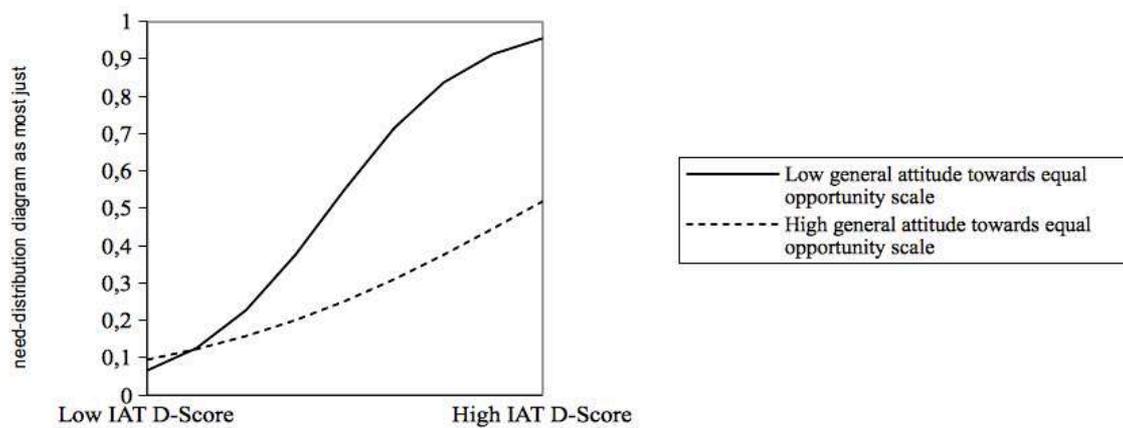


Figure 3. Illustration of the interaction between the predictor variables IAT D-Score and general attitude towards equal opportunity scale to the criterion variable probability of selecting a need-distribution diagram as most just.

General Discussion

The model of equal opportunity states that the competition-based attitude towards equal opportunity is built on the compensation-based attitude towards equal opportunity and, therefore, it describes the continuous influence of the three justice principles (need, equality and equity) on perceptions and judgments of justice. Two studies were conducted to measure this assumption of equal opportunity as a continuous model.

The main results are as follows. In the two studies, the participant groups were not related

more to either of the two implicit attitudes towards equal opportunity (compensation and competition) than the other. That means, that no implicit attitude towards equal opportunity is more active within the society of students of Ludwig Maximilians University Munich. Those participants who had an implicit compensation-based and a competition-based general attitude towards equal opportunity perceived an equality-distribution to a lesser extent than those participants who had implicit and in general compensation-based attitudes towards equal opportunity and those participants who had implicit and in general competition-based attitudes towards equal opportunity. Thus, implicit and general attitudes towards equal opportunity influence how an equality-distribution is perceived. The probability of selecting a need distribution as being most just from all justice principle-related distributions rises for those participants who had an implicit competition-based attitude towards equal opportunity. However, if these participants had, in addition, a competition-based general attitude towards equal opportunity, this probability declines.

Participants who had an implicit competition and therefore equity-based attitude seem to use more often all three justice principles, and therefore, if confronted with people in need, to use the need-principle against their implicit attitude by the reason to reduce cognitive dissonance. If they have an implicit and explicit competition attitude they seem to be more sure with their competition attitude and information about people in need did not lead to cognitive dissonance. Therefore, at least in this study the effect of selecting a need-diagram as most just decreases.

Or this result might due to the fact, that the model of equal opportunity states that the

competition-based attitude towards equal opportunity is built on the compensation-based attitude towards equal opportunity. In the same way as in the results from hypothesis H2 participants with a competition-based attitude towards equal opportunity seem to sometimes agree with need principle-related distributions as being most just. But against this here reported result from hypothesis H3, one could query as to whether even those participants who had an implicit competition-based attitude towards equal opportunity had multiple cognitions after each of the three justice principles (need, equality and equity), and therefore a more differentiated feeling to all three justice principles than the other participants. This assumption might get additional confirmation to the result from hypothesis H2 that among participants with an implicit competition-based attitude the general attitude towards equal opportunity was no predictor for the strength of the perception of an equality related distribution. Or the participants with the competition-based implicit and general compensation-based attitude favor competition but do not see equal opportunity and therefore judge a need-distribution diagram as most just, for the reason to built this equal opportunities and establish the basis for competition.

Whereas participants who had a compensation-based implicit attitude towards equal opportunity did not judge a need-distribution diagram as most just. Thus, cognitive dissonance seem to be a great influencer, because these participants should not feel cognitive dissonance by reading information about people in need. Therefore future studies have to elevate cognitive dissonance, too for the reason to affirm or refuse that cognitive dissonance influences the dependent variable to judge a need-distribution diagram as most just.

It could also be that for the reason that people with an implicit competition-based attitude have a more differentiated attitude towards equal opportunity, because the competition-based attitude is built on the compensation-based attitude they have numerous cognitions towards both attitudes. Thus, the numerous compensation- and competition-based attitudes compete to each other, why these participants use the central way of elaboration likelihood model and judge a need-distribution diagram as most just after elaborating all informations. Whereas the participants with an implicit compensation-based attitude towards equal opportunity use the peripheral way of elaboration likelihood model and therefore only scan information about the distributions, why they do not favor the need-distribution diagram as most just.

Lastly the results confirm excess principle approaches (Törnblom, 1992) and within these approaches an interaction influence of the three justice principles to justice judgments. This extended the distributive justice theory to the assumption that an interaction of implicit and explicit attitudes towards the three justice principles influence justice judgments and not only towards justice motives as Dalbert (2001) assumes.

So Dalbert and Umlauf (2009) showed in the dictator game, participants with implicit justice motives – like belief in a just world – favored equality-distributions whereas participants with explicit justice motives – like justice centrality – favored equity-distributions. In the questionnaire-based study by Dalbert and Umlauf (2009) participants were asked to distribute money among themselves and one other anonymous person. The participants were told that the other person would not have the opportunity to criticize the distribution, and so the participants could act as dictators. Then Dalbert and Umlauf (2009)

measured the levels of implicit and explicit justice motives based on a questionnaire. The findings by Dalbert and Umlauf (2009) imply that the differentiation between implicit and explicit justice motives allows for a more general explanation of how perceptions of justice influence emotions and attitudes (e.g. Montada, Schmitt & Dalbert, 1986; Schmitt, Baumert, Fetchenhauer, Gollwitzer, Rothmund & Schlösser, 2009; Schmitt et al., 2008).

But the findings by Dalbert and Umlauf (2009) also bring up the question if the differentiation between implicit and explicit justice attitudes could underly the influence of justice motives on perceptions of distributive justice, because in contrast to affective reactions, attitudes are defined as linked to certain concepts (Albarracín, Johnson, Zanna & Kumkale, 2005), whereas motives are defined as affective reactions influenced by a perception of target states (Müsseler & Prinz, 2002). Hence target concepts of attitudes could activate certain motives and therefore attitudes could underly the influence of motives on perceptions and behavior. Therefore future research has to review the question about a connection between implicit and explicit attitudes towards equal opportunity and distributive justice.

Furthermore although one has to say that compensation in German language is similar to the German word of equality, the here reported results let assume that the equality-principle is related more intensive to the need-principle than to the equity-principle as also several studies in the field of distributive justice show (Mannix, Neale & Northcraft, 1995; Rasinski, 1987; Törnblom, Jonsson & Foa, 1985). Participants sorted several equality-related words and only two need-related words to the category compensation and only equity-related words to the

category competition of equal opportunity.

However, one should note that the reported studies – especially the validation studies – suffer methodological limitations. Thus, the investigation into the development of future IATs should be more accurate. And accordingly, the interdisciplinary view of the model of equal opportunity and the perceptions and judgments of distributive justice seems to be important in the examination, advancement and application of the model of equal opportunity.

Anymore, studies in more diverse societies than with mostly participants from Ludwig-Maximilians-University Munich could be promising in the investigation of the model of equal opportunity in figuring out where the results reported here are influenced by the peculiarities of the self-concept as being a member of an elite university. Hence, studies, which additionally figure out the degree by which people identify with an in-group, should be promising for the concretization of the influence from equal opportunity on perceptions and judgments of distributive justice. Finally, in future more research into the model of equal opportunity is required in order to figure out the generalizability of this model and its application to *praxis*.

Closing the three studies showed that more investigation in research to model of equal opportunity and implicit, explicit attitudes to distributive justice as soon as their connection to justice motives seem to be a good approach to shed light on how perceptions of justice influence justice judgments.

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The Influence of Equal Opportunity and Self-Construal on the Perception of Distributions in the Fields of Salaries and Education

Insight into ill-treatment – such as discriminatory behaviour – is an important issue of social research (e.g., Fevre, Lewis, Robinson & Jones, 2011; Pettigrew & Meertens, 1995). The unjust distribution of social goods in particular can be a source of ill-treatment and discrimination. In this research one explore one aspect of this issue: the just distribution of salaries and scholarships. Small salaries can be discriminating by excluding some members of society from fully participating in social life. Scholarships are highly valued but also limited, and therefore exclude many applicants.

The model of equal opportunity (Lüdtke, Streicher, Traut-Mattausch & Frey, 2012) describes a continuous model, which simplifies perceptions and judgments of distributive justice in a complex society according to the two dimensions of compensation and competition. Thereafter, people have a general need for equal opportunity in relation to one another and their perceptions and judgments of distributive justice are influenced by these two attitudes. Distributive justice describes the three principles as follows: Need: There are needy people who need to get something extra. Equality: All get the same. Equity: Whoever provides more, will get more (Schwinger, 1980). Thus, if people perceive *unequal* opportunity, the need or equality principle will influence perceptions and judgments of distributive justice with a view to creating compensation for people in need. Alternatively, if people perceive equal opportunity, the equality or equity principle will influence perceptions

and judgements of distributive justice with a view to admitting competition for limited goods.

Within the activated attitude (compensation or competition) towards equal opportunity, the extent of the perceived differences between stakeholders influences which justice principle will be used for the perception or judgment of distributive justice: The more differences people perceive – namely, those who have an activated compensation-based attitude towards equal opportunity – the more they will perceive and judge distributive justice according to the need principle rather than the equality principle. Analogous, the more differences people perceive – namely, those who have an activated competition-based attitude towards equal opportunity – the more they will perceive and judge distributive justice after the equality principle rather than the equity principle.

These assumptions got confirmation in the context of ecology and education (Lüdtke, Streicher, Traut-Mattausch & Frey, 2012, Lüdtke, Streicher & Frey, 2014). Participants perceived in the educational and ecological context the need-principle rather in a distribution description following compensation than following competition, whereas they did not perceive a difference for the equality-principle whether it was rather realized in a distribution description following compensation or competition. But in the ecological context the equality principle was perceived as more realized in the competition distribution description from a waling scenario as in the compensation distribution description. And it was perceived as more realized in a compensation distribution description from a emission certificate scenario as in the competition distribution description. And for the equity-principle in the ecological context

the participants saw no difference whether the equity principle was realized more in a compensation or competition distribution description.

Although studies have confirmed the model assumptions and shown that situational factors have an influence on whether more compensation or competition perceptions or attitudes are salient (Lüdtke, Streicher, Traut-Mattausch & Frey, 2012; Lüdtke, Streicher & Frey, 2014), it is unclear what factors underlying a more competitive or more balancing-oriented attitude or perception. This self-construal describes the degree by which people identify with an in-group. Thus, one could query whether a tendency to discriminatory behaviour could be explained by an interaction between such self-construal and the in-group's legitimated justice rules. For example people who score high on the interdependent self-construal should have a high in-group favouritism and therefore act after the in the in-group legitimated rules but not after the real needs of in-group members. This research investigates the influence of the model of equal opportunity and self-construal on perceptions of distributive justice in the fields of salary and scholarship distributions.

Self-Construal.

Following Markus and Kitayama (1991), self-construal characterizes the dimension by which people define themselves as being independent or interdependent. People with an independent self-construal define themselves as unique individuals. People with an interdependent self-construal define themselves as a member of an in-group. Triandis (1996) additionally distinguished between horizontal and vertical self-construal. People with a

vertical self-construal agree with hierarchy differences between people in groups or societies. People with a horizontal self-construal do not agree with hierarchy differences and advocate equality for all people instead. In each person, each of the four dimensions of such self-construal is applied, but socializing within groups or else the whole society could influence which self-construal is more distinct and, therefore, should frequently influence perceptions and judgments of distributive justice.

So intercultural studies show differences on which principles of justice are preferred. Törnblom, Jonsson and Foa (1985) showed that Swedes preferred distributions following the equality- and need-principle while Americans preferred distributions following the equity principle. Berman and Murphy-Berman (1996) are also concerned with the influence of cultural differences on the preference for one of the three principles of justice (need, equality and equity). In their study, it was found that German participants rated best a boss who distributed a bonus according to the need principle, whereas American participants rated best a boss who distributed a bonus according to the equity-principle. And Leung and Bond (1984) differed between in- and out-group perception and find out that Chinese participants view an equal distribution between friends as fairer than between strangers. For an overview: Jodlbauer and Streicher (2013) as soon as Törnblom (1992).

Thus, until now the cultural influence to distributive justice judgments was measured by intercultural studies. But self-construal offers the possibility to measure this influence by a national study. With respect to the self-construal, interesting constellations of perceptions and

judgments of distributive justice arise, two of them are described in what follows.

People with an interdependent, vertical self-construal define themselves by their membership of an in-group (e.g., society) and accept additional differences in status between groups (Triandis & Gelfand, 1998). Such people should perceive and judge distributive justice in relation to the status of the in-group. Therefore, they should – in general for the in- and out-group – not prefer any particular dimension of equal opportunity (compensation or competition) for their perceptions or judgments of distributive justice. However, they should choose such a dimension of equal opportunity (compensation or competition) for their perception or judgment of distributive justice, which enables in special the basis for competition between groups. Thus they might favour competition between groups but not between individuals.

People with an interdependent, horizontal self-construal define themselves by their membership of an in-group (e.g., society) and also advocate the same status – and, therefore, equality – for all group members (Triandis & Gelfand, 1998). These people are very sensitive to the needs of some group members in the in-group, because they define themselves in terms of interpersonal relationships and, therefore, are highly aware of other group members. Accordingly, they should perceive or judge distributive justice in relation to the in-group following compensation.

The independent self-construal will not be considered in this research, because the above-mentioned discriminatory behaviour towards some people, one could refer to prejudices.

Pettigrew and Meertens (1995) point to subtle prejudices amongst others leading to the overstatement of differences. This means that, under certain circumstances, some people activate the prejudices of other people because they do not correspond fully to the in-group as just legitimated rules. As such, these in-group rules lead to the acceptance of discriminatory behaviour against the prejudices of activating people and in-group favouritism one could measure by an interdependent self-construal.

Prior to the background of a model of equal opportunity and self-construal, the following hypotheses are postulated.

Hypothesis H1: There is no relationship between an interdependent, vertical self-construal and a preference for distributions following compensation or competition, or else following one of the distributional justice principles of need, equality or equity.

Hypothesis H2: There is a positive relationship between an interdependent, horizontal self-construal and a preference for distributions following compensation or competition, or else following one of the three justice principles – need, equality or equity. That means, that the more people have an interdependent, horizontal self-construal the more they prefer distributions following compensation, or else following the need- or equality principles.

The current research comprises two studies between aspects of interdependent self-construal and the general attitude towards equal opportunity namely the principles of distributive justice (need, equality and equity). In the first study, and in the context of the distribution of salaries, it was examined as to whether the participants accepted distribution

information following the need, equality or equity principle. In the second study it was examined as to whether the participants preferred to distribute fictitious scholarships following compensation or competition.

General Method

Study 1

With a scenario study in the context of the distribution of salaries, the relationship between a model of equal opportunity and self-construal was reviewed. The first study was designed to test the proposed hypotheses in a business context. More specifically, it was sought to examine if there is an interaction relationship between the distribution description following compensation or competition and the self-construal following interdependent, vertical or interdependent, horizontal to the acceptance of distributions following the need, equality or equity-principle.

Method.

Participants and Design. 127 participants (69 female and 44 male) from a list of a laboratory were recruited. The limitation of the invitation was that the participants could not be students of psychology. The participants were aged between 17 and 44 years old ($M = 23.63$, $SD = 3.65$). 97 of the participants declared themselves as German and 15 stated that they had another unspecified nationality. 107 of the participants stated that they were students and 4 stated that they were not student.

The participants were randomly assigned to 1 of 3 experimental conditions of a 3

(*distribution description*: compensation vs. competition vs. non description) x 2 (*self-construal*: interdependent, vertical vs. interdependent, horizontal) quasi-experimental design.

Procedure. The participants were asked to take a seat at a computer in laboratory. Each participant was allocated their computer by lot. Each laboratory place had stiffer walls. 25 of the participants could undertake the experiment at the same time. Next, the investigator read out the instructions and the participants began the experiment. Each participant received 15 Euros for their participation after the experiment. The participants knew before the experiment that they would receive money.

First, all the participants received the scenario information, namely that since 2007, and according to §18 of the public service trade agreement, one part of salaries are to be paid-off as an additional salary. That means, that employees get a part of the salary in dependence from the with the task achieved results and not with the task spent time. Next, the participants were randomly allocated the conditions *distribution description following compensation*, *distribution description following competition*, and *non-distribution description*. For both of the distribution descriptions following compensation and competition, the participants were told that in what followed they would receive a description of how the additional salary could be paid out. In the distribution description following compensation, the participants were told that for the evaluation the results of part-time employees and temporary employees would not be taken into account. They were also told that this would mean that, for example, part-time employees and – in large part – women would not receive the additional salary. Hence, they

were told about people in need. In the distribution description following competition, the participants were told about the equal requirements for receiving the additional salary and that for this evaluation the results from all employees would be taken into account. They were also told that this would mean that every employee would have the possibility of receiving the additional salary, independently of their level of employment, function, and position. They were also told that, therefore, no difference would be drawn between full-time and part-time employees. In the non-distribution description, the participants received no information about any possible distribution of the additional salary.

Afterwards, the participants were told that they later on they should outline how the additional salary should be distributed for all employees and that before doing so they should read information how the additional salary should be distributed, whereby they should answer questions in relation to this information. After this, the participants compiled the dependent variables *acceptance of this (need, equality and equity) distribution information*. Therefore, the participants were presented, for each justice principle (need, equality and equity), four pieces of information as to how the additional salary might be distributed. These distribution informations were displayed to the participants in a randomized order. To make sure that the distribution informations expressed the justice principles precisely, it were pretested beforehand. In addition, and for each piece of the distribution information, the participants were asked to grade criteria of acceptance for the distribution information (need, equality and equity) on a scale from 1 (*not at all*) to 7 (*completely*) ((a) “How much do you accept the

performed information,” and (b) “How much do you accept the distribution of the additional salary according to the criteria in the statement”). With these two items from each of the three justice principles and the related distribution information, scales for the acceptance of need ($\alpha = .91$), equality ($\alpha = .92$) and equity ($\alpha = .82$) were created.

Next, the participants completed the items (8 items for each version: Interdependent, horizontal and interdependent, vertical) for *self-construal* (Triandis & Gelfand, 1998, trans. to German by Traut-Mattausch unpublished) (*interdependent and vertical*, ($\alpha = .73$), *interdependent and horizontal* ($\alpha = .80$)) on a scale from 1 (*disagree*) to 5 (*strongly agree*). Finally, the participants answered the demographic items.

Results and Discussion.

First it was tested whether the self-construal scales correlate with each other. There was no correlation between the self-construal scales, interdependent, vertical and interdependent, horizontal self-construal; $r = .151$, $p = .095$.

Interdependent, vertical self-construal. Hypothesis H1 was tested, namely that there is no relationship between an interdependent, vertical self-construal and the acceptance of distributions following one of the three justice principles (need, equality or equity).

Therefore, the scale for interdependent, vertical self-construal was inserted as a predictor and the scales for the acceptance of need, equality and equity distribution information were used as criteria in a linear regression with inclusion. As was hypothesized, interdependent, vertical self-construal did not predict the acceptance of distribution information following the

need principle ($\beta = .12, t = 1.27, p = .207$) or the equity principle ($\beta = -.06, t = -0.65, p = .519$). However, and in contrast to hypothesis H1, there was a positive relationship between the interdependent, vertical self-construal and the acceptance of distribution information following the equality principle ($\beta = .24, t = 2.74, p = .007$). The more the participants had an interdependent, vertical self-construal, the more they accepted information following the equality principle.

Then two dummy variables were coded, namely first the dummy variable compensation with the values compensation 1, competition and control 0 and the dummy variable competition with the values competition 1, compensation and control 0. Then the dummy variables were inserted as predictors and the scales for the acceptance of need, equality and equity distribution information were used as criteria in a linear regression with inclusion. There was no influence of the dummy variables to the criteria variables the acceptance of distribution information following the need principle (compensation: $\beta = .14, t = 1.38, p = .170$; competition: $\beta = .05, t = 0.51, p = .613$), $p = .382$, the equality principle (compensation: $\beta = .11, t = 1.07, p = .287$; competition: $\beta = .02, t = 0.17, p = .867$), $p = .519$ or the equity principle (compensation: $\beta = .13, t = 1.29, p = .199$; competition: $\beta = .08, t = 0.78, p = .437$), $p = .431$.

After this the dummy-variables and the self-construal variables were z-standardized. Then an interaction term between the z-standardized dummy-variables and the self-construal was composed. The z-standardized dummy-variables, the z-standardized self-construal

interdependent, vertical and the interaction term were put as predictors and the scales for the acceptance of need, equality and equity distribution information were used as criteria in a linear regression with inclusion. As one can see in table 1 there was no interaction.

Thus, the more the participants had an interdependent, vertical self-construal the more they accepted distribution information following the equality principle. Thus, one could assume that even these participants accepted the equality distribution information for the purpose of creating such equal opportunity between the different groups of employees and, therefore, to acquire a basis for competition, because the information about need, equality- and equity distributions informed them about distributions between the different groups in the company.

Interdependent, horizontal self-construal. Hypothesis H2 was tested, namely that the more that the participants had an interdependent, horizontal self-construal, the more they accepted distribution information following the need or equality principles. Therefore, the scale for interdependent, horizontal self-construal was inserted as a predictor and the scales for the acceptance of need, equality and equity distribution information were used as criteria in a linear regression with inclusion. As hypothesized, there was a positive relationship between an interdependent, horizontal self-construal and the acceptance of distribution information following the need principle ($\beta = .23$, $t = 2.55$), $p = .012$. The more the participants had an interdependent, horizontal self-construal, the more they accepted distribution information following the need principle. There was no relationship between an interdependent, horizontal self-construal and the acceptance of distribution information

following the equality ($\beta = .13$, $t = 1.41$), $p = .162$ or equity principle ($\beta = -.03$, $t = -0.36$), $p = .723$.

Table 1

*Interaction Analysis from the Dummy-Variables Compensation and Competition with the Self-
Construal Scale Interdependent, Vertical to the Criteria Variables Acceptance of Need-,
Equality- or Equity-Distribution Information*

Predictor	Distribution Information					
	Need		Equality		Equity	
	β	p	β	p	β	p
Compensation	.121	.185	.085	.338	.092	.318
Interdependent, vertical	.116	.209	.226	.013	-.059	.525
	-.062	.499	.060	.506	-.040	.669
Interaction						
R^2	.031		.070		.013	
F	1.259		2.970		0.522	
Competition	-.026	.777	-.039	.664	.012	.895
Interdependent, vertical	.112	.244	.226	.017	-.063	.517
	-.006	.951	-.048	.611	-.014	.888
Interaction						
R^2	.014		.062		.004	
F	0.556		2.619		0.150	

Then an interaction was calculated between the dummy-variables and the self-construal interdependent, horizontal. The z-standardized dummy-variables, the z-standardized self-construal interdependent, horizontal and the interaction term were put as predictors and the scales for the acceptance of need, equality and equity distribution information were used as criteria in a linear regression with inclusion. As one can see in table 2 there was no interaction.

Thus, the hypothesis H2 was partly confirmed. People with an interdependent, horizontal self-construal are indeed aware of the needs of the members of the in-group and they favour the same status among all the in-group members. Thus, one could assume that these participants received some members of the in-group *employees* as disadvantaged and therefore accepted need-distribution information most.

Against hypothesis H1 participants with an interdependent, vertical self-construal accepted equality distribution information. This one could refer to, as stated in the introduction, that they preferred the equality-principle for getting the basis for competition between groups of employees. Thus, the result gives still confirmation about assumptions of the influence of an interdependent, vertical self-construal to perceptions of justice after the need-, equality- and equity-principle. Hypothesis H2 was partly confirmed. Participants with an interdependent, horizontal self-construal accepted need distribution information but not equality distribution information. Thus, one could assume that these participants perceived no basis for equality, because they perceived some group members as needy. However there was no interaction

influence from the distribution description and the self-construal to the acceptance of distribution information after need, equality or equity. Thus, another study was conducted to get more clarity about the influence of self-construal and the model of equal opportunity.

Study 2

Through a scenario study in the context of the distribution of scholarships, the relationship between the model of equal opportunity and self-construal was reviewed. More specifically, it was sought to examine if there is an interaction relationship between the distribution description following compensation or competition and the self-construal following interdependent, vertical or interdependent, horizontal to the acceptance of distributions following compensation or competition.

Method.

Participants and Design. 423 participants were recruited. 392 participants were invited to take part in an online study through different e-mail lists of students at Ludwig-Maximilians-University Munich, and 31 participants were invited by asking them to immediately participate in a laboratory or else appointed a date.¹ The participants were told that they could win 1 of 8 online shopping centre coupons valued at 20 euros and that they could receive a credit for one hour's participation for their studies. Not all participants fulfilled the whole questionnaire. Therefore, 113 of them were women and 52 of them were men. The

¹ There was no influence on the part of the participation setting (laboratory or online) on the dependent variables distribution of scholarships after compensation or competition.

participants were aged between 17 and 58 years old ($M = 25.18$, $SD = 6.76$). The participants came from a total of 54 different fields of study. 50 participants stated that they had professional experience through an internship, 10 by working as students, 94 through a side job or employment, while 11 declared that they did not have any professional experience.

With study 2 a 2×2 (*distribution description*: compensation vs. competition x *self-construal*: interdependent and vertical vs interdependent and horizontal) quasi-experimental design was examined.

Procedure. First, the participants were randomized according to the conditions *distribution description following compensation or competition*. In the condition *distribution description following compensation*, the participants read a scenario about a staff car distribution scheme with need and equality principle-related words (“In the light of a general economical upturn company 'X' decided is accordant to allocate a staff car for their sales staff. The staff car is to examine as equivalent to the refund of travel expenses, because it offers to keep career appointments outside the company. Those employees are considered for the staff car who are arranged in adversity, or partly in emergency, because they are more financially burdened, for example by their general living conditions (family). For the purpose to create equivalence among the sales staff, by agreeing the same for everybody, one will regard to commit employees from similar brackets identical staff cars.”).

Table 2

Interaction Analysis from the Dummy-Variables Compensation and Competition with the Self-Construal Scale Interdependent, Horizontal to the Criteria Variables Acceptance of Need-, Equality- or Equity-Distribution Information

Predictor	Distribution Information					
	Need		Equality		Equity	
	β	p	β	p	β	p
Compensation	.124	.160	.106	.243	.086	.348
Interdependent, horizontal	.254	.006	.117	.210	-.047	.620
Interaction	-.124	.172	.043	.642	.062	.511
R^2	.081		.029		.012	
F	3.514		1.185		0.477	
Competition	-.027	.765	-.042	.642	.013	.885
Interdependent, horizontal	.238	.009	.137	.137	-.036	.696
Interaction	.095	.289	.080	.382	-.031	.737
R^2	.061		.024		.002	
F	2.563		0.988		0.087	

In the condition distribution description following competition, the participants read a scenario about a staff car distribution scheme with equity principle-related words (“In light of the excellent economic upturn, company 'X' decided to account those employees for the staff car distribution, who achieved special profit for the company by their accomplishment. The staff car enables the employees to keep career appointments outside the company without requiring their private cars. Those employees should profit by the staff car, who gave proof of their busy as soon as their ambition, and who achieved customer gains by goal-oriented work. Therefore, special ambitious of employees should be rewarded.”).

Next, the participants were told that company “X” also keeps a foundation which applies itself to the theme of education through the promotion of long-term projects, for example with scholarships. They were also told that the company “X” foundation had to allocate four scholarships and that eight people were applying for them. In randomized order, the participants were shown each curriculum vita following four for compensation and four for competition. For example, compensation: “German nationality, 19 years old, low-income family, below average High School” or competition: “German nationality, 18 years old, more complete than average High School, and finished the school with just these excellent performances rather one year than normal.” And the participants were asked to indicate on a scale from 1 (*not at all*) to 7 (*completely*) whether the applicants should get one of the four scholarships. Then, the participants completed the same measure of different dimensions of *self-construal* as in Study 1 on a scale from 1 (*disagree*) to 5 (*strongly agree*). The self-

construal scale for each combination was consistent (*interdependent and vertical* ($\alpha = .65$), *interdependent and horizontal* ($\alpha = .76$)). Lastly, the participants answered the demographic items.

Results and Discussion.

In a first step the correlation between the self-construal scales was tested. There was a positive correlation between the scales interdependent, vertical and interdependent, horizontal scale; $r = .408$, $p < .001$. Participants who had a high value on the scale interdependent, vertical self-construal had also a high value on the scale interdependent, horizontal self-construal.

Interdependent, vertical self-construal. In the first step, hypothesis H1 was tested, namely that there is no relationship between an interdependent, vertical self-construal and the distribution of scholarships following compensation and competition. Therefore, the scale interdependent, vertical self-construal was inserted as a predictor and the scales distribution of scholarship following compensation and competition were set as criteria in a linear regression with inclusion. As hypothesized, there was no relationship between an interdependent, vertical self-construal and the preference for distributing scholarships following compensation ($\beta = .07$, $t = 0.87$), $p = .384$ or competition ($\beta = .07$, $t = 0.95$), $p = .346$.

Then the distribution description following compensation and competition was put as predictor and the scales distribution of scholarship following compensation and competition were set as criteria in a linear regression with inclusion. There was no influence of the

predictors to the criteria variables preference for distributing scholarships following compensation ($\beta = -.05, t = 0.72, p = .472$) or competition ($\beta = .03, t = 0.45, p = .657$).

After this the distribution description following compensation and competition as soon as the self-construal scale interdependent, vertical were z-standardized. Then an interaction term between these two z-standardized variables was built. The z-standardized variables and their interaction term were put as predictor and the preference for distributing scholarships following compensation and competition were put as criteria in a linear regression with inclusion. There was no interaction influence from the distribution description following compensation and competition ($\beta = -.04, p = .569$), the interdependent, vertical self-construal ($\beta = .07, p = .379$) and the interaction term ($\beta = -.02, p = .805$) to the preference for distributing scholarships following compensation, $r^2 = .006, F = 0.381$. There was also no interaction influence from the distribution description following compensation and competition ($\beta = .04, p = .615$), the interdependent, vertical self-construal ($\beta = .07, p = .377$) and the interaction term ($\beta = .03, p = .654$) to the preference for distributing scholarships following competition, $r^2 = .008, F = 0.448$.

Thus, those participants with an interdependent, vertical self-construal did not prefer either distribution following compensation or competition over the other. This might be because, that these participants favour competition between groups but not between individuals, and that the study design informed them about scholarship distributions to individuals.

Interdependent, horizontal self-construal. Hypothesis H2 was tested, namely that people

with an interdependent, horizontal self-construal prefer distributions of scholarships following compensation. Therefore, the scale interdependent, horizontal self-construal was inserted as a predictor and the scales distribution of scholarship following compensation and competition were set as criteria in a linear regression with inclusion. As hypothesized, there was a positive relationship between an interdependent, horizontal self-construal and a preference for distributing scholarships following compensation ($\beta = .23, t = 3.11$), $F(1, 177) = 9.65, r^2 = .05, p = .002$. The more the participants had an interdependent, horizontal self-construal, the more they preferred to distribute the scholarships following compensation. Also, and as hypothesized, there was no relationship between an interdependent, horizontal self-construal and a preference for distributing scholarships following competition ($\beta = .11, t = 1.46$), $F(1, 177) = 2.12, r^2 = .01, p = .147$.

After this the distribution description following compensation and competition as soon as the self-construal scale interdependent, horizontal were z-standardized. Then an interaction term between these two z-standardized variables was built. The z-standardized variables and their interaction term were put as predictor and the preference for distributing scholarships following compensation and competition were put as criteria in a linear regression with inclusion. There was no interaction influence from the distribution description following compensation or competition ($\beta = -.05, p = .534$), the interdependent, horizontal self-construal ($\beta = .22, p = .003$) and the interaction term ($\beta = -.07, p = .332$) to the preference for distributing scholarships following compensation, $r^2 = .059, F = 3.650$. There was also no

interaction influence from the distribution description following compensation or competition ($\beta = .04, p = .633$), the interdependent, horizontal self-construal ($\beta = .11, p = .148$) and the interaction term ($\beta = .01, p = .902$) to the preference for distributing scholarships following competition, $r^2 = .013, F = 0.782$.

Thus, the results from study 1 were replicated. Those participants who had an interdependent, horizontal self-construal, preferred distributions following compensation. The participants with an interdependent, horizontal self-construal favoured the same status for the group members. With a compensation-based distribution of scholarships, they had the possibility of reducing the degree of social heterogeneity within the company.

General Discussion

As stated above, the non-acceptance of social inequalities could be due to an excessively large identification with an in-group and perceptions of injustice. Self-construal and the model of equal opportunity offer the possibility of investing in research into the non-acceptance of social inequalities. Therefore, two studies were conducted. The main results are: There was one times a relationship between an interdependent, vertical self-construal and the agreement with a distribution following the equality-principle and one times no relationship between an interdependent, vertical self-construal and agreement with distributions following compensation- or competition. This could be due to the fact, that the participants in the first study were informed about distributions between groups and therefore chose the equality-principle for the reason to build the basis for competition. Whereas they in the other study

were informed about distributions between individuals and therefore did not choose one principle over the others. The more the participants had an interdependent, horizontal self-construal, the more they accepted distribution informations following need and agreed with distributions following compensation.

The results of these studies extent present studies (e.g. Törnblom, Jonsson & Foa, 1985; Berman & Murphy-Berman, 1996) to the self-construal. Thus, not only cultural differences between states lead to differences in accepting need, equality- or equity-distributions but also cultural differences measured by the self-construal within participants of one state.

That the experimental condition had no influence to the acceptance and preference for distributions following need, equality and equity, or compensation and competition could be a result of that people with an interdependent self-construal are more related to subjective measures. For example Leung and Tong (2004; cited by Jodlbauer & Streicher, 2013) find out, that collectivists legitimated in opposition to individualists subjective measures of equality. Thus, the participants with an interdependent self-construal were immune against the experimental condition and did rather have an subjective feeling to the situation of distribution of additional salaries and scholarships.

Furthermore Törnblom and Foa (1983) find out that the equality principle was most important for economical orientated participants while Prentince and Crosby (1987; cited by Törnblom, 1992) find out that the equity principle is the most used rule in economical contexts. The results here let assume that the differentiation in self-construal gives elucidation

for this different results. Thus, people with an interdependent, vertical self-construal should favour equality and equity based distributions whereas people with an interdependent, horizontal self-construal should favour need based distributions.

Participants with an interdependent, vertical self-construal should favour competition between groups but not between individuals. The present results give cause for this assumption. The participants favoured equality-distribution when the study design informed them about competition between groups and also non equality by the need-distribution information and the participants favoured no distribution over the other when the study design informed them about competition between individuals.

Participants with an interdependent, horizontal self-construal should favour the same status between in-group members and are very sensitive to the needs of in-group members. Thus they should favour need distributions. The present results give also cause for this assumption. The participants favour need and compensation distributions over equality, equity and competition distributions.

The model of equal opportunity postulates that the more differences are perceived between stakeholders, the more the need-principle will provoke justice judgments, followed by the equality-principle at less perceived differences between stakeholders and the equity-principle at nearly no perceived differences between stakeholders. Self-construal offers the possibility to measure the perception of differences by measuring an in-group identification. Also, contingency approaches of distributive justice postulate cultural differences onto perceptions

of justice (Törnblom, 1992). Such cultural differences can be explained by differences in the self-construal. In different societies different dimensions of the self-construal are dominant, but in each person each dimension is applied. Thus, also within cultures differences exist between people in the self-construal. The results of the two studies confirmed the predicted hypotheses. Thus, these studies extend the model of equal opportunity with the self-construal. Cultural differences can lead to differences in preferences for compensation or competition between persons and groups.

Regarding the problem of discrimination, it will be promising if any future research investigates from an interdisciplinary point of view the relationship between self-construal and the model of equal opportunity. The degree by which people score on an interdependent self-construal could be a promising indicator of the degree of favouritism within an in-group. Such a high degree of in-group favouritism might also lead to discriminative behaviour insofar as such people with a high preference for their in-group do not see or accept the real needs of other in-group members. This might be because they process information about their in-group members under certain conditions with only superficial strong relation to the accepted rules from the in-group. This in turn will become problematic if the people favouring the in-group try to help its members by trying to synchronize them with the accepted rules of the in-group. The overreaching and worst case would be to not allow diversity within the society – for example, through racist behaviour or by rules which would preserve the in-group by eliminating the out-group.

For example, Triandis (1996) pointed out that some groups of US Americans, in some situations, accentuate equality but in special situations – like with class or ethnic differences – permit inequality. This might lead to the issue as to whether some groups of US Americans accentuate freedom especially with a view to their in-group and, therefore, have a less independent and more interdependent self-construal as is in general supposed. This in turn might be because people with an interdependent self-construal are, not in general, aware of the needs of all others – as is often in general assumed – but rather for the needs of the members of their in-group (Markus & Kitayama, 1991).

Therefore, the replication of the results in comparison with other measurements and methods seems to be necessary for more generalizable predictions of the interactive influence of a model of equal opportunity and self-construal to perceptions and judgments of justice. Thus, any future research should investigate by extending the study to other groups and societies. In summary, the research reported here might also provide a promising impulse for an interdisciplinary view of a model of equal opportunity.

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