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The Devaluation of High-Achieving Students as "Streber":

Consequences, Processes, and Relations to

Personality and the Classroom Context

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Inhalt

1 Einleitung

Der Streber

Vom frühen bis ins späte Alter,

mit Mordsgeduld und Schenkelschluss,

rankt er sich hoch am Federhalter

und klettert, weil er sonst nichts muss.

Die Ahnen kletterten im Urwald.

Er ist der Affe im Kulturwald.

(Erich Kästner)

Wer kennt sie nicht: die Etikettierung von Personen mit besonders herausragenden Leistungen als „Streber"? Erich Kästner stellt den Streber als „Affen im Kulturwald" dar und verdeutlicht damit das Negativ-Image sogenannter Streber.

Trotz Bekanntheit des Phänomens im Alltag lassen sich in der Forschung nur wenige wissenschaftliche Untersuchungen dazu finden. So ergab beispielsweise die Literaturrecherche in der Literaturdatenbank PSYNDEX (23.11.2010) lediglich 8 Einträge zum Schlüsselwort „Streber". Die vorliegende Arbeit stellt einen Schritt dar, diese Lücke zu schließen, indem sie sich mit den Faktoren, Prozessen und Konsequenzen der Stigmatisierung als Streber beschäftigt.

1.1 Die Etikettierung als „Streber" und verwandte Konzepte

Das große Wörterbuch der deutschen Sprache (Duden, 1999) definiert einen Streber als „jemanden, der sich ehrgeizig und in egoistischer Weise um sein Fortkommen in Schule oder Beruf bemüht". Das Duden Herkunftswörterbuch (2007) weist auf den geschichtlichen Hintergrund des Begriffes Streber hin: Im 16. Jhd. galt dieser als „jemand, der sich widersetzt", später „jemand, der nach etwas trachtet" und seit der zweiten Hälfte des 19. Jhd. stand dieser Begriff abschätzig für einen „ehrgeizigen, übertrieben fleißigen Menschen". Verwendet wurde die Bezeichnung zunächst für Widersacher, später um karrieresüchtige Beamte zu charakterisieren. Schließlich gelangte das Etikett Streber in die Studentensprache und von dort aus in die Sprache der Schule (Kluge & Seebold, 2002).

Die Etikettierung von SchülerInnen mit herausragenden Leistungen findet sich nicht nur in Deutschland, auch in anderen Ländern gibt es ähnliche Konzepte. Zum Beispiel versteht man unter „teacher's pet" einen „Schleimer", welcher sich vor allem durch eine übertrieben positive Beziehung zur Lehrkraft definiert. Studien hierzu beschränken sich weitestgehend auf den israelischen Raum (z.B. Tal & Babad, 1990). Der amerikanische „nerd" hingegen wird für diejenigen SchülerInnen verwendet, die sich zu sehr dem Lernen verschreiben und keinen weiteren Aktivitäten neben Schule und Lernen nachgehen (Kinney, 1993). Auch zu diesen Begriffen gibt es bisher nur wenig Forschung: Die internationale Datenbank PsycINFO (23.11.2010) wies 44 Artikel zum Begriff nerd auf, wobei sich letztlich nur 20 dieser Einträge auf die Etikettierung von SchülerInnen bezogen, und 6 zum teacher's pet. Trotz der alltäglichen Verständlichkeit des Konzeptes kann insofern geschlossen werden, dass es sich bei der Etikettierung von SchülerInnen als Streber um ein relativ unerforschtes soziales Phänomen handelt.

Studien weisen vereinzelt darauf hin, dass vor allem gute schulische Leistungen mit der Etikettierung verbunden sind (Bishop et al., 2004; Pelkner & Boehnke, 2003). Herausragende Leistungen in der Schule haben demnach unter Gleichaltrigen (Peers) eine andere Bedeutung als sie es in der Gesellschaft haben. Gute Leistungen scheinen in der Schule sogar abgewertet zu werden. Dies soll an folgendem Beispiel verdeutlicht werden:

> *Gegen Ende der fünften Klasse lassen Marius' Leistungen nach. Die Eltern können nicht wissen, dass die anderen Kinder ihrem Sohn »Klassenkeile« angedroht haben, für den Fall, dass er eine Eins schreibt. Zu Beginn der sechsten Klasse klagt er immer zum Montag hin über Bauchweh oder Kopfschmerzen. Er hört auf, Hausaufgaben zu machen, und erzählt nichts mehr von der Schule. Wenn er in den Schulbus einsteigt, geht für ihn jeden Tag ein Psychokrieg los, wie er es in der Rückschau nennt. Marius fällt auf in der Klasse: Er ist noch nicht so weit in der Pubertät wie die anderen – und er stellt zu viele Fragen. Wenn der Biologielehrer erklärt, dass bei der Fotosynthese aus Licht Energie entsteht, meldet sich Marius und sagt: »Man braucht dazu aber auch noch Wasser.« Er gerät in die Rolle des Besserwissers.* (Schoener, 2010, S. 2)

Der Widerspruch zwischen den hohen Anforderungen unserer Leistungsgesellschaft und dem Abwerten von Verhaltensweisen, diesen Anforderungen gerecht zu werden, hebt die Bedeutsamkeit der vorliegenden Arbeit hervor.

In Deutschland wurden diesbezüglich Studien mit Achtklässlern von der Forschergruppe um Boehnke durchgeführt. Demnach ist der Streber eine der am stärksten angstbesetzten und am häufigsten verwendeten Bezeichnungen von SchülerInnen, die vor allem durch gute Noten auffallen (Pelkner & Boehnke, 2003; Pelkner, Günther, & Boehnke, 2002). Pelkner, Günther und Boehnke (2002) zeigten, dass die Angst vor dem Streber-Etikett einen negativen Zusammenhang zur Mathematik-Note aufwies. Obwohl das verwendete Design keine Kausalschlüsse zulässt, vermuten Boehnke und Kollegen, dass leistungsstarke SchülerInnen ihre schulische Leistung nach unten korrigieren, um der Stigmatisierung als Streber zu entgehen. Die Problematik kann mit folgendem Zitat am treffendsten untermauert werden: „In unserem Land gilt es als verpönt, besonders gute Leistungen zu zeigen" (Boehnke, 2004, S. 34). Vor allem in Zeiten, in denen Themen wie PISA, Ganztagsschulen, Klassengröße, etc. die Medien- und Politiklandschaft dominieren, hat das Thema Etikettierung von leistungsstarken SchülerInnen besondere Relevanz. Trotz Popularität dieses Themas (vgl. z. B. einen Beitrag im Deutschlandfunk, http://www.dradio.de/dlf/sendungen/pisaplus/587351/) gab es bislang weder national noch international ausreichend psychologische Studien auf diesem Gebiet. Forscher verwendeten oftmals qualitative Designs oder widmeten sich dem Thema mit soziologischem Hintergrund (Bishop et al., 2004; Brown, Mory, & Kinney, 1994; Fordham & Ogbu, 1986; Kinney, 1993). Zudem zeichnen sich die meisten Studien durch nicht repräsentative Designs oder unzulängliche Datenanalysen aus (z. B. Regression mit disaggregierten Daten über Schulklassen hinweg, Nicht-Beachtung des interpersonellen Beziehungsgefüges im Klassenverband etc.). Weiterhin fokussierten einige Untersuchungen nur die Beziehung zwischen schulischen Leistungen und Etikettierung, wobei ein besonderes Augenmerk auf die Betroffenen gelegt wurde. Zu denjenigen SchülerInnen, von denen die Etikettierung ausgeht, ist bislang nur wenig erforscht.

1.2 Eigene deskriptive Befunde

Bislang unveröffentlichte eigene Daten (Rentzsch & Schütz, 2010a) zeigen wiederholt, dass ca. 20 % der SchülerInnen manchmal bis häufig Streber genannt werden und sich fast 25 % zuweilen davor fürchten, als Streber etikettiert zu werden. Die Stigmatisierung geht von immerhin fast einem Drittel der Schülerschaft aus. Diese Häufigkeiten sind analog zu Ergebnissen von Pelkner und Boehnke (2003). Interessant ist unser Befund, dass 30 % der SchülerInnen abfällige Bemerkungen von ihren Klassenkameraden erhielten, weil sie gute

Schulleistungen erzielten. Zudem führten 70 % der SchülerInnen den schulischen Erfolg von sogenannten Strebern primär auf Lernen zurück. Weitere Ergebnisse zeigten:

- 49.4 % der Befragten gaben an, dass es sie stören würde, als Streber bezeichnet zu werden,

- 54.4 % stimmten der Aussage zu, dass manche SchülerInnen dem Lehrer keine Antwort geben, obwohl sie die Lösung wissen, aus Furcht vor Hänseleien,

- 20.7 % stimmten der Aussage zu, ihre Leistung zu verringern, aus Furcht vor Hänseleien und

- 36.2 % verringerten ihre Mitarbeit im Unterricht, aus Furcht vor Hänseleien.

Diese Befunde verdeutlichen, dass es sich bei der Streber-Etikettierung um ein allseits bekanntes Phänomen handelt, von dem nicht wenige SchülerInnen betroffen sind. Außerdem weisen diese Ergebnisse darauf hin, dass das Streber-Phänomen ein relevantes soziales Phänomen im Klassenkontext ist, was eingehenderer Untersuchungen bedarf.

1.3 Fragestellungen der vorliegenden Arbeit

Die wenigen bisherigen Studien zum Streber-Phänomen waren vor allem darauf ausgerichtet, den Zusammenhang zwischen guten Schulleistungen und der Streber-Etikettierung zu erforschen. Unsere unveröffentlichten Daten zeigten jedoch, dass nicht alle leistungsstarken SchülerInnen von der Streber-Etikettierung betroffen sind. Nur ca. 50 % der Einser- und Zweier-SchülerInnen wurden zumindest manchmal als Streber bezeichnet (Rentzsch & Schütz, 2010a). Somit stellt sich die Frage, welche weiteren individuellen Faktoren neben der Schulnote die Bezeichnung als Streber vorhersagen. Da sich bislang kaum Forschung mit der Stigmatisierung von leistungsstarken SchülerInnen beschäftigt hat, wurde in der vorliegenden Arbeit versucht, anhand quantitativer Studien ein umfassendes Bild von der Etikettierung, ihrer Prozesse und ihrer Konsequenzen zu erfassen. In diesem Rahmen wurde folgenden Fragen nachgegangen:

1) Welche individuellen Faktoren sagen die Etikettierung als Streber und die Stigmatisierung anderer SchülerInnen als Streber vorher?

2) Welche Prozesse liegen der Stigmatisierung als Streber zugrunde?

3) Mit welchen Konsequenzen geht die Stigmatisierung einher?

4) Welche Faktoren tragen zur sozialen Akzeptanz von SchülerInnen mit herausragenden schulischen Leistungen bei?

1.3.1 Persönlichkeitseigenschaften und die Vorhersage der Stigmatisierung als Streber

Wie bereits ausgeführt, wurde in der Studie von Pelkner und Boehnke (2003) gezeigt, dass die Etikettierung als Streber zwar signifikant, aber nur moderat mit der individuellen Schulnote korreliert. Insofern kann geschlossen werden, dass weitere Faktoren neben der Schulnote zur Etikettierung beitragen. Da es bislang keine Forschung zu dem Zusammenhang von individuellen Faktoren – außer der Schulnote - und der Streber-Etikettierung gibt, haben wir in unseren Studien den Fokus auf die Untersuchung von Persönlichkeitseigenschaften gelegt, d.h. den Big Five Persönlichkeitsfaktoren (Neurotizismus, Extraversion, Offenheit für Erfahrung, Verträglichkeit, Gewissenhaftigkeit). Das Fünf-Faktoren-Modell der Persönlichkeit bezieht sich auf allgemeine Dimensionen der Persönlichkeit (Asendorpf & van Aken, 2003; Costa & McCrae, 1992; John & Srivastava, 1999). So konnte z.B. gezeigt werden, dass die Big Five Persönlichkeitsfaktoren in Zusammenhang mit antisozialem Verhalten (Bollmer, Harris, & Milich, 2006), aber auch mit Klassenverhalten und sozialer Anpassung (Graziano, Jensen-Campbell, & Finch, 1997) stehen. Verschiedene Persönlichkeitseigenschaften, wie z.B. Introversion oder Schüchternheit, stellen Risikofaktoren für die Viktimisierung unter Gleichaltrigen dar (Mynard & Joseph, 1997; Scholte, Engels, Overbeek, de Kemp, & Haselager, 2007; Schuster, 1999; Slee & Rigby, 1993). Es kann also davon ausgegangen werden, dass Persönlichkeit ein wichtiges Korrelat in der Stigmatisierung als Streber aber auch der Stigmatisierung anderer SchülerInnen ist.

Die Befunde der vorliegenden Arbeit wiesen darauf hin, dass – wie erwartet – die Rolle der Betroffenen mit hohen schulischen Leistungen, aber auch mit Introversion und Gewissenhaftigkeit in Zusammenhang stand, selbst dann, wenn die individuelle Schulnote kontrolliert wurde (Rentzsch, Schröder-Abé, & Schütz, 2010a). Die Rolle derjenigen, die MitschülerInnen als Streber bezeichnen, stand dagegen in Zusammenhang mit Extraversion und niedrigen Ausprägungen bei Gewissenhaftigkeit und Verträglichkeit. Interessanterweise zeigte sich zudem, dass die Stigmatisierung vorrangig in Klassen mit sehr gutem Notendurchschnitt vorkam. Darüber hinaus war der Zusammenhang zwischen individueller Note und Streberstigmatisierung nur in Klassen mit hohem Klassendurchschnitt stark ausgeprägt, nicht aber in Klassen mit niedrigem Klassendurchschnitt, d.h., vor allem in leistungsstarken Klassen wurden leistungsstarke SchülerInnen als Streber etikettiert und die Etikettierung ging nur in leistungsstarken Klassen von SchülerInnen mit niedrigem Notendurchschnitt aus.

Bislang hat sich keine Forschung mit diesen Zusammenhängen auseinandergesetzt. Aus den vorliegenden Befunden kann geschlossen werden, dass einerseits Persönlichkeitseigenschaften eine wichtige Determinante in der Stigmatisierung von SchülerInnen darstellen, andererseits aber auch der Klassenkontext einen starken Einfluss auf interpersonelle Beziehungen im schulischen Bereich hat. Die vorliegenden Befunde lassen vermuten, dass ein hoher Klassendurchschnitt auf ein kompetitives Klima schließen lässt, in dem besonders leistungsstarke SchülerInnen abgewertet werden.

1.3.2 Big Fish-Big Pond: Selbstwertschätzung und die der Stigmatisierung zugrundeliegenden Prozesse

Angelehnt an bisherige Befunde, dass schulische Leistungen im Zusammenhang mit der Stigmatisierung stehen, haben wir Selbstwertschätzung, spezifisch leistungsbezogene Selbstwertschätzung, bei sogenannten Strebern und denjenigen, die sie so nennen, untersucht. Selbstwertschätzung ist definiert als die Bewertung des Bildes von der eigenen Person (Schütz, 2005). Selbstwertschätzung ist ein zentraler Bestandteil psychischen Funktionierens (Leary & MacDonald, 2003) und sozialer Interaktion (Leary, Tambor, Terdal, & Downs, 1995; Stinson et al., 2010). So konnte z.B. gezeigt werden, dass Selbstwertschätzung in Zusammenhang mit schulischen Leistungen und subjektivem Wohlbefinden (Marsh, Trautwein, Lüdtke, Köller, & Baumert, 2006), aber auch mit psychischer Gesundheit (Orth, Robins, & Roberts, 2008; Vohs et al., 2001) und der Qualität sozialer Beziehungen (Stinson et al., 2008) steht. Untersuchungen zur Selbstwertschätzung können demnach wichtige Aspekte in der Etikettierung von SchülerInnen aufdecken, aber auch Hinweise auf die zugrundeliegenden Prozesse liefern.

Verschiedene Theorien beschreiben die menschliche Neigung, den Selbstwert aufrechtzuerhalten und wiederherzustellen, sollte er bedroht sein (Steele, 1988; Tesser, 1988). Bei der Stigmatisierung von SchülerInnen als Streber spielen solche Selbstwertbedrohungen z.B. dann eine Rolle, wenn ein Schüler von einem Klassenkameraden hinsichtlich seiner schulischen Leistungen übertroffen wird, oder bestimmte SchülerInnen als Bücherwürmer, oder auch als unsportlich, ungesellig etc. stereotypisiert werden. Damit erschien es für die vorliegende Arbeit wichtig, multidimensionale Selbstwertschätzung genauer zu betrachten, d.h. die Selbstsicherheit in Domänen wie Leistung, Sport oder soziale Kontakte (z.B. Marsh et

al., 2006). Angelehnt an Befunde zu Selbstwertschätzung haben wir in der vorliegenden Arbeit auch die der Stigmatisierung zugrundeliegenden Prozesse untersucht (Rentzsch, Schröder-Abé, & Schütz, 2010b).

So zeigte sich, dass sich SchülerInnen, die als Streber bezeichnet wurden, durch hohen Leistungsselbstwert, hingegen diejenigen, die andere als Streber bezeichneten, durch niedrigen Leistungsselbstwert charakterisiert waren. Diese Zusammenhänge traten aber vor allem in leistungsstarken Klassen auf, im Gegensatz zu leistungsschwachen Klassen. Diese Befunde sind im Einklang mit den Ergebnissen von Rentzsch et al. (2010a). Damit deuten unsere Studien auf einen „Big Fish-Big Pond"-Effekt hin: Nur in Klassen mit hohem Klassendurchschnitt werden diejenigen SchülerInnen mit hohem Leistungsselbstwert als Streber bezeichnet und diejenigen mit niedrigem Leistungsselbstwert werten andere ab. Der hier berichtete Effekt darf nicht mit dem allseits bekannten „Big Fish-Little Pond"-Effekt (Huguet et al., 2009; Marsh & Parker, 1984) verwechselt werden, der Leistungsselbstwert (nicht aber Stigmatisierung) von SchülerInnen in Abhängigkeit des Klassendurchschnitts vorhersagt.

Basierend auf den Befunden zum Leistungsselbstwert konnten wir zudem zeigen, dass Neid die Stigmatisierung als Streber mediierte, d.h. Neidgefühle vermittelten den gefundenen Zusammenhang zwischen Leistungsselbstwert und Streber-Stigmatisierung. Zum Beispiel neigten SchülerInnen mit niedrigem Leistungsselbstwert dazu, andere SchülerInnen um ihre schulischen Leistungen zu beneiden, und damit wiederum andere als Streber abzuwerten. Mit den vorliegenden Studien ist ein erster Schritt getan, um die der Stigmatisierung zugrundeliegende Prozesse zu erforschen. Aufgrund des hier verwendeten querschnittlichen Designs sind weitere, längsschnittliche Studien vonnöten, um die berichtete Mediation kausal zu unterlegen.

1.3.3 Konsequenzen der Aktivierung des Streber-Stereotyps bei Achtklässlern

Bislang gibt es keine Forschung oder Hinweise auf die Konsequenzen, die mit der Stigmatisierung als Streber einhergehen. Jedoch deuten Berichte von Betroffenen darauf hin, dass das Etikett für sie angstbesetzt (Pelkner et al., 2002) und nur schwer zu ertragen ist (Breidenstein & Meier, 2004). Hingegen berichten LehrerInnen oder SchülerInnen, welche nicht von der Stigmatisierung betroffen sind, häufig sogar, dass das Etikett Streber aus ihrer

Sicht nicht negativ behaftet sei (vgl. Forschung zu teasing, Kowalski, 2000; Newman & Murray, 2005). Aus diesen Gründen gingen wir in dieser Arbeit der Frage nach, welche Konsequenzen für die Betroffenen und Nicht-Betroffenen mit der Streber-Etikettierung verbunden sind (Rentzsch & Schütz, 2010b). In einem experimentellen Ansatz konnten wir zeigen, dass die Aktivierung des Streber-Stereotyps bei SchülerInnen, die bereits als Streber etikettiert wurden, erhöhten negativen Affekt, stärker handlungsirrelevante Gedanken, niedrigeren Leistungs-Zustandsselbstwert, aber auch Leistungseinbußen im Vergleich mit einer Kontrollbedingung hervorrief. Bei Nicht-Betroffenen zeigten sich keine vergleichbaren Auswirkungen.

Diese Befunde zeigen einerseits die Ernsthaftigkeit auf, welche die Stigmatisierung als Streber – vor allem für die Betroffenen – charakterisiert. Zudem deutet sich an, warum Nicht-Betroffene die Stigmatisierung häufig als trivial und eher belustigend empfinden. Das Konzept Streber scheint bei ihnen weniger zugänglich und zudem weniger negativ behaftet zu sein als bei Betroffenen.

1.3.4 Faktoren, welche die soziale Akzeptanz von leistungsstarken SchülerInnen beeinflussen

Obgleich das Bild eines prototypischen Strebers vorrangig leistungskonnotiert ist, wurde bereits darauf hingewiesen, dass nicht alle leistungsstarken SchülerInnen als Streber abgewertet werden (Pelkner & Boehnke, 2003; Rentzsch & Schütz, 2010a). Demnach stellte sich die Frage, ob es Faktoren gibt, die leistungsstarken SchülerInnen helfen, akzeptiert und positiv bewertet zu werden. In der vorliegenden Arbeit konzentrierten wir uns dabei einerseits auf Faktoren, die die Kommunikation bzw. Präsentation eigener schulischer Leistungen betreffen: Anstrengung und Bescheidenheit. So weisen Befunde z.B. darauf hin, dass schulische Leistungen, die nicht durch schulische Anstrengung bzw. Lerneifer zustande gekommen sind, von Gleichaltrigen positiver als Strebsamkeit bewertet werden (Juvonen & Murdock, 1993). Eine bescheidene Darstellung eigener Erfolge ist zudem mit positiveren Reaktionen von anderen verbunden als Prahlerei (Schlenker & Leary, 1982). Andererseits betrachteten wir Faktoren, die nicht mit schulischen Leistungen in Verbindungen stehen. Da Sport und soziale Interaktion eine hohe Wertigkeit unter Gleichaltrigen im Jugendalter haben (Eccles, Wigfield, Flanagan, & Miller, 1989; Eder & Kinney, 1995), untersuchten wir sportliche Aktivitäten und Geselligkeit als weitere Einflussfaktoren. Die Ergebnisse

(Rentzsch, Schütz, & Schröder-Abé, in press) zeigten, dass weniger öffentliches Darbieten von schulischer Anstrengung und Erfolg, aber vor allem Geselligkeit und die Teilnahme an außerschulischen Aktivitäten wie Sport als Prädiktoren für die soziale Akzeptanz und damit die positive Bewertung von leistungsstarken SchülerInnen von entscheidender Bedeutung sind.

1.4 Integration und Ausblick

Anhand der Befunde der vorliegenden Arbeit können Vermutungen über Lösungsmöglichkeiten für den Umgang mit der Etikettierung als Streber aufgestellt werden. Bezugnehmend auf die Befunde von Rentzsch et al. (in press) haben wir Ansätze formuliert, wie die von der Stigmatisierung (potenziell) Betroffenen trotz gewisser Vulnerabilitäten (z.B. hohe schulische Leistungen, Persönlichkeit oder Leistungsselbstwert, siehe Rentzsch et al., 2010a; Rentzsch et al., 2010b) von den Gleichaltrigen akzeptiert und vielleicht sogar weniger stigmatisiert werden. Den Fokus von eigenen (hohen) Leistungen nehmen, indem man z.B. schulische Erfolge eher bescheiden öffentlich präsentiert, aber auch anderen außerschulischen Aktivitäten wie sportlichen Hobbies nachgehen und einen geselligen Umgang mit MitschülerInnen pflegen, könnten helfen, die im ersten Moment negativen Eindrücke, die mit guten schulischen Leistungen bei den Peers verbunden sind, zu vermeiden. Wenn sich SchülerInnen auf eine nicht-stereotype Weise präsentieren (Leary, 1995), könnten damit die sonst eher negativen Eindrücke kompensiert werden.

Natürlich sollten präventive oder intervenierende Maßnahmen nicht nur auf die Betroffenen ausgerichtet sein. So scheint es besonders wichtig, dass Gesellschaft und Bildung schulische aber auch außerschulische Leistungen positiv vermitteln. Es wäre z.B. vonnöten, dass der Schulkontext freundlich gestaltet und eine positive aber eben nicht kompetitive Lernumgebung geschaffen wird (siehe Befunde von Rentzsch et al., 2010a; Rentzsch et al., 2010b). Es scheint von immenser Bedeutung zu sein, das Miteinander zu fördern. Insbesondere unsere Befunde zu Leistungsselbstwert, zum Einfluss des Klassenkontextes und zu der vermittelnden Funktion von Neidgefühlen weisen darauf hin, dass es wichtig ist, den Datenschutz in Klassen zu wahren. Beispielsweise wird berichtet, dass LehrerInnen den Datenschutz häufig nicht ernst nehmen und schulische Noten im Klassenkontext preisgeben (z.B. Exline, Single, Lobel, & Geyer, 2004; Huguet et al., 2009). Wenn individuelle Leistungen aber öffentlich gemacht werden, können unter den weniger leistungsstarken

SchülerInnen Gefühle von Minderwertigkeit und Neid entstehen, so dass die leistungsstarken Gefahr laufen, zum Ziel der Stigmatisierung zu werden. Insofern wird basierend auf den aktuellen Befunden empfohlen, weiterhin den Datenschutz im schulischen Kontext zu betonen. Eine ähnliche Auswirkung ist bei Bekanntgabe des Notenspiegels einer Klasse zu erwarten. Wichtig erscheint in diesem Zusammenhang auch das Konzept der sogenannten Personal Bests: Studien empfehlen, den Fokus bei Leistungsvergleichen auf intrapersonelle Vergleiche zu legen, d.h. eigene Leistungsveränderungen über die Zeit, eigene Stärken und Schwächen im Vergleich zu bisherigen Leistungen zu beachten, anstatt den interpersonellen Vergleichen, d.h. Leistungsunterschiede zwischen den SchülerInnen, besondere Bedeutung beizumessen (Martin, 2006; Martin & Liem, 2010; Pohlmann, Möller, & Streblow, 2006).

In der vorliegenden Arbeit habe ich mich mit einem Phänomen beschäftigt, das bislang nur wenig wissenschaftliche Beachtung erfahren hat: der Stigmatisierung von leistungsstarken SchülerInnen als Streber. Die vorliegenden Befunde deuten darauf hin, dass es sich dabei um ein relevantes Phänomen handelt, welches mit individuellen Faktoren nebst schulischen Leistungen verbunden ist, durch den Klassenkontext determiniert wird und zudem mit aversiven Konsequenzen für die Betroffenen einhergeht. Neben dieser eher negativen Konnotation zeigen die Befunde aber auch auf, dass es Möglichkeiten zum Umgang und zur Lösung gibt. Mit der vorliegenden Arbeit konnte ein wichtiger Schritt zur Schließung einer Forschungslücke getan werden. Nichtsdestoweniger zeigen die Befunde auch, dass für eine allumfassende Erklärung des Phänomens Streber weitere Forschung dringend benötigt wird.

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2 Zeitschriftenbeiträge

Being labeled "Streber":

Personality, Competition, and Stigmatization

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Abstract

The current research investigated a phenomenon that has so far received little attention: the stigmatization of students who are characterized by strong academic orientation. The research question was whether certain personality traits – beyond academic achievement – are typical of students who are labeled "Streber" (a nerd with respect to academic achievement; German origin) and of those who tend to label their peers Streber. Apart from individual characteristics, we also examined the impact of the classroom context. In the first study ($N = 317$), eighth grade students nominated classmates whom they perceived to be a prototypical Streber and provided self-ratings on how often they had labeled others Streber. In the second study ($N = 358$), using a round robin design, we had eighth grade students rating each of their classmates to what extent they perceive them as Streber. Results showed that being labeled was associated with high academic achievement, but also with introversion and conscientiousness even when controlling for academic achievement. Labeling others was connected to extraversion, low conscientiousness, and low agreeableness. Furthermore, we found that the stigmatization was stronger in high-achieving than in low-achieving classes. Additionally, average classroom achievement moderated the relationship between individual factors and stigmatization in a way that the relationships were particularly strong in high-achieving classes. Results are discussed with respect to personality traits as potential risk factors of peer stigmatization and the impact of the classroom context.

Keywords: personality, Big Five, adolescents, Streber, high achievement, stigmatization

Being labeled "Streber": Personality, Competition, and Stigmatization

– Es irrt der Mensch, so lang er strebt – (Man errs as long as he strives)
Johann Wolfgang von Goethe

This quotation from Goethe's Faust, Part 1 (1808) emphasizes the dark side of striving. In most cases, academic striving or academic outcomes are positively valued. Clearly, the academic performance of students is demanded by society as highlighted by international competition in performance in educational studies or efforts to improve individual performances (e.g., Third International Mathematics and Science Study TIMSS; Mullis, Martin, & Foy, 2008; Program for International Student Assessment PISA; OECD, 2009; No Child Left Behind Act; U.S. Department of Education, 2002). But academic striving seems to have a flip side of the coin, as demonstrated by human *erring* in Goethe's quotation. Ironically, there are contexts in which even the outcome of academic striving, i.e., high achievement, is perceived as unwanted or even erroneous. Though only little attention has been paid to this phenomenon, it has been observed at the workplace (Kim & Glomb, 2010) or among students in college (Darnon, Dompnier, Delmas, Pulfrey, & Butera, 2009; Exline & Lobel, 1999). In contrast to the general demands of society, it seems that among adolescents academic orientation has a bad reputation, too. This is illustrated by the following story:

> At the end of grade five, Marius' achievements decrease. His parents don't know that the other children in class punish him when he receives an A. At the beginning of grade six, he complains about stomach ache or headache on Monday mornings. He stops doing his homework, and doesn't talk about school at home. Every morning when he boards the school bus, the mental war starts over again. (Schoener, 2010, p. 2, transl. by authors)

The Stigmatization of High-Achieving Students as "Streber"

Although society highly values academic achievement, there seems to be a strong tendency that peers devalue achievement at school. More specifically, high-achieving students are at risk of being stigmatized as "Streber" by their classmates (Boehnke, Pelkner, & Kurman, 2004; Breidenstein & Meier, 2004; Rentzsch, Schütz, & Schröder-Abé, in press). Streber is a German word describing – from an etymological point of view – a person who *strives* for achievement (cf. German verb "streben", Dutch verb "streven"). Similar English concepts are "dork", "nerd" (e.g., Bishop et al., 2004; Brown, Mory, & Kinney, 1994), "brain" (e.g., Prinstein & La Greca, 2002), "geek" (e.g., Tyson, Darity, & Castellino, 2005),

and "teacher's pet" (e.g., Tal & Babad, 1990). From a historical point of view, in the 16th century, a Streber was described as somebody who resists, later as somebody who strives after something, and since the second half of the 19th century it is used as a derogatory term to describe an overambitious, studious person. Early on, the term was used for opponents, later for eager public officers. The term Streber finally entered the language of college students and from there the idiom of high schools (Duden, 2007; Kluge & Seebold, 2002). Today, from a student's point of view, a Streber is considered "somebody who is being opportunistic by being a high achiever" (Boehnke et al., 2004, para. 3).

The term teacher's pet refers to a student at school who likes the teacher and receives special treatment: „a preferential relationship between a teacher and a student ... who rewards and satisfies the teacher" (Tal & Babad, 1990, p. 638). The term nerd is used to label students who are very studious and do not follow extracurricular activities (Bishop et al., 2004; Kinney, 1993). To sum up, very similar labels are found across different countries and societies, for example in the USA ("nerd"; e.g., Brown et al., 1994), Germany ("Streber"; Pelkner & Boehnke, 2003; Rentzsch et al., in press), and Israel ("Hnun"; e.g., Boehnke, 2008). All labels have in common that they are used to refer to academically oriented students. Still, there are some differences; for example, a Streber typically is a student who is associated with ambitious studying and academic achievements while those who spend a lot of time at the computer are often called nerds (Duden, 2007; Hornby, 2005). In the following, we use the term Streber to describe students who are labeled because of outstanding performances and academic effort.

It is surprising that the stigmatization of students who are associated with academic success and studiousness has not yet received much research attention, particularly not in psychology. Most of the research was conducted in sociology and focused on crowds or youth cultures. The few existing studies were either qualitative in nature or studied achievement only (more in detail see the next section). Moreover, most attention has been paid to the targets of the labeling; almost nothing is known about the actors. The current article extends previous research as follows:

1) It has been shown that being called Streber is significantly, albeit only moderately, correlated with school grades (Pelkner & Boehnke, 2003). We therefore expected there should be factors other than achievement that are relevant in being labeled a Streber. With respect to the victim precipitation model (e.g., Aquino & Bradfield, 2000), we assumed that individual characteristics such as personality traits are associated with the risk of being stigmatized. According to the victim precipitation model, certain personality traits make

students vulnerable to become the target of stigmatization (e.g., Jensen-Campbell et al., 2002; Kim & Glomb, 2010).

2) Our focus is on both perspectives, i.e., on the targets' perspective of being labeled Streber and on the perspective of those students who label others Streber (whom we call *teasers*). Literature on victimology suggests that victimization depends on both the victim and the perpetrator (Elias, 1986). Kowalski points out that the targets of teasing but also the teasers possess certain personality traits that are related to teasing (2004). We therefore analyzed teasers' personality traits, too.

3) We also considered the context in which the labeling takes place. Calling someone a Streber is about academic achievement and we therefore analyzed average achievement in class as a potentially relevant context variable.

Previous Research on the Labeling of High-Achieving Students

Although terms such as Streber are commonplace in schoolyards, there is only little psychological research. When entering the term in the psychological database of German speaking countries (PSYNDEX, 11/23/2010) we retrieved 8 results. PsycINFO (11/23/2010) listed 44 articles with the term "nerd", of which 20 did refer to studies on the labeling of high school students, and 6 articles for the term "teacher's pet". We can conclude that we are dealing with an underexamined social phenomenon.

Several of the few existing studies have focused on nerds as a peer-group (e.g., Brown & Klute, 2003) considering the structure and social functioning of crowds (particularly in US-schools). According to Brown, Feldman, and Elliot (1990), adolescents are assigned to a specific group by their peers because they have reputations and characteristics that match the stereotype of that crowd (see also Brown et al., 1994). For example, it has been found that people tend to regard Streber or nerds as having few friends, being shy, wearing unfashionable clothes, and being unathletic, but also being ambitious and diligent (Bishop et al., 2004; Eicher, Baizerman, & Michelman, 1991; England & Petro, 1998; Green & Ashmore, 1998; Kinney, 1993; Pelkner & Boehnke, 2003; Rentzsch & Schütz, 2010).

Another line of research addresses the link between being labeled and school achievement. Pelkner and Boehnke (2003) showed that the term Streber is among the most frequently used labels at school. It is particularly used for students with good grades. Many high-achieving students are afraid of being labeled Streber (Pelkner, Günther, & Boehnke, 2002). In an interview study, Kinney (1993) likewise reported that so-called nerds are typically described in terms of studiousness and academic achievement. Bishop et al. (2004) showed that students who were above average with respect to their grade point average were

at risk of being harassed by peers and that, using a qualitative approach, it is particularly the striving for high achievement that is devalued by peers.

Possible Consequences of Being Labeled Streber

Why is it relevant to study individuals that are labeled Streber? Calling somebody a Streber can be conceptualized a form of aversive interpersonal behavior (Kowalski, 2000a) that resembles antisocial teasing (Kowalski, 2004) and verbal bullying (Mynard & Joseph, 2000; Olweus, 1990). Teasing is defined as a "personal communication from an agent to a target that includes four components: aggression, humor, ambiguity, and identity confrontation" (Kowalski, 2004, p. 332). Teasers often describe their action as an innocent joke and uninvolved observers, too, do not consider the event severe (Kowalski, 2000b), but the victims usually experience it as rather painful (Leary, Springer, Negel, Ansell, & Evans, 1998).

Being stigmatized as a Streber is one of the most feared and most undesirable labels among adolescents (Bishop et al., 2004; Brown et al., 1994; Eicher et al., 1991; Pelkner & Boehnke, 2003). Adolescence is the period of life in which the search for an identity, self-criticism, and self-doubt are particularly prevalent (Baumeister & Muraven, 1996; Erikson, 1968; Newman & Newman, 1976). Erikson describes it as the time when the need for affiliation dominates social interactions (cf. need to belong, Baumeister & Leary, 1995). If being labeled in class goes along with a lack of acceptance and being rejected, serious consequences can occur. Research shows that lack of acceptance is related to social isolation (Moulton, Moulton, Housewright, & Bailey, 1998), loneliness (Juvonen, Nishina, & Graham, 2000), reduced self-esteem (Blackhart, Nelson, Knowles, & Baumeister, 2009), and other forms of maladjustment (Parker & Asher, 1987). In a longitudinal study, Prinstein and La Greca (2002) found that students called "brain" exhibited higher levels of anxiety and loneliness as well as reduced self-esteem over time.

Another potential consequence of such labeling can be that the respective student reduces future performance in order to avoid continued stigmatization. If high-achieving students have to make a choice between doing well in school and being popular, they may try to achieve liking by achieving less. Landsheer, Maassen, Bisschop, and Adema (1998) comment: "If high achievement in the sciences results in unpopularity, it could lead to lesser effort by better students" (p. 188; see also Callahan, Cunningham, & Plucker, 1994; Fordham & Ogbu, 1986).

Linking Stigmatization with Personality

In the current research, we investigated personality traits that are related to being stigmatized as Streber and to stigmatizing others as Streber. As there is no previous research on that topic, we will start out with a broad approach and analyze global personality traits instead of testing for potentially more specific traits. The five-factor model refers to general dimensions of personality (Asendorpf & van Aken, 2003; Costa & McCrae, 1992; John & Srivastava, 1999). It has been shown that the Big Five are related to well-being and social interaction (e.g., Nezlek, Schütz, Schröder-Abé, & Smith, in press; Ozer & Benet-Martínez, 2006). Furthermore, Big Five personality traits are supposed to predispose antisocial behavior (Bollmer, Harris, & Milich, 2006) as well as classroom behavior and adjustment (Graziano, Jensen-Campbell, & Finch, 1997). More specifically, certain personality traits, like introversion or shyness, have been found to make victimization more likely (see Mynard & Joseph, 1997; Scholte, Engels, Overbeek, de Kemp, & Haselager, 2007; Schuster, 1999; Slee & Rigby, 1993). These findings suggest that personality is an important correlate of being the victim of peer harassment or being the perpetrator. Moreover, due to the stability of personality traits, they have the potential to foster ongoing victimization (Tani, Greenman, Schneider, & Fregoso, 2003). Therefore, studying the personality of students labeled Streber and students labeling others like that can be an important step towards the understanding of that labeling phenomenon. As there is no previous research on the personality of students who are labeled because of their academic orientation or on the personality of those who label them, we refer to related literature on personality and interpersonal conflict, but also to literature on personality and classroom adjustment to derive our hypotheses.

Personality and Being Labeled Streber

One of the most important factors in social interaction is extraversion. Extraverted people like to have an impact on the things going on in their peer group, they enjoy social interactions, are sociable and assertive (Costa & McCrae, 1992; Jensen-Campbell et al., 2002). Research has shown that among adolescents, introversion is connected with lower peer-acceptance (Lubbers, Van Der Werf, Kuyper, & Offringa, 2006), lower popularity (Kury & Bäuerle, 1977), and having fewer friends in class (Jensen-Campbell et al., 2002; Jensen-Campbell & Malcolm, 2007). In addition, we assumed that traits which are stereotypically associated with the label may play a certain role, too (Bishop et al., 2004; Brown, 1990). In that sense, the stereotype of the prototypical Streber implies that Streber are shy, and lonely etc. (Kinney, 1993). As students who are labeled Streber belong to one of the least liked crowds at school, are usually unpopular, and considered unsociable, we finally expected so-called Streber to be more introverted than other students.

The situation is less straightforward when it comes to openness and conscientiousness. Both traits are associated with high achievement (Hair & Graziano, 2003; Marsh, Trautwein, Lüdtke, Köller, & Baumert, 2006; Poropat, 2009) and high academic confidence in school (Graziano et al., 1997; Graziano & Ward, 1992). Since students are labeled because of their good grades, it can be assumed that openness and conscientiousness are positively related to being called Streber. However, openness is a trait that is particularly associated with academic abilities (Costa & McCrae, 1992), whereas conscientiousness is related to academic effort (Trautwein, Lüdtke, Roberts, Schnyder, & Niggli, 2009). When it comes to the stigmatization of peers, peer-evaluations seem to differ between effortful and bright students. Several studies have shown that effort is regarded less positively than ability (Juvonen & Murdock, 1993, 1995; Tannenbaum, 1962). In a similar vein, Pelkner et al. (2002) have shown that it is especially the studiousness of students that is evaluated negatively by peers. In sum, research suggests that achievement and effort are evaluated negatively whereas ability is not. We therefore assumed that being labeled Streber is related to high conscientiousness but not to openness.

In sum, we hypothesized that students who are labeled Streber are characterized by lower extraversion and higher conscientiousness than other students. We did not expect a relationship with openness.

Personality and Labeling Other Students as Streber

It has been shown that eighth grade students with high extraversion show more social dominance and influence in class than students with low extraversion (van der Linden, Scholte, Cillessen, Nijenhuis, & Segers, 2010). Extraverted people tend to actively initiate antisocial interactions (Georgesen, Harris, Milich, & Young, 1999). For example, with respect to peer conflict it has been shown that bullies are more extraverted than others (Tani et al., 2003). We therefore assumed that students who tease others as Streber should exhibit high extraversion.

In addition, several studies on bullying found that perpetrators are generally less agreeable than other students (e.g., Bollmer et al., 2006; Tani et al., 2003). Disagreeable individuals are described as demanding, cold, not forgiving, stubborn, and not compassionate (Costa & McCrae, 1992). In a similar vein, a study by Jensen-Campbell and Graziano (2001) revealed that disagreeable adolescents tend to use destructive tactics such as threats or physical violence in interpersonal conflict. We therefore assumed that students who tease others as Streber have lower scores in agreeableness than other students.

For a long time, conscientiousness has been studied as a trait that is associated with intrapersonal aspects such as achievement and effort at school (see Jensen-Campbell & Malcolm, 2007). But recently, interpersonal aspects of conscientiousness have been emphasized (Nezlek et al., in press) and it has been demonstrated that underlying factors such as honesty, self-control, social responsibility, or rule-orientation do have social implications (Roberts, Chernyshenko, Stark, & Goldberg, 2005). In accordance with that, Jensen-Campbell and Malcolm (2007) found that low levels of conscientiousness were linked to attention difficulties and externalizing problem behaviors that can be seen as indicators of poor self-regulatory skills and lack of emotional control. Furthermore, research showed that bullies as well as socially dominant students are less conscientious than other students in class (Bollmer et al., 2006; van der Linden et al., 2010). If we assume that labeling others as Streber is an act aimed at devaluing ambitious and high-achieving peers, we should expect teasers to be less conscientious than other students. To summarize, based on the literature about teasing and interpersonal conflicts, we expected students who label others Streber to be more extraverted, less agreeable, and less conscientious than other students (e.g., Georgesen et al., 1999).

The Impact of a High Performance Context

Only little research attention has been drawn to the contexts in which stigmatization occurs. Previous research points to the classroom context as an important factor for peer victimization. Several contextual factors have been identified that influence peer victimization and the relationship between individual risk factors and victimization, for example, bystander behavior or classroom attitudes toward bullying behavior and aggression in general (Kärnä, Voeten, Poskiparta, & Salmivalli, 2010; Salmivalli & Voeten, 2004; Velásquez, Santo, Saldarriaga, López, & Bukowski, 2010). Since we assume that being labeled Streber is a specific form of teasing that is connected to achievement and excellence, we focused on context factors that are relevant to these issues. We argue that the average level of performance in a class plays a critical role in the labeling of students as Streber. In line with our argument, literature on the Big Fish-Little Pond effect suggests that in high-achieving classes students' academic self-concept is lower than in low-achieving classes (when holding students' ability constant; Huguet et al., 2009; Marsh & Parker, 1984). Thus, a high-performance context renders the subjective perception of one's own performance less favorable. Accordingly, the labeling of high-achieving others, who may be considered a threat to the self-esteem of their peers (Rentzsch, Schröder-Abé, & Schütz, 2010), should be particularly prevalent in high-achieving classes as compared to low-achieving classes.

Furthermore, we wanted to check whether the expected relationship between personality and the labeling varies across classes. As there is no related research on the influence of the average performance-level of classes on the prediction of peer stigmatization by personality traits, we tested those assumptions in an explorative manner.

The current studies

In the current article, we investigated two questions. First, we examined whether being labeled a Streber and labeling others is connected to personality traits beyond individual achievement. Since there is very little previous research in that area, we had no clear expectations on the relationship between some factors of the five-factor model, such as neuroticism, and being labeled or labeling others. Therefore, we examined those relationships in an explorative manner. Second, based on the results regarding Big Five personality traits, we investigated whether the stigmatization of students as Streber is moderated by classroom performance. Personality traits were assessed via self-ratings. Up to now, there is no established method to assess or identify a Streber or a teaser. In Study 1, so-called Streber were identified via peer-ratings (a nomination task) and teasers via self-ratings. In Study 2, we used a more complex measure. Using a round robin design, participants evaluated each of their classmates to what extent they perceive them as a Streber in class. Via social relations analysis, perceiver and target effects on Streber-ratings were extracted, and then used as criterion variables in multilevel analyses in order to investigate whether the findings with respect to personality traits from the first study could be replicated with different measures of Streber and teasers. Additionally, we assessed the students' grades, so we were able to check whether the effects persisted when controlling for students' academic achievement, and whether the relationships differed with respect to the average achievement of the classes.

Study 1

In the first study, we examined personality traits to predict the labeling of students as Streber. In contrast to previous studies, we considered the targets of the labeling as well as those who label them like that. To identify so-called Streber, participants nominated classmates whom they regarded to be a Streber. Teasers were identified by self-ratings.

Method

Participants. Three hundred seventeen students (174 girls, 143 boys) from 17 eighth grade classes at six German schools participated in this study. Participants' ages ranged from 13 to 17 years ($M = 14.1$, $SD = 0.5$).

Measures.

Personality. The Big Five personality traits were assessed with the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991; German adaptation by Lang, Lüdtke, & Asendorpf, 2001). Responses were made on 5-point Likert-scales with end points labeled *strongly disagree* (1) and *strongly agree* (5). Three items had to be excluded from the analyses (one item each from the agreeableness, conscientiousness, and openness scales, respectively) because of low corrected item total correlations and internal consistencies (cf., Roth, 2002, for similar results). Internal consistencies (Cronbach's Alpha) of the final scales were .77 (neuroticism), .83 (extraversion), .78 (openness), .62 (agreeableness), and .76 (conscientiousness).

Streber. To identify students who were labeled Streber by their peers, we used a nomination procedure. All students received a list with the names of their classmates and each name was linked to a numerical code. Participants were asked to write down the codes of two of their classmates whom they perceived to be a prototypical Streber.[1] For each student we counted the frequency of nominations, i.e., how often he or she was nominated as a Streber in a class. The individual relative frequency-scores were not normally distributed. We therefore classified students who had a relative frequency-score of at least 30 % into the category "Streber" and students with lower scores into the category "no Streber".

Teasers. To identify students who labeled others as Streber, we used a one-item self-rating scale ("How often have you called a classmate 'Streber'?", Pelkner et al., 2002). Responses were made on a 4-point Likert-type scale (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*).

Procedure. The study took place during regular school days at the end of the school year. After having received permission from school authorities, principals, teachers, and parents, the questionnaires were administered to participants during regular class hours in 45-minute sessions. A research assistant informed participants about the purpose of the study, emphasized that responses were anonymous, and explained how to use the numerical codes. Participants first completed the peer-nominations. After handing each student a list of classmates' names with codes, the research assistant assured the students that the lists would be destroyed after the study. Finally, participants completed teaser self-ratings and then personality measures.

Analysis Strategy

The dataset was structured hierarchically in that three hundred seventeen students were nested in 17 classes and classes were nested in six schools. To address this nested data structure we conducted multilevel analyses (multilevel random coefficient modeling, MRCM;

Raudenbush & Bryk, 2002) with the software HLM 6.08 (Raudenbush, Bryk, & Congdon, 2005) to predict Streber nominations and teaser self-ratings, respectively. In this study, we considered two levels: students on level 1 and classes on level 2.[2,3] Big Five personality traits were treated as level-1 predictors. When entering the model, predictors at level 1 were group-mean centered. For all analyses, we considered random-slopes models; when a random effect revealed no meaningful variance, we treated the variable as fixed. Because Streber nomination was a dichotomous dependent variable, logistic multilevel analyses were conducted (HLM Bernoulli option; Raudenbush & Bryk, 2002). Regarding the prediction of teaser self-ratings, we ran multilevel analyses for ordinal outcomes (HLM Ordinal option). Regression coefficients in both types of analyses correspond to log-odds ratios. As the regression coefficients in multilevel analyses for ordinal outcomes refer to log-odds of a response to the first category of a variable (e.g., the response "1" in teaser self-ratings) relative to responses to the other categories, the first category should be coded towards the positive end of the variable (e.g., "I often called someone 'Streber'") to facilitate interpretation of coefficients. Therefore, scores for teaser self-ratings were inverted prior to multilevel analyses.

Results

Correlations between level 1 predictor variables and descriptive statistics are listed in Table 1. The five personality traits were weakly to moderately intercorrelated ($r = .06$ to $r = .39$). When running multilevel analyses, all Big Five traits were entered simultaneously in order to control for their intercorrelations. Level 1 regression coefficients for multilevel models predicting Streber nominations and teaser self-ratings are shown in Table 2.

Focusing on Streber nominations, as expected, conscientiousness was significantly positively related to being nominated as a Streber in class ($t = 4.72$, $p < .001$). The likelihood of being nominated as a Streber in class increased with students higher in conscientiousness. In line with our hypothesis, openness did not reveal a significant effect ($t = 0.52$, $p = .60$). Furthermore, the likelihood of being nominated as a Streber in class significantly increased with decreasing scores on extraversion ($t = -2.23$, $p = .04$). As hypothesized, particularly introverted students were nominated as Streber. Neuroticism and agreeableness did not reveal significant effects (ps > .08).

With respect to the labeling of others as Streber (teaser self-rating), conscientiousness yielded a significant negative effect: $t = -3.67$, $p < .001$. In line with our hypothesis, the likelihood of labeling others as Streber increased with decreasing conscientiousness. As expected, results indicated that extraversion ($t = 3.58$, $p = .001$) and agreeableness ($t = -3.58$,

p = .001) were also significant predictors of the labeling. Students with higher extraversion and lower agreeableness were more prone to label others as Streber. Neuroticism and openness did not show significant effects (*p*s > .66)

Summary

In Study 1, we were interested in predicting being labeled a Streber and labeling others by personality traits. As expected, more introverted and more conscientious students were at higher risk of being nominated as a Streber in class than other students. Openness did not reveal a significant effect, pointing to the difference between effort and abilities when it comes to the stigmatization of students as Streber. In line with our hypotheses, students higher in extraversion, and low in agreeableness and conscientiousness were more likely to stigmatize others as Streber.

<div align="center">

Study 2

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In Study 2, we aimed at replicating the findings from the first study using different operationalizations of so-called Streber and teasers. The conceptualization of the Streber phenomenon was extended in that we considered the perception of students as Streber as a two-sided process. For example, the perception of another student as Streber does not only depend on characteristics of the target (like being perceived as a Streber in general), but also on characteristics of the perceiver (like being a teaser in general). For further illustration, Bill's rating of Anna as a typical Streber does not only depend on characteristics of Anna but also on Bill's tendency to stigmatize his fellow students. The Social Relations Model (SRM; Back & Kenny, in press; Kenny, 1994) provides a conceptual and statistical framework for such dyadic processes. The SRM proposes that the rating of another person can be decomposed into three components, i.e., perceiver effect, target effect, and relationship effect. For example, the perception of another student as Streber can be decomposed into the average tendency of the rater to label others as Streber (i.e., perceiver effect, "teaser"), the tendency of the target person to be perceived as a Streber on average (i.e., target effect, "Streber"), and the specific tendency of a specific rater to perceive a specific target as a Streber (i.e., relationship effect). In Study 2, we extracted perceiver and target effects of Streber-ratings via social relations analysis and implemented them as new indicators of teasers and Streber, respectively. Apart from that, we examined whether the findings from Study 1 would also hold when students' academic achievement was used as a control variable in the multilevel models, as it was assumed to be a main predictor of the labeling. Furthermore, we tested whether the classroom achievement would contribute to the relationships mentioned above.

Method

Participants. Three hundred fifty eighth-grade students (178 girls, 168 boys)[4] from 20 classes at eight German schools participated in the study. Participants' ages ranged from 13 to 17 years ($M = 14.3$, $SD = 0.6$).

Measures.

Personality. As in Study 1, the Big Five personality traits were assessed with the BFI (John et al., 1991; German adaptation by Lang et al., 2001). One item had to be excluded from the analyses (openness) because of low corrected item total correlation (cf., Roth, 2002, for similar results). Internal consistencies of the final scales were .74 (neuroticism), .82 (extraversion), .79 (openness), .61 (agreeableness), and .76 (conscientiousness).

Streber and teasers. Using a round robin design, students had to rate each of their classmates to what extent they think the other student is a Streber (one indicator; "I think, X is a Streber"). Responses were made on 7-point Likert-scales with end points labeled *strongly disagree* (1) and *strongly agree* (7). To guarantee anonymity we used numerical codes on the answer sheets. All students received a list with the names of their classmates and each name was linked to a numerical code. The numerical codes were presented in random order.

Academic achievement. *Individual grade averages* were computed by calculating the mean of the self-reported grades in math, physics, German, and English. *Class grade averages* were computed by calculating the mean of all individual grade averages within one class. In the German grading system, low scores correspond with high achievements. For ease of interpretation, scores were inverted prior to analyses.

Procedure. The procedure closely resembled that of Study 1. Participants first completed personality measures and then the round robin design. A research assistant assured the students that the lists with students' names would be destroyed after the study. Participants provided information on demographics and individual grades at the end of the questionnaire.

Analysis Strategy

In the current study, social relations effects of Streber peer-ratings were computed via social relations analysis using the R-package Triple R (Schmukle, Schönbrodt, & Back, 2010).[5] Participants who had problems in understanding the instructions or who skipped full pages of the questionnaire (3 %, 12 students), and participants who did not provide ratings on any target (4 %, 16 students) were excluded from the analysis (Kenny, 2007). Missings were equally distributed over groups (classes). Finally, 330 participants from 20 classes were included. Group size varied from 8 to 27 participants. Perceiver and target effects were uncentered as classes varied with regard to class size and class grade average. Thereafter, we

ran multilevel analyses with the software HLM 6.08 (Raudenbush et al., 2005) to predict perceiver and target effects on Streber perceptions by Big Five personality traits. Three hundred thirty students were modeled at level 1, nested in 20 classes at level 2. The SRM perceiver and target effects were predicted by Big Five personality traits and individual grade average at level 1.[6] Predictors at level 1 were group-mean centered. At level 2, class grade average was entered as a predictor. Prior to analyses, class grade average scores were z-standardized across all classes. This procedure is similar to grand-mean centering of the level-2 predictor.

Results

   Social relations analyses. The analysis revealed that perceiver, target, and relationship variances were significantly different from zero ($ps < .001$) indicating that Streber ratings did not depend on only one of the components. Thus, our findings confirm the usefulness of social relations analyses. Twenty five percent of variance was based on target variance reflecting consensus within classes in rating students as Streber. Perceiver variance was about 21 %. Relationship variance was particularly large (54 %). This is a typical finding as measurement error could not be separated from relationship variance due to the fact that there were no multiple indicators. Furthermore, ratings on Streber did not show reciprocity effects: Generalized reciprocity, the correlation between perceiver and target effects ($r = -.08$, $p = .41$), and dyadic reciprocity, the correlation between relationship effects ($r = -.002$, $p = .93$), were almost zero. This finding indicates that labeling others Streber is not answered by being labeled in return.

   Descriptive statistics and intercorrelations. Correlations between level 1 predictor variables and descriptive statistics are listed in Table 3. As in Study 1, personality traits were weakly to moderately intercorrelated ($r = .01$ to $r = .27$). As expected, individual grade revealed its highest correlations with conscientiousness ($r = .26$, $p < .001$) and openness ($r = .13$, $p = .02$).

   Multilevel analyses. In each model for predicting Streber target effects and Streber perceiver effects, all five personality traits were entered simultaneously controlling for individual grade average (see Table 4).

   Predicting target effects for Streber-ratings. In line with our hypothesis, students' grade was a strong predictor of the target effects for Streber-ratings ($t = 8.08$, $p < .001$), indicating that especially high-achieving students were at risk of being labeled a Streber in class.

Similar to Study 1, conscientiousness positively predicted the target effect for Streber-ratings ($t = 4.14$, $p = .001$). Students high in conscientiousness were at risk of being perceived as a Streber in class even when controlling for individual grade average. Again, openness did not reveal a significant effect ($t = -0.55$, $p = .58$) supporting our hypothesis. However, in contrast to Study 1, extraversion did not significantly predict the target effect on Streber-ratings ($t = -1.18$, $p = .26$). All other Big Five factors did not reveal significant effects (ps > .26).

To examine whether the relationship between individual variables like personality traits and target effect for Streber-ratings was moderated by classroom context, we also analyzed cross-level interactions between level 2 and level 1 predictors. For example, the target effect for Streber-ratings (y_{ij}) was predicted by extraversion at level 1 (see the simplified equation below).[7]

level 1: y_{ij} $= b_{0j} + b_{1j}$ (extraversion) $+ r_{ij}$

Next, we tested if that relationship was moderated by class grade average at level 2:

level 2: b_{1j} $= \gamma_{10} + \gamma_{11}$ (class grade average) $+ u_{1j}$

As can be seen, the slope from level 1 (b_{1j}) is the outcome variable at level 2 ("slopes as outcomes analyses", Burstein, Linn, & Capell, 1978, p. 376).

Though we did not find a main effect of extraversion on being labeled Streber, the slopes-as-outcome analysis revealed that the negative relationship between extraversion and Streber target effect was moderated by class grade average ($\gamma = -0.17$, $t = -2.70$, $p = .01$). For examining the direction of the effect, within-person equations for this cross-level interaction effect (consisting of an intercept and the slope for extraversion) were estimated for classes at 1 SD above the mean and 1 SD below the mean on class grade average (see Huguet et al., 2009; Nezlek & Plesko, 2003). Equations indicated that the negative effect for extraversion on the target effect was stronger with high-achieving classes ($b = -0.23$) than with low-achieving classes ($b = 0.11$). Only in high-achieving classes introverted students were at risk of being labeled Streber than extraverted students. The simple slopes for values on extraversion 1 SD above and 1 SD below the mean are displayed in Figure 1.

Furthermore, the slopes-as-outcomes analysis illustrated that the relationship between individual grade and target effect at level 1 was moderated by class grade average ($\gamma = 0.27$, $t = 2.81$, $p = .01$). Again, within-person equations for this cross-level interaction effect were estimated for classes 1 SD above the mean and 1 SD below the mean on class grade average. The positive effect of individual grade average on Streber target effect was much stronger in

high-achieving classes (b = 1.06) as compared to low-achieving classes (b = 0.53). Especially in high performance classes, higher-achieving students were at higher risk of being the target of the Streber stigmatization than students with lower academic achievements (see Figure 2). We also explored cross-level interactions for the other Big Five variables. None of them was significant (ps > .11).

With respect to the relevance of a high performance context, we also tested whether the outcome measure (target effect Streber) alone was determined by class grade average. Results showed that being labeled as a Streber (as indicated by the intercept of the target effect for Streber-ratings) also varied across classes with respect to the classes' grade average (intercept-as-outcome-analysis): $\gamma = 0.25$, $t = 3.14$, $p = .01$, indicating that the phenomenon of being labeled Streber was stronger in high-achieving classes as compared to low-achieving classes. In high performance contexts, students were at higher risk to be labeled Streber than in low performance contexts.

Predicting perceiver effects for Streber-ratings.

With respect to the question of who labels others Streber (i.e., teasers), agreeableness significantly predicted the perceiver effect for Streber-ratings ($t = -3.36$, $p = .001$). Particularly students low in agreeableness exhibited high perceiver effects. This finding fits our expectations and the results from Study 1. All other main effects, such as the prediction of the perceiver effect by individual grade average ($t = -1.70$, $p = .09$), were not significant (ps > .09).[8] Though we did not provide hypotheses on the relationship between individual grade and labeling others as Streber, it was interesting that there was a trend for a negative relationship indicating that students with lower grades had a stronger tendency to label others as Streber. Moreover, results from a slope-as-outcome analysis revealed that the negative relationship between individual grade average and perceiver effect Streber was significantly moderated by class grade average ($\gamma = -0.20$, $t = -2.01$, $p = .04$). Within-person equations indicated that the negative effect of individual grade average was much stronger in high-achieving classes (b = -0.36) as compared to low-achieving classes (b = 0.04). The simple slopes for values on individual grade average 1 *SD* above and 1 *SD* below the mean are displayed in Figure 3. As can be seen, only in high-achieving classes, students with lower grades were more prone to label others as Streber than students with higher grades. All other cross-level interactions were not significant (ps > .26).

With regard to the impact of classroom achievement on labeling others as Streber, an intercept-as-outcome analysis was conducted. The results indicated that the labeling

significantly varied across classes with respect to their grade average ($\gamma = 0.24$, $t = 2.90$, $p = .01$). Labeling others as Streber particularly occurred in high-achieving classes but less so in low-achieving classes, supporting our assumption that a high level of achievement in class fosters the devaluation of excellent students as Streber.

Summary. To summarize, in Study 2 we examined an alternative method for identifying students who are labeled Streber and students who label them, and checked whether the prediction on the basis of personality traits revealed comparable results to those in Study 1. As grade average can be assumed to be the main predictor of the labeling and we were interested in personality effects beyond that, effects of personality traits were controlled for individual grade average. Results revealed that particularly students with high grades were labeled Streber. Furthermore, students high in conscientiousness were at risk of being the target of the labeling even when controlling for individual grade average. On the contrary, openness did not provide a significant effect. The expected negative effect of extraversion only occurred in high-achieving classes. Although we used a completely different measure for identifying students labeled as Streber than in Study 1, the findings were quite consistent with the first study, underlining the validity of the measurement.

With respect to the perceiver effect on Streber, we found that particularly the low agreeable students were prone to label their classmates Streber. That finding is in line with our results from Study 1. Focusing on the average achievement of the classes, the pattern was always the same: In high-achieving classes, effects for the labeling, for being labeled, and for the relationship between extraversion and labeling others were stronger than in low-achieving classes. Even the relationship between individual grade average and being labeled as well as labeling others was stronger in high-achieving classes: Particularly in high performance classes, students with high grades tended to by stigmatized as a Streber and students with low grades tended to stigmatize others as Streber. Classroom performance seems to play a critical role when it comes to the labeling of students as Streber. That conclusion was also supported by the finding that perceiver and target effects were higher in high-achieving classes, i.e., being labeled and labeling others occurred more in high-achieving contexts than in low-achieving ones.

General Discussion

The current study was the first to investigate personality and thus factors above and beyond academic achievement in predicting the labeling of students as Streber. We extended previous research that had focused on sociological issues and academic achievement in that

we considered additional factors beyond achievement that play a crucial role in the labeling. In doing so, we analyzed both targets and teasers of the stigmatization.

Predictors of Being Labeled Streber and of Labeling Others

Our results reveal that a main predictor of being labeled Streber was participants' grade average. This result is in line with previous findings that have also emphasized academic achievement as a major factor in the stigmatization of students as Streber (or nerds). Being stigmatized because of one's achievements may lead to serious consequences. For example, Pelkner et al. (2002) argued that high-achieving students may tend to reduce their efforts at school because they are afraid of being called a Streber. Even more so, such strategic underachieving may not just be limited to high-achieving students but also to other students who are afraid of the labeling as well.

In extending previous research, our results show that achievement is not the only factor that puts students at risk to be labeled Streber. Certain personality traits are relevant, too. We found that students who are perceived as Streber were more introverted than their classmates. This finding is in accordance with stereotypes about Streber or nerds as being shy or withdrawn (Kinney, 1993) and matches the general characteristics of unpopular students in class (Graziano et al., 1997; Jensen-Campbell & Malcolm, 2007; Lubbers et al., 2006). The result points to introversion as a crucial factor for being stigmatized and dovetails with other studies on interpersonal conflict (e.g., Scholte et al., 2007).

With regard to openness and conscientiousness, we found that conscientious students were more likely than others to be labeled Streber, but there was no significant relationship with openness. Though both conscientiousness and openness have been found to be related to high achievement, conscientiousness is associated with effort and studiousness, whereas openness is associated with ability. Our results support findings that emphasize the negative perception of effort by peers (Juvonen & Murdock, 1993; Landsheer et al., 1998; Rentzsch et al., in press).

Focusing on teasers, our studies consistently demonstrated that students who tend to label others as Streber were less agreeable than other students. That finding fits in with previous research on teasing, bullying, and interpersonal conflict which suggests that aggressors are those who show little compassion with others (Bollmer et al., 2006; Jensen-Campbell & Graziano, 2001; Tani et al., 2003). We also found that teasers were more extraverted than other students which is in line with studies that show that students high in extraversion have a potential for initiating conflicts (Tani et al., 2003). Furthermore, our results on low conscientiousness in teasers underline recent findings that conscientiousness

reveals interpersonal aspects, e.g., students low in conscientiousness exhibit low self-regulatory skills which in turn is related to interpersonal problem behavior (Jensen-Campbell & Malcolm, 2007). Our findings on students who label others Streber are in line with research by Georgesen et al. (1999) which showed that teasers are particularly low in agreeableness and conscientiousness, and high in extraversion.

In sum, we found that the effects of personality traits on being labeled Streber were quite consistent across both studies. However, the significant effects of extraversion and conscientiousness on labeling others Streber could not be replicated in Study 2. That result may be due to the different operationalizations of teasers: self-ratings in Study 1 and perceiver effects in Study 2. Future studies should replicate the current findings in using both types of measurements in one sample. Still, it is noteworthy to mention that the other effects with respect to personality factors were consistent across studies and operationalizations (i.e., the relationship between conscientiousness and being the target of the labeling, extraversion and being the target which was particularly strong in high-achieving classes, as well as disagreeableness and labeling others). This consistency suggests that results can be generalized.

In accordance with previous studies that showed that personality traits predispose classroom behavior and adjustment (Graziano et al., 1997), our findings point to the relevance of personality characteristics in students labeled as Streber. For example, since introversion is related to lower social competency (Graziano & Ward, 1992) and lower adjustment in peer relationships (Graziano et al., 1997), students high in introversion are potentially at risk to become the target of peer-victimization in general (Mynard & Joseph, 1997). However, traits like conscientiousness should not simply be interpreted as negative factors in the stigmatization but can also be seen as resources against social exclusion. Research on conscientiousness and interpersonal relationships revealed that conscientiousness is related to peer-acceptance and friendship quality and thus serves as a buffer against victimization (Jensen-Campbell & Malcolm, 2007). Likewise, high academic achievement, which was linked to being stigmatized in the current study, also can be seen as an important resource against enduring stigmatization. For example, it has been shown that high academic achievement is related to high self-esteem (Marsh & O'Mara, 2008; Spinath, Spinath, Harlaar, & Plomin, 2006).

Class Performance as a Moderator

Aside from individual characteristics, our research points out that the average performance of classrooms plays a critical role in the labeling – a context factor which has not

been examined in peer victimization, yet. When we analyzed the context in which the stigmatization took place, our analyses revealed that the labeling, but also the prediction of the labeling by individual characteristics were moderated by class grade average. Results showed a consistent pattern: The labeling and its relationship to individual characteristics were particularly strong in high-achieving classes. Thus, labeling other students as Streber particularly occurred in the context of high performance classes but less so in low performance classes. Interestingly, the same pattern held true in the prediction of labeling on the basis of personality traits of Streber and teasers: The negative relationship between extraversion and being labeled Streber was particularly true for high-achieving classes. Furthermore, the positive relationship between individual grades and being labeled Streber, but also the negative relationship between grade and the tendency to label others was more pronounced in high performance classes than in low performance classes.

Drawing on literature about the Big Fish-Little Pond effect, it has been suggested that the comparison level of classes has a strong influence on individual perceptions (Huguet et al., 2009). It therefore seems plausible, that particularly in high performance contexts, striving of peers is taken seriously and not easily forgiven. Maybe it is the competitive atmosphere within high-achieving classes that leads students to compare themselves to others and – if that comparison reveals an unfavorable outcome – devalue those who excel and fit the characteristics of a stereotype (Bishop et al., 2004).

Regardless of the underlying mechanisms, our findings demonstrate that the classroom context is an important impact factor in the stigmatization of peers. It can be concluded that the stigmatization of high achieving students is a phenomenon linked to target and actor characteristics as well as context variables. Future research should analyze the three factors and their interaction in more depth.

Methodological Considerations

The current research has some methodological advantages. Multilevel random coefficient modeling was used to take the hierarchical data structure into account. Multilevel modeling has the advantage that it can be used to examine simultaneously the effects of level 2 (e.g., class grade average) and level 1 variables (e.g., extraversion). Only with such analyses, the impact of classroom achievement on individual level relationships can be analyzed properly. Apart from that, multilevel modeling adjusts for unequal group sizes and for nonindependence of observations which is a typical pattern in hierarchical data structures (Raudenbush & Bryk, 2002).

In addition, it should be emphasized that our data go beyond self-reports since stigmatization was primarily assessed through peer ratings. More specifically, we used peer-nominations in Study 1 and peer-perceptions from a round robin design in Study 2. This means that we extended the one-sided perceptions from Study 1 by two-sided perceptions in Study 2: By partitioning peer-perceptions into perceiver, target, and relationship effects, we took the dyadic nature of interpersonal perceptions into account (Kenny, 1994).

Limitations and Future Studies

Despite those methodological advantages, there are also methodological limitations. We used different operationalizations of Streber and teasers, which prevents us from conducting direct comparisons between Study 1 and Study 2. An important limitation is due to the correlational and cross-sectional design of our study which makes it impossible to draw conclusions about causal direction of the effects that have been found. For example, the relationship between introversion and being labeled Streber cannot clearly be explained by introversion as a risk factor of victimization. The reverse pattern could also be true: Maybe students become more introverted and withdrawn because of the labeling. Future research should use longitudinal or experimental designs as such studies could give insights into the labeling processes as well as the long term consequences.

In the current article, we did not focus on causes of the stigmatization. Several mechanisms could play a role, for example, it has been suggested that envy is a mediator in the process of labeling students as Streber (Rentzsch et al., 2010). Some authors also mentioned that conformity as an overarching norm directs behaviors toward equality and adjustment (Callahan et al., 1994; Ishiyama & Chabassol, 1985). Particularly among peers, equality seems to reveal an important value (Juvonen, 2000). Students who excel stand out in class which again makes them more likely to be the target of stigmatization. Still, up to now there is no research that directly tested those assumptions using a longitudinal design.

When examining the academic orientation of so-called Streber, we particularly focused on academic achievement. However, intelligence might also contribute to the labeling. Therefore, it seems relevant to include other objective measurements of abilities and investigate their incremental value in predicting stigmatization.

The representativeness of our studies is limited by the samples used: Both studies were restricted to German schools and therefore, it is not clear whether our results can be generalized to other societies. However, there are some indications that the phenomenon is not restricted to Germany or Europe, and that similar labels are used in countries like the USA or Israel (Bishop et al., 2004; Boehnke et al., 2004; Brown et al., 1994; Rentzsch et al., in

press; Tal & Babad, 1990). Clearly, cross-cultural research is needed to understand the importance of that phenomenon in different societies.

Conclusion

We believe that the current research takes an important first step in psychologically analyzing the labeling of high-achieving students. Little is yet known on the phenomenon, but the current results show that high achievement has a rather bad standing at school and predicts being labeled Streber. Research on the stigmatization of high-achieving students seems to be of crucial importance in a society that emphasizes the relevance of knowledge and learning. Our results bring to light, however, that, beyond academic achievement, certain personality traits put students at risk of being stigmatized. The results inform on the relevance of victim characteristics, perpetrator characteristics, and context factors to understand the specific conditions of such labeling.

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Footnotes

[1] In a Pilot study, we had asked students how many students in their class were generally perceived as Streber. The majority of students said that there were two or three so-called Streber. Given this finding and in order to prevent the task from becoming too complex for the participants, we set a limit of two nominations.

[2] A three-level model with schools at the third level could not be applied due to the low number of units at level 3 (six schools).

[3] Though a rather small number of level 2 units (classes) was available, the number of level 1 units (students) within classes was rather large. However, the estimation of multilevel regression coefficients and their standard errors was still reliable (cf. Asendorpf, Penke, & Back, in press).

[4] Twelve participants did not provide information on their gender.

[5] Triple R is a package for the software R that analyzes round robin data based on the Social Relations Model and its formulae provided by Kenny (1994). We also ran social relations analyses with the classic software BIGSOREMO (Kenny, 2007) which revealed almost identical results.

[6] Additional analyses were conducted with sex as a further level-1 predictor. As sex did not contribute meaningfully to the prediction of the outcome measures and results revealed the same effects when sex was included, we did not include it in the reported analyses.

[7] The equation is simplified in that it only contains one personality variable, whereas in the full model all personality traits plus individual grade average were included simultaneously.

[8] We also conducted additional multilevel analyses without individual grade average for both outcome measures. The analyses did not reveal further significant effects.

Table 1

Summary of Intercorrelations, Means, and Standard Deviations for Predictor Variables at Level 1 (Students), Study 1

	1	2	3	4	5
1. Neuroticism	-				
2. Extraversion	-.21**	-			
3. Openness	.09	.29**	-		
4. Agreeableness	-.21**	.09	.18**	-	
5. Conscientiousness	-.12*	.06	.18**	.39**	-
M	2.86	3.69	3.54	3.46	3.11
SD	0.74	0.75	0.71	0.58	0.70

Note. $N = 316 - 317$.
* $p < .05$. ** $p < .01$.

Table 2

Coefficients from Multilevel Models describing Relationships between

Big Five and Outcome Measures at Level 1 (Students), Study 1

	Streber nomination	Teaser self-rating
Intercept	-2.93** (0.30)	-2.83 ** (0.25)
Neuroticism	0.05 (0.33)	0.07 (0.16)
Extraversion	-0.69* (0.31)	0.58** (0.16)
Openness	0.18 (0.35)	-0.03 (0.17)
Agreeableness	-0.79 (0.45)	-0.79** (0.22)
Conscientiousness	1.95** (0.41)	-0.65** (0.18)

Note. Columns represent different models, cells show coefficients from multilevel analyses and standard errors (in brackets), $N = 309 – 317$.
* $p < .05$. ** $p < .01$.

Table 3

Summary of Intercorrelations, Means, and Standard Deviations for Predictor Variables at Level 1 (Students), Study 2

	1	2	3	4	5	6
1. Grade	-					
2. Neuroticism	-.02	-				
3. Extraversion	.05	-.22**	-			
4. Openness	.13*	.06	.27**	-		
5. Agreeableness	-.09	-.21**	.01	.05	-	
6. Conscientiousness	.26**	-.22**	.19**	.27**	.27**	-
M	4.36	2.87	3.57	3.54	3.55	3.13
SD	0.67	0.69	0.74	0.69	0.52	0.64

Note. $N = 317 – 330$.
* $p < .05$. ** $p < .01$.

Table 4

Coefficients from Multilevel Models describing Relationships between Big Five, Individual Grade Average, and Outcome Measures at Level 1 (Students), Study 2

	Streber target effect	Streber perceiver effect
Intercept	2.01** (0.09)	2.00** (0.09)
Grade	0.79** (0.10)	-0.14 (0.08)
Neuroticism	0.06 (0.06)	0.09 (0.07)
Extraversion	-0.08 (0.07)	0.01 (0.07)
Openness	-0.03 (0.06)	-0.12 (0.07)
Agreeableness	0.02 (0.11)	-0.32** (0.09)
Conscientiousness	0.33** (0.08)	0.03 (0.08)

Note. Columns represent different models, cells show coefficients from multilevel analyses and standard errors (in brackets), $N = 330$.
* $p < .05$. ** $p < .01$.
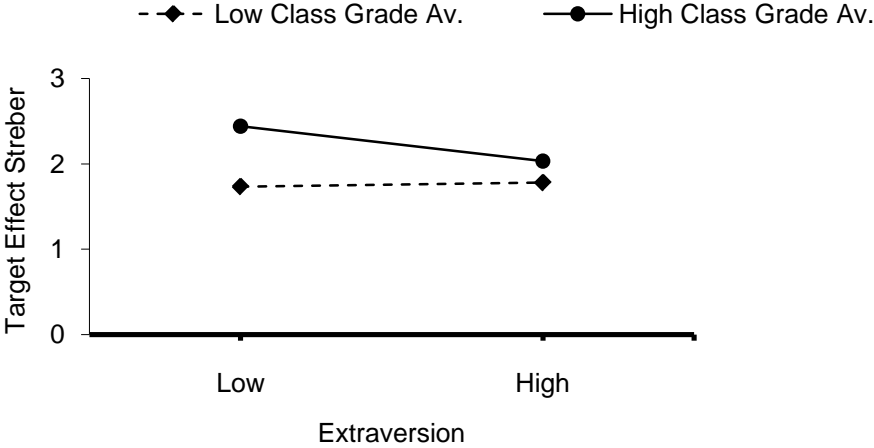
Figure 1. Simple slopes of Streber target effects on extraversion at high and low levels of class grade average.

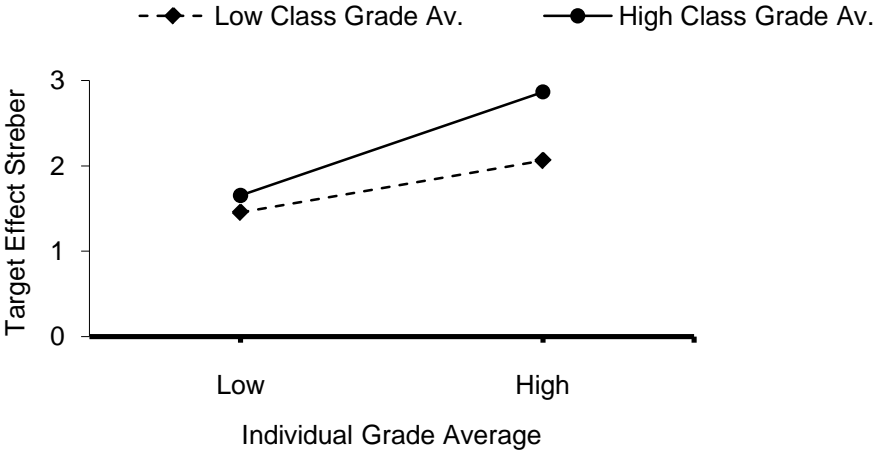*Figure 2.* Simple slopes of Streber target effects on individual grade average at high and low levels of class grade average.
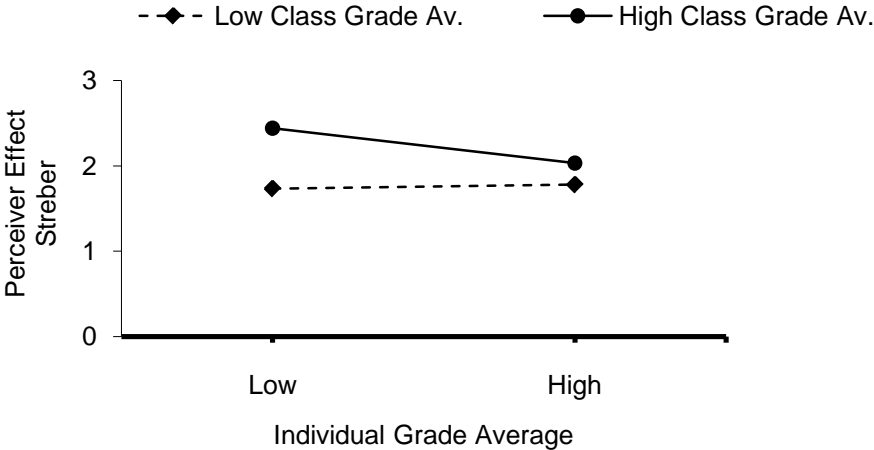
Figure 3. Simple slopes of perceiver effects Streber on individual grade average at high and low levels of class grade average.

"Streber!"

When Big Fish in a Big Pond become the Target of Stigmatization

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Abstract

Students with strong academic orientation are stigmatized by their peers in class. In German language, there is a specific word for labeling such students ("Streber", etymological *striver*, similar to the English *nerd*). The present research investigated facets of self-esteem in labeled students and in students who label others (i.e., *teasers*). Based on results for self-esteem, the underlying processes of the stigmatization were examined. Students from eighth-grade classes ($N_1 = 317$, $N_2 = 358$) participated in two studies. In Study 1, so-called Streber were identified via peer-nominations and self-ratings, teasers via self-ratings. In Study 2, Streber and teasers were identified via target and perceiver effects from a round robin variable. Across studies, high versus low academic self-esteem predicted the roles of targets and teasers. The prediction was stronger in high-achieving than in low-achieving classes. Additionally, self-esteem facets such as physical self-esteem completed the picture. Multilevel mediation analyses showed that envy (perceiver and target effect) was a strong mediator between academic self-esteem and labeling others as Streber (perceiver effect) as well as being labeled Streber (target effect). Results are discussed with respect to self-esteem regulation and the impact of high performance classroom contexts.

Keywords: Streber, self-esteem, envy, social relations

"Streber!" When Big Fish in a Big Pond become the Target of Stigmatization

- *Envy is an admission of inferiority* – Victor Hugo (1802-1885)

A seemingly endless number of studies or educational programs has concentrated on assessing academic abilities of students in various countries, on drawing international comparisons of student performances, and on improving individual performance by praising achievement (e.g., Third International Mathematics and Science Study TIMSS; Mullis, Martin, & Foy, 2008; Program for International Student Assessment PISA; OECD, 2009; No Child Left Behind Act; U.S. Department of Education, 2002). But high achievement seems to have a flip side of the coin. Ironically, there are contexts in which high achievement is devalued. Though only little attention has been paid to that phenomenon, it has been observed between employees within a team at the workplace (Kim & Glomb, 2010) or between fellow students at college (Darnon, Dompnier, Delmas, Pulfrey, & Butera, 2009; Exline & Lobel, 1999; Exline, Single, Lobel, & Geyer, 2004). Particularly among adolescent students at school, high academic achievement seems to have a rather bad standing and there is a strong tendency of high-achieving students being stigmatized as "Streber" (Boehnke, Pelkner, & Kurman, 2004; Rentzsch, Schütz, & Schröder-Abé, in press).

Streber is a German word describing – from an etymological point of view – a person who strives for achievement. Similar English labels are "nerd" (e.g., Bishop et al., 2004; Brown, Mory, & Kinney, 1994), "brain" (e.g., Prinstein & La Greca, 2002), "geek" (e.g., Tyson, Darity, & Castellino, 2005), and "teacher's pet" (e.g., Tal & Babad, 1990). Still, there are some differences; for example, a Streber typically is a student who is associated with ambitious studying and academic achievements but not with computers as it is the case with so-called nerds (Duden, 2007; Hornby, 2005). From a student's point of view, a Streber can be conceptualized as "somebody who is being opportunistic by being a high achiever" (Boehnke et al., 2004, para. 3). As that phenomenon is distinct from the other concepts mentioned above, we use the term Streber to describe students who are labeled because of outstanding performances and academic effort.

So far there has not been much research on the stigmatization of students as Streber or nerds. The few existing studies have either focused on nerds as a peer-group (e.g., Brown & Klute, 2003) considering the structure and social functioning of crowds, or have addressed the link between being called Streber and school-achievement (Pelkner & Boehnke, 2003;

Pelkner, Günther, & Boehnke, 2002). Moreover, most attention has been paid to the victims of the labeling and next to nothing is known about the perpetrators.

Facing the threat of being labeled Streber is not a trifling matter. Streber is a very undesirable label (Brown et al., 1994) that is feared by students (Boehnke, 2008; Breidenstein & Meier, 2004) and being stigmatized as Streber can be considered a threat to a person's social identity (Kowalski, 2004; Kowalski, Howerton, & McKenzie, 2000). Calling somebody a Streber can be conceptualized as a form of aversive interpersonal behavior (Kowalski, 2000) that resembles antisocial teasing (Kowalski, 2004; Leary, Kowalski, Smith, & Phillips, 2003) and verbal bullying (Mynard & Joseph, 2000; Olweus, 1990). In the current article, we aimed at investigating psychological correlates and processes underlying the Streber phenomenon, by taking both the victims, who are labeled Streber by others, and the students who label others (whom we call *teasers*) into account.

Self-esteem is a basic aspect of human functioning (Leary & MacDonald, 2003) and plays an important role in social interaction (Leary, Tambor, Terdal, & Downs, 1995; Stinson et al., 2010). It has been shown that self-esteem is related to academic success and subjective well-being (Marsh, Trautwein, Lüdtke, Köller, & Baumert, 2006), to adolescent mental health (Marsh, Parada, & Ayotte, 2004) such as eating disorders or depression (Orth, Robins, & Roberts, 2008; Vohs et al., 2001), but also to the quality of social relationships (Stinson et al., 2008). Thus, analyzing this variable can provide insight into the labeling of others and being labeled Streber, but also into the underlying mechanisms of the labeling.

Individuals are motivated to maintain self-esteem and to restore it if it has been threatened (Steele, 1988; Tesser, 1988). In the process of labeling others as Streber, such self-esteem threats are, for example, being outperformed or – considering the targets of the labeling – being stereotyped as bookworms, unathletic, unstylish, unsociable, etc. These examples show that it is necessary to consider domain-specific self-esteem (i.e., confidence in specific domains such as academics, sports or social contacts) which allows precise predictions of specific criteria (Jackson & Bracken, 1998; Marsh & O'Mara, 2008; Marsh et al., 2006). As little is known so far about the phenomenon of stigmatizing high-achieving students as Streber, we draw on related literature to derive our hypotheses.

Self-Esteem Facets as Predictors of Being Labeled Streber

Confidence in school achievement (i.e., academic self-esteem) is highly relevant in school settings (Fleming & Watts, 1980; Marsh & O'Mara, 2008; Spinath, Spinath, Harlaar, & Plomin, 2006). Self-esteem based on students' achievements is formed by certain frames of reference (Marsh, 1986; Skaalvik & Skaalvik, 2002). For example, own achievements can be

compared with internal frames of reference like achievements in different school subjects, but also with external frames of reference like school- or classroom achievements. External comparisons with one's reference group have been shown to be highly important for self-definition (Zell & Alicke, 2009), particularly in the classroom (Skaalvik & Skaalvik, 2002). According to the so-called "Big Fish-Little Pond-Effect" (Davis, 1966; Huguet et al., 2009; Marsh, Köller, & Baumert, 2001; Marsh & Parker, 1984; Seaton, Marsh, & Craven, 2009), academic self-esteem is dependent on how the comparison with one's reference group turns out. A student who performs quite well or even better than the average student in class is the "Big Fish" who experiences success, high achievement, and thus, high academic self-esteem. As students labeled Streber usually excel (Pelkner & Boehnke, 2003; Pelkner et al., 2002; Rentzsch, Schröder-Abé, & Schütz, 2010), we expected them to exhibit high academic self-esteem.

Labels such as Streber, however, do not only refer to the field of academics. There are other associations that characterize the stereotype, such as low physical attractiveness, low athletic abilities, low social skills etc. (Bishop et al., 2004; Kinney, 1993; Rentzsch & Schütz, 2010). Such stereotypes may be reflected in self-perceptions (i.e., low physical self-esteem or low social self-esteem) of a so-called Streber (Arkin & Baumgardner, 1986). We therefore hypothesized that being labeled Streber is also associated with low physical self-esteem and low social self-esteem.

Focusing on a more global aspect of self-worth, being labeled can be considered a threat to identity (Kowalski, 2004; Kowalski et al., 2000) and implies the threat of social exclusion (Leary et al., 1995), which suggest that labeling may have effects on general self-regard. According to sociometer theory (Leary et al., 1995), general self-regard reflects the standing of an individual in its peer group. Though Leary and colleagues (Leary, Haupt, Strausser, & Chokel, 1998; Leary et al., 1995) focused on state self-esteem, a recent meta-analysis by Blackhart, Nelson, Knowles, and Baumeister (2009) showed that long-term identity threats are linked to lower trait self-esteem (see also Denissen, Penke, Schmitt, & van Aken, 2008). Therefore, being the target of stigmatization should be reflected in lower general self-regard.

A rival hypothesis can be put forward, however, in which general self-regard would not be affected. In accordance with self-affirmation theory (Steele, 1988), we assumed that general self-regard of stigmatized students may not be affected since the goal of the self-system is the maintenance of global self-integrity. If self-integrity is threatened in one particular domain, people tend to affirm the self positively in another domain (for example in

academics). The two effects may cancel each other out, thus leaving general self-regard unaffected. We tested the two opposing hypotheses against each other.

Self-Esteem Facets as Predictors of Labeling other Students as Streber

With regard to students who are confronted with high-achieving classmates and who label them Streber (i.e., the so-called teasers), we expected a different pattern of self-views. Using the Fish-Pond metaphor (Marsh & Parker, 1984), we argue that average or low-achieving students feel like Small Fish in the presence of a Big Fish (i.e., the high-achieving classmates they label as Streber) and may thus experience low academic self-esteem.

Focusing on general self-regard, a study by Marsh, Parada, Yeung, and Healey (2001) showed that school "troublemakers" exhibited low self-esteem (see also Andreou, 2000; but see Marsh, Parada, Craven, & Finger, 2004). Troublemakers were described as being often involved in interpersonal conflict. The authors argued that the low self-esteem might have motivated students for peer victimization as a strategy to enhance self-esteem. We therefore expected that students who label others Streber would have also low general self-regard.

Based on this assumption, we may generate further hypotheses. With respect to self-image concerns, Tedeschi and Bond (2000) argued that people engage in antisocial behavior in order to achieve a certain reputation, for example, to be perceived as strong and powerful. They state that sensitivity to disrespect from others and the "concern for a 'macho' identity" (p. 277) are linked to the derogation of others which may help to reduce uncertainty and to maintain a desired self-image. Thus, we expected that stigmatizing other students as Streber may be linked to lack of self-confidence with respect to others' impression of oneself. We therefore assumed that teasers exhibit low social self-esteem that is manifest in concerns for others' impressions of them.

In contrast to our hypothesis on so-called Streber, we did not expect a clear relationship between physical self-esteem and being the teaser.

The Impact of Classroom Achievement on Academic Self-Esteem and Stigmatization

Drawing on literature on the Big Fish-Little Pond effect, it has been suggested that students' academic self-esteem is dependent on how the comparison with their reference group turns out (Huguet et al., 2009). We therefore expected the academic context to have a meaningful impact on the stigmatization of students as Streber. However, only little is known about the influence of classroom achievement on peer victimization. In a previous article, we showed that being labeled Streber and labeling others as Streber strongly varied with respect to classroom achievement, i.e., particularly in high-achieving classes students were at risk of being labeled Streber and vice versa (Rentzsch et al., 2010). Furthermore, only in high

performance classes, high-achieving students were labeled and low-achieving students labeled others Streber. We therefore concluded that the average performance of classes has an important influence, even on the relationship between individual characteristics and stigmatization (Rentzsch et al., 2010).

As we argued that academic self-esteem should play an important role in the labeling of students as Streber, we assumed that this relationship would be moderated by classroom achievement, too. In high performance classes many of the students are high-achieving. We therefore supposed that high-achieving classes have a highly competitive climate in which students are at risk of being left behind and would not forgive the ones who outperform. In other words, it might be much more of a threat to be outperformed by another student in a high-achieving class than in a low-achieving class. Being outperformed might show in low academic self-esteem which in turn could trigger efforts to restore self-esteem by devaluing the ones who outperform. On the other side, the one who outperforms should exhibit high academic self-esteem as he or she is the top-performer in an already high-performing class. Building on our argument, we hypothesized that the expected relationship between academic self-esteem and Streber stigmatization would be stronger in high-achieving classes as compared to low-achieving classes.

Envy as a Mediator between Academic Self-Esteem and Stigmatization

Based on the assumption that Streber exhibit high academic self-esteem and teasers have low academic self-esteem, the question arises, why Small Fish seem to turn into piranhas and stigmatize the Big Fish? On the basis of findings in self-esteem we examined the processes that underlie the devaluation of academically oriented students.

We assumed that self-esteem maintenance is an important factor that motivates stigmatization: People generally try to maintain a positive self-image and restore or protect it when threatened (Steele, 1988; Tesser, 1988; see also Crocker & Park, 2003; Fein & Spencer, 1997; Nussbaum & Dweck, 2008). When a student is outperformed by a classmate, the comparison with that target is unfavorable for the student himself/herself. According to the self-evaluation maintenance model (Tesser, 1988), such an unfavorable social comparison can be considered a threat to the self. For example, a study by Collange, Fiske, and Sanitioso (2009) showed that after having received negative feedback on an intelligence test and having been confronted with a highly competent other, the participants' self-esteem was reduced. Following Tesser (1988), such a threat apparently triggers a motivation to maintain the self-image. The resolution of a self-threat due to social comparison is often conducted in interpersonal ways, e.g., distancing oneself from the comparison target (Tesser, 2000, 2001),

or devaluing the source of the threat, e.g., derogating the target (Wills, 1981). In line with that reasoning, Fein and Spencer (1997) showed that particularly highly competent others are at risk of being derogated. With respect to the perpetrators, Marsh, Parada, Yeung, and Healey (2001) stated, antisocial behavior seems a preferred strategy for enhancing one's damaged self-esteem.

Focusing on the link between a threat to the self and its resolution, Tesser (1988, 2000) suggested that emotions such as envy mediate between the unfavorable comparison with an outstanding target and attempts to protect one's self-image. Envy is called a "social" emotion because it refers to other people and a "hostile" emotion because it often causes antagonistic behavior (Smith, 2000; Smith & Kim, 2007). Envy arises when a person longs for what another person has (e.g., Parrott & Rodriguez Mosquera, 2008). It is an unpleasant, hidden emotion characterized by feelings of inferiority, hostility, and resentment (Smith & Kim, 2007). Accordingly, a study by Vecchio (2005) revealed that feeling envy toward others is connected to low self-esteem. Literature suggests that a threat to self-esteem can lead to envy, and as a consequence to hostility and even the derogation of the target as an attempt to restore a positive self-image (Alicke & Zell, 2008; Exline et al., 2004; Fiske, Cuddy, Glick, & Xu, 2002; Hareli & Weiner, 2002; Smith, 2000; Smith & Kim, 2007; Tesser, 1988). Research showed that envy plays an important role when people who outperform others are derogated (Salovey & Rodin, 1984; Schaubroeck & Lam, 2004; Silver & Sabini, 1978).

In the current article we tested whether envy mediates the stigmatization of the "Big Fish" in class as Streber. As being confronted with an excellent student means a threat to self-esteem, we expected students with low academic self-esteem to feel envious towards high achieving peers and derogate them as Streber. On the other hand, we hypothesized that students with high academic self-esteem would be targets of envy and stigmatization.

The current studies

In the current article we wanted to investigate three questions. First, we examined the relationship between facets of self-esteem and being labeled Streber as well as the relationship between facets of self-esteem and the inclination to label others. We hypothesized that high academic self-esteem, low physical, and low social self-esteem characterize the targets of the labeling, and that low academic self-esteem as well as low social self-esteem, and low general self-regard are typical of those students who label others Streber. Second, we assumed that classroom context would moderate the relationship between academic self-esteem and stigmatization. More specifically, we expected that the relationship would be more prevalent

in high-achieving classes than in low-achieving classes. Third, we investigated whether the process of stigmatization is mediated by envy.

Up to now, there is no established method to assess or identify a Streber or a teaser. In the current studies we used diverse methods to assess Streber and teasers. In Study 1, Streber were identified via peer-nominations and self-ratings. Teasers were also identified via self-ratings. In Study 2, participants evaluated each of their classmates in a round-robin design to what extent they perceive them as Streber. Via social relations analyses, perceiver and target effects on Streber-perceptions were extracted. Then we checked whether the findings from the first study would hold with different operationalizations of Streber and teasers even when controlling for individual academic achievement. We also tested the moderating role of the classroom context. In addition, we obtained perceiver and target effects on envy and examined the underlying processes of the stigmatization.

Study 1

In Study 1, we investigated the relationship between self-esteem facets and being labeled Streber as well as the relationship between the facets and the tendency to label others as Streber. We used peer-nominations and self-ratings to identify so-called Streber and teasers.

Method

Participants. Three hundred seventeen students (174 girls, 143 boys) from 17 eighth-grade classes at six German schools participated in this study. Participants' ages ranged from 13 to 17 years ($M = 14.1$, $SD = 0.5$).[1]

Measures.

Self-esteem. Facets of self-esteem were measured with the Multidimensional Self-Esteem Scale (MSES; Fleming & Courtney, 1984; German adaptation by Schütz & Sellin, 2006). Responses were made on 7-point Likert-type scales with end points labeled *not at all* (1) and *very much* (7) or *never* (1) and *always* (7), respectively.

Streber nominations. To identify students who were labeled Streber by peer-ratings we used a nomination procedure. All students received a list with the names of their classmates and each name was linked to a numerical code. Subjects were asked to write down the codes of two of their classmates whom they perceived as typical Streber.[2] For each student we counted the frequency of nominations, i.e., how often he or she was nominated as a Streber in a class. The individual relative frequency-scores were not normally distributed. We therefore classified students who had a relative frequency-score of at least 30 % into the category "Streber" and students with lower scores into the category "no Streber".

Streber and teaser self-ratings. To identify students who were labeled Streber and students who labeled others Streber by self-ratings, we used one-item scales, respectively ("How often have you been called 'Streber'?" and "How often have you called a classmate 'Streber'?", Pelkner et al., 2002). Responses were made on a 4-point Likert-type scale (1 = *never*, 2 = *rarely*, 3 = *sometimes*, 4 = *often*).

Procedure. The study took place during regular school days at the end of the school year. After having received permission from school authorities, principals, teachers, and parents, the questionnaires were administered to participants during regular class hours in 45-minute sessions. A research assistant informed participants about the purpose of the study, emphasized that responses were kept anonymous, and explained how to use the numerical codes. Participants first completed the peer-nominations. After handing each student a list of classmates' names with codes, the research assistant assured the students that the lists would be destroyed after the study. Finally, participants completed self-ratings on Streber, teasers, and self-esteem measures, and provided information on demographics at the end of the questionnaire.

Analyses

The dataset was structured hierarchically in that three hundred seventeen students were nested in 17 classes and classes were nested in six schools. To address this nested data structure we conducted multilevel analyses (multilevel random coefficient modeling, MRCM; Raudenbush & Bryk, 2002) with the software HLM 6.08 (Raudenbush, Bryk, & Congdon, 2005) to predict Streber nominations, Streber self-ratings, and teaser self-ratings, respectively. In this study, we considered two levels: students on level 1 and classes on level 2.[3] A three-level model with schools at the third level could not be applied due to the low number of units at level 3 (six schools). The six facets of self-esteem and sex were treated as level-1 predictors. Predictors at level 1 were entered into the model in a group-mean centered way. Sex as a dichotomous level-1 predictor was contrast-coded (-1 for males and 1 for females). For all analyses, we considered random-slopes models; when a random effect revealed no meaningful variance, we treated the variable as fixed. Because the Streber nomination was a dichotomous dependent variable, logistic multilevel analyses were conducted (HLM Bernoulli option; Raudenbush & Bryk, 2002). Regarding the prediction of Streber self-ratings and teaser self-ratings, we ran multilevel analyses for ordinal outcomes (HLM Ordinal option), respectively. Regression coefficients in both types of analyses correspond to log-odds ratios. As the regression coefficients in multilevel analyses for ordinal outcomes refer to log-odds of a response to the first category of a variable (e.g., the response "1" in teaser self-ratings)

relative to responses to the other categories, the first category should be coded towards the positive end of the variable (e.g., 1 = *"I often called some of my classmates a 'Streber'"*) to facilitate interpretation of coefficients. Therefore, scores for Streber self-ratings as well as teaser self-ratings were entered into the multilevel analyses in an inverted way.

Results

Correlations between level 1 predictor variables and descriptive statistics are listed in Table 1. The six self-esteem facets were moderately to highly intercorrelated ($r = .15$ to $r = .58$, all $p < .01$). In line with previous research, sex was significantly negatively correlated with several self-esteem facets. Thus, when testing our hypotheses, we controlled for sex of participants.

When running the multilevel analyses, all facets of self-esteem were entered simultaneously in order to control for their intercorrelations. Level 1 regression coefficients for each model are shown in Table 2. Directed hypotheses were tested by one-tailed statistical tests. All other tests were two-tailed.

Self-esteem facets and Streber nominations. Focusing on Streber nominations, as expected, academic self-esteem was positively related to being nominated as a Streber in class ($t = 4.07$, $p < .001$). The likelihood of being nominated as a Streber in class increased with students having higher academic self-esteem. In line with our hypotheses, self-esteem with regard to physical attractiveness ($t = -1.85$, $p = .03$) and self-esteem with regard to sports ($t = -2.26$, $p = .01$) revealed significant negative effects. The likelihood of being nominated as a Streber in class increased with decreasing self-esteem regarding sports and decreasing self-esteem regarding physical attractiveness. All other self-esteem facets did not reveal significant effects ($ps > .61$).

Self-esteem facets and Streber self-ratings. Regarding Streber self-ratings, academic self-esteem had a positive effect on being labeled a Streber, too ($t = 6.00$, $p < .001$). As expected, the likelihood of perceiving oneself as a Streber augmented with increasing academic self-esteem. However, self-esteem regarding physical attractiveness and self-esteem regarding sports were not significantly related to Streber self-ratings ($ps > .13$). The other facets of self-esteem were not significant ($ps > .10$).

Self-esteem facets and teaser self-ratings. Focusing on teaser self-ratings, academic self-esteem showed a significantly negative effect. In line with our hypotheses, the likelihood of labeling others as Streber increased with decreasing academic self-esteem ($t = -2.30$, $p = .02$). Interestingly, as expected, social self-esteem concerning criticism also predicted teaser self-ratings negatively ($t = -3.05$, $p = .001$), i.e., students with lower social self-esteem were

more likely to label others as Streber. All other facets of self-esteem were not significantly related to labeling others as Streber ($ps > .11$).

Summary

In line with our hypotheses, students exhibiting high academic self-esteem, but low self-esteem in physical attractiveness and low self-esteem in sports were more likely than others to be called Streber by their classmates. The effect of high academic self-esteem was found with both operationalizations of the Streber phenomenon (nomination and self-rating). Furthermore, students exhibiting low academic self-esteem and low self-esteem concerning criticism were more likely to label others as Streber than students with high academic self-esteem and high social self-esteem concerning criticism.

Study 2

With respect to the results from Study 1, we found that academic self-esteem played an important role in being labeled Streber and labeling others as Streber which is in line with our argument. In the current study, we tested if that relationship holds even when using other operationalizations of the outcome measures and controlling for students' academic achievement. Additionally, our focus was also on classroom achievement as a context specific moderator of the relationship between academic self-esteem and the stigmatization as a Streber. We hypothesized that the link between academic self-esteem and being labeled or labeling others would be especially strong in high-achieving classes as operationalized by high class grade average. Apart from that, we investigated whether envy mediated the relationship between academic self-esteem and Streber peer-ratings in order to shed more light on the underlying processes of the stigmatization.

In the current research, we investigated interpersonal perceptions within classrooms and their relationship with individual traits, i.e., facets of self-esteem. Interpersonal perceptions are dyadic and far more complex than often expected. For example, the perception of another student as Streber does not only depend on characteristics of the target, but also on characteristics of the perceiver (like being a teaser in general). The Social Relations Model (SRM; Back & Kenny, in press; Kenny, 1994) has conceptual and statistical implications for such dyadic processes. The SRM proposes that the rating of another person can be decomposed into three components, i.e., perceiver effect, target effect, and relationship-effect. For example, the perception of another student as Streber can be decomposed into the average tendency of the rater to label others Streber (perceiver effect), the tendency of the target person to be perceived as Streber on average (target effect), and the specific tendency of the rater to perceive the target as Streber (relationship effect). In Study

2, we computed perceiver and target effects for Streber peer-ratings using social relations analyses, and implemented them as new indicators of being labeled Streber and labeling others as Streber. We checked whether the findings from the first study could be replicated using different measures of so-called Streber and teasers.

Method

  Participants. Three hundred fifty eighth-grade students (178 girls, 168 boys)[4] from 20 classes at eight German schools participated in this study. Participants' ages ranged from 13 to 17 years ($M = 14.3$, $SD = 0.6$).[1]

  Measures.

  Self-esteem. As in Study 1, facets of self-esteem were measured with the MSES (Schütz & Sellin, 2006).

  Peer-ratings on Streber and envy. Using a *round robin design,* students rated each of their classmates with respect to how much they envy them (two indicators; "I envy his/her academic achievements", "I'd like to trade places with him/her because of his/her academic achievements") and on how much they think the other student is a Streber (one indicator; "I think, X is a Streber"). Responses were made on 7-point Likert-scales with end points labeled *strongly disagree* (1) and *strongly agree* (7). To guarantee confidentiality, we used numerical codes on the answer sheets. All students received a list with the names of their classmates and each name was linked to a numerical code. The numerical codes on the answer sheet presented were in a different order for students sitting next to each other in order to keep the ratings private.

  *Academic achievement. Individual grade average*s were computed by calculating the mean of the self-reported grades in math, physics, German, and English. *Class grade average* was computed by calculating the mean of all individual grade averages within one class. In the German school system, higher grades reflect lower achievements (1 to 6, with 1 being the best grade a student can obtain). For ease of interpretation, scores for individual grade average and class grade average were inverted prior to analyses.

  Procedure. The procedure closely resembled that of Study 1. Participants first completed self-esteem measures and then the round robin design. A research assistant assured the students that the lists with students' names would be destroyed after the study. Participants provided information on demographics and individual grades at the end of the questionnaire.

Overview of Analyses

In the current study, social relations effects for Streber peer-ratings and for ratings on envy were computed via social relations analyses using the R-package Triple R (Schmukle, Schönbrodt, & Back, 2010).[5] Participants who had problems in understanding the instructions or who skipped full pages of the questionnaire (3 %, 12 students), and participants who did not provide ratings on any target (4 %, 16 students) were excluded from the analysis (Kenny, 2007). Finally, 330 participants from 20 classes were included in the analysis. Group size varied between 8 and 27 participants. Perceiver and target effects were uncentered as classes varied with regard to class size and class grade average. Thereafter, we used multilevel analyses with HLM 6.08 (Raudenbush et al., 2005) to predict perceiver and target effects for Streber-perceptions by facets of self-esteem. Three hundred thirty students were modeled at level 1, nested in 20 classes at level 2. The SRM perceiver and target effects were predicted by the six facets of self-esteem, individual grade average, and sex at level 1. Predictors at level 1 were group-mean centered; sex as a dichotomous level-1 predictor was contrast-coded (-1 for males and 1 for females). At level 2, class grade average was entered as a predictor. Prior to analyses, class grade average scores were z-standardized across all classes. Based on results from multilevel analyses, we conducted multilevel mediation analyses in order to examine the mediating processes underlying the stigmatization (more in detail see the section on multilevel mediation analyses). Directed hypotheses were tested by one-tailed tests. All other tests were two-tailed.

Results

Social relations analyses. Social relations effects were computed via social relations analysis using the R-script Triple R. Variance components and reciprocity correlations are shown in Table 3. As can be seen, perceiver and target variances were significantly different from zero. For both the ratings on Streber and on envy, target variances were larger than perceiver variances. That finding reflects consensus within classes. Relationship variance was particularly large with Streber ratings. This is a typical finding as measurement error could not be separated from relationship variance, because there were no multiple indicators. With envy, relationship variance was much smaller because measurement error could be computed separately.

Ratings on Streber did not provide reciprocity effects. Generalized reciprocity, the correlation between perceiver and target effects, and dyadic reciprocity, the correlation between relationship effects, for Streber ratings were almost zero. That finding indicated that peer-ratings on Streber seemed to be less reciprocal but rather unidirectional in nature, e.g., students who labeled others as Streber were not labeled as a Streber in return. With envy,

generalized reciprocity was significantly negative. This means, that envying others was related to be less envied by others. In contrast, dyadic reciprocity did not reveal a significant effect.

Descriptive statistics and intercorrelations. Correlations between level 1 predictor variables and descriptive statistics are listed in Table 4. Like in Study 1, the six self-esteem facets were moderately to highly intercorrelated ($r = .14$ to $r = .53$, all $p < .05$) and sex was significantly negatively correlated with several self-esteem facets, which means that males exhibited higher self-esteem on all facets than females. Grade showed its highest correlation with academic self-esteem ($r = .48$, $p < .01$).

Multilevel analyses. When testing our hypotheses, all six self-esteem facets were entered simultaneously in the multilevel models controlling for sex and individual grade (see Table 5). Consistent with previous findings, individual grade average was positively related to being labeled Streber (target effect), i.e., particularly high-achieving students were stigmatized as Streber ($b = 0.80$, $t = 6.85$, $p < .001$). Students labeled as Streber did not differ with regard to their gender ($p = .45$), and students labeling others as Streber did not differ with regard to gender and individual grade average ($ps > .45$).

Self-esteem facets and target effects for Streber-ratings.

Interestingly, as in Study 1, academic self-esteem positively predicted target effects for Streber-ratings ($t = 1.99$, $p = .03$) even when controlling for individual grade average. Students with high academic self-esteem were at significantly higher risk of being perceived as Streber than students with low academic self-esteem. This finding fits results from Study 1 in which different measures of the Streber-perception were used. For self-esteem regarding physical attractiveness and self-esteem regarding sports, we did not find significant effects ($ps > .13$) which matches findings from Study 1 on Streber self-ratings.[6] All other effects for self-esteem facets were not significant ($ps > .12$).

Self-esteem facets and perceiver effects for Streber-ratings. As hypothesized, self-regard revealed a significant effect on the perceiver effect for Streber-ratings. Students lower in self-regard tended to label others as Streber more than students high in self-regard ($t = -2.37$, $p = .01$). Regarding our hypotheses and the findings from Study 1, we expected that academic self-esteem should predict the labeling of others as Streber (i.e., perceiver effect). Unexpectedly, academic self-esteem did not significantly predict perceiver effects for Streber-ratings ($t = -0.54$, $p = .30$). Therefore, we inspected the slopes for academic self-esteem across all classes. The graph revealed that slopes strongly varied across classes. To examine the impact of class-level variables, we also analyzed cross-level interactions between the level

2 predictor class grade average and the level 1 predictor academic self-esteem ("slopes as outcomes analyses", Burstein, Linn, & Capell, 1978, p. 376). All other main effects on the perceiver effect were not significant (ps > .30).

Cross-level interactions. Testing for the impact of classroom achievement on the relationship between academic self-esteem and labeling other students as Streber, a slopes-as-outcomes analysis indicated that the relationship between academic self-esteem and perceiver effect was significantly moderated by class grade average ($\gamma = -0.16$, $t = -2.50$, $p = .01$). Within-person equations for this cross-level interaction effect (consisting of an intercept and the slope for academic self-esteem) were estimated for classes at 1 *SD* above the mean and 1 *SD* below the mean on class grade average (see Huguet et al., 2009; Nezlek & Plesko, 2003). The expected negative effect of academic self-esteem on the perceiver effect for Streber-ratings was stronger in high-achieving classes (b = -0.21) in comparison to low-achieving classes (b = 0.11). The simple slopes for values on academic self-esteem 1 *SD* above and 1 *SD* below the mean are displayed in Figure 1.

Next, we tested whether the relationship between academic self-esteem and being labeled a Streber would be moderated by classroom achievement, too. The analyses revealed a significant cross-level interaction between class grade average and the positive relationship between academic self-esteem and target effect Streber, $\gamma = 0.13$, $t = 2.19$, $p = .02$. Within-person equations for this cross-level interaction indicated that the expected positive effect of academic self-esteem on the target effect for Streber-ratings particularly occurred in high-achieving classes (b = 0.24) as compared to low-achieving classes (b = -0.01). Especially in high-achieving classes, students with high academic self-esteem were at risk to be labeled Streber (see Figure 1).

Summary. To summarize, consistent with Study 1, students with high academic self-esteem were more than others at risk of being labeled a Streber even when controlling for individual grade average. Additionally, analyses taking the influence of class-characteristics into account shed light on the relationship between academic self-esteem and being labeled Streber. In this regard, the effect of academic self-esteem on being labeled Streber was particularly true in high-achieving classes as compared to low-achieving classes. With regard to the perceiver effect for Streber-ratings, we found that students with lower academic self-esteem tended to label others as Streber. But this effect was moderated by class grade average. Results indicated that the expected negative relationship was stronger with students from high-achieving classes than with students from low-achieving classes. Apart from that, students exhibiting lower self-regard had higher perceiver effects for Streber-ratings. Our

results point to the importance of the relationship between academic self-esteem and the labeling as Streber in high-achieving classes.

Multilevel mediation analyses. In the current study, we wanted to test whether envy mediates the relationship between academic self-esteem and the labeling of students as Streber. It was hypothesized that the perceiver effect for envy (i.e., the tendency to envy others) mediates the negative relationship between academic self-esteem and the perceiver effect for Streber-ratings. Students with low academic self-esteem should feel envious on the academic achievements of others and in return stigmatize others as Streber. Furthermore, it was expected that the target effect for envy (i.e., being envied by others) mediates the positive relationship between academic self-esteem and the target effect for Streber-ratings (i.e., being labeled as Streber).

Because of the nested structure of the dataset we ran multilevel mediation analyses. The mediation was expected to exist at level 1, as all variables of the meditational model were operationalized as level-1 variables (corresponding to lower level mediation, 1-1-1; Krull & MacKinnon, 2001). However, when examining 1-1-1 models, researchers can investigate the within-group mediation effects (e.g., individual envy is supposed to mediate the link between academic self-esteem and Streber stigmatization), but also the between-group mediation effects (e.g., aggregated envy mediates the influence of group-level academic self-esteem on aggregated Streber stigmatization), or both. Zhang, Zyphur, and Preacher (2009) mentioned that if multilevel mediation effects would be analyzed on level 1 only, their estimates could be confounded if the true within and between group effects differ from each other. Accordingly, estimates would differ from the true mediation effect if the two different sources of variation are "ignored". Following Zhang and colleagues, we ran unconflated multilevel meditational analyses. The authors suggested computing within-group mediation effects and between-group mediation effects separately regardless on which level the effect theoretically should exist in order to avoid confounding.

As the ordinary multilevel analyses from Study 2 (see section multilevel analyses) revealed significant cross-level interactions between the level-2 predictor class grade average and the level-1 slope for academic self-esteem on a) perceiver effect Streber and b) target effect Streber, we extended unconflated multilevel mediation as suggested by Zhang et al. by including those interaction terms in each of the unconflated multilevel mediation models. In this regard, we created a product term between the group-mean centered level-1 predictor academic self-esteem and the z-standardized level-2 moderator class grade average and included it in the within model of the multilevel mediation analyses. In accordance with the

unconflated approach, we created a product term between the level-2 predictor academic self-esteem (i.e., the mean of the level-1 predictor) and the level-2 moderator class grade average and included both, product term and class grade average, in the between model.

As the slopes of the indirect effects were not random, they were treated as fixed slopes (Kenny, Korchmaros, & Bolger, 2003; Zhang et al., 2009). Level-1 predictors were group-mean-centered. Indirect effects were tested for significance based on 95 % confidence intervals. Analyses were computed with the software Mplus (Muthén & Muthén, 2007); the Mplus-syntax for unconflated multilevel mediation analyses was provided by Preacher (2010). The procedure for unconflated multilevel mediation with cross-level interaction was suggested by K. Preacher (personal communication, September, 2010). As mediation effects for all analyses were not significant at the between group level, we only present within group effects (see Figure 2).

First of all, multilevel analyses were conducted to compute the direct effects of the relationship between academic self-esteem and perceiver effect/target effect Streber. As those direct effects were compared with the direct effects of the unconflated multilevel mediation models, the same analysis strategy was used as described above (i.e., computing within-group and between-group effects plus cross-level interaction term), but without including a mediation term (i.e., perceiver effect/target effect envy).

Perceiver effects for Streber-ratings. Testing for the direct effect between academic self-esteem and perceiver effect Streber, as expected, results revealed that academic self-esteem negatively predicted the perceiver effect Streber ($b = -0.10$, $t = -2.18$, $p = .01$). The cross-level interaction between class grade average and the level-1 relationship between academic self-esteem and perceiver effect was significant, again ($b = -0.14$, $t = -2.71$, $p = .004$). That finding is consistent with results from usual multilevel analyses in Study 2. Next, we tested whether the direct effect was mediated by the perceiver effect for envy.

Unconflated multilevel mediation analysis on the perceiver effects for Streber-ratings. Running unconflated multilevel mediation analyses, the effect of academic self-esteem on perceiver effect Streber became almost zero when entering both academic self-esteem and the perceiver effect for envy simultaneously ($b = -0.01$, $t = -0.32$, $p = .37$), controlling for its moderation by class grade average ($b = -0.09$, $t = -1.81$, $p = .04$). The indirect effect (IND) was significant (IND $= -0.09$, $SE = 0.03$, 95 % CI [-0.14, -0.04]). Results indicated that the perceiver effect for envy (being envious) fully mediated the link between low academic self-esteem and the perceiver effect for Streber-ratings.

Target effects for Streber-ratings. The analysis strategy for predicting the target effect Streber was equivalent to that of the perceiver effect Streber as described above. Testing the direct effect between academic self-esteem and the target effect Streber revealed that, as expected, academic self-esteem positively predicted the target effect for Streber-ratings, i.e., being labeled as a Streber in class corresponded with higher academic self-esteem (b = 0.33, *t* = 10.13, *p* < .001). The cross-level interaction between class grade average on the level-1 relationship between academic self-esteem and target effect was significant (b = 0.17, *t* = 7.93, *p* < .001), which is in line with our findings from usual multilevel analyses in Study 2.

Unconflated multilevel mediation analysis on the target effects for Streber-ratings. When including the mediation term target effect on envy (i.e., being envied), the direct effect between academic self-esteem and target effect for Streber decreased almost to zero (b = 0.03, *t* = 0.99, *p* = .16), even when controlling for its moderation by class grade average (b = 0.11, *t* = 5.46, *p* < .001). The indirect effect was significant (IND = 0.30, *SE* = 0.04, 95 % CI [0.22, 0.38]). The target effect for envy fully mediated the link between high academic self-esteem and the target effect for Streber.

Summary. It can be concluded, that perceiver effect for envy fully mediated the link between academic self-esteem and perceiver effect Streber. As can be seen in Figure 2, lower academic self-esteem was related to higher feelings of envy (perceiver effect envy) and envy was related to higher stigmatization of other students as Streber (perceiver effect Streber). Furthermore, the target effect for envy fully mediated the link between academic self-esteem and the target effect for Streber. Higher academic self-esteem was associated with being envied (target effect envy) and being the target of others' envy was associated with being stigmatized as a Streber (target effect Streber). Our analyses indicated that feelings of envy were a strong mediator of the stigmatization of students associated with high academic orientation. Reverse causal effects, i.e., interchanging the dependent variable and the mediator, were either non significant or the direct effect was still very large and highly significant.

General Discussion

Across two studies with different operationalizations of so-called Streber and teasers, students labeled as Streber consistently showed high academic self-esteem and those who labeled them showed low academic self-esteem. The link between academic self-esteem and the stigmatization of students as Streber was moderated by classroom achievement, i.e., the relationships were particularly strong in high-achieving classes. Furthermore, with respect to

the underlying processes of the stigmatization, the prediction of the labeling by academic self-esteem was mediated by envy. Besides having high academic self-esteem, students labeled as Streber also exhibited low self-esteem with regard to physical attractiveness and sports, whereas teasers had low general self-regard and low social self-esteem.

On the Importance of Academic Self-Esteem in Being Labeled and Labeling others Streber

Our studies showed that students with high academic self-esteem were more likely to be labeled Streber and students with low academic self-esteem were prone to label others Streber. Based on these findings, being proud of one's academic achievements can thus be considered a risk with respect to stigmatization. On the other side, feeling uncertain with respect to one's achievements can be considered a factor that triggers the stigmatization of others. However, due to the cross-sectional design of our studies, we cannot draw causal inferences, thus, the other causal direction may also be true, e.g., being stigmatized as a Streber can lead to higher academic self-esteem. It can be concluded that the self-views with regard to academics are highly relevant in the process of stigmatization. But what are these self-views about exactly? Since the effects were stable even when controlling for individual grade average of the students, our findings suggest that it is rather an exaggerated view of one's own achievements that is related to the devaluation by others (Colvin, Block, & Funder, 1995; Kwan, John, Robins, & Kuang, 2008). Therefore, it may be overly positive self-perceptions with respect to academic abilities that are connected to the labeling. On the other side, considering the low academic self-esteem of teasers, it may be a rather modest or even denigrated view of one's academic abilities that is related to the labeling. Future research should take those assumptions into account and investigate them in more detail.

The moderating role of classroom context. The relationship between academic self-esteem and the labeling was moderated by classroom context, i.e., particularly in high-achieving classes, high academic self-esteem predicted being labeled Streber and low academic self-esteem predicted the inclination to label others. As there are many Big Fish with whom students compare themselves in high-achieving classes, the classroom context can be regarded as a highly competitive one. In highly competitive and high performance classrooms, we supposed that students are at risk to be outperformed by others. Our findings thus can be interpreted in a way that it may be much more of a threat to self-esteem to be outperformed by another student in a high-achieving class than in a low-achieving class which in turn is connected with the devaluation of the outstanding student.

Our results point to a kind of "Big Fish-Big Pond" effect: Only in high-achieving classes, students with high academic self-esteem are at risk to be devalued. As discussed above, our findings can be interpreted in a way that having an exaggerated view of one's achievements puts students from high competitive contexts at higher risk than students from low competitive contexts to be devalued as Streber. However, our finding should not be confused with the implications of the well-known Big Fish-Little Pond effect (Huguet et al., 2009; Marsh & Parker, 1984). That effect explains *academic self-esteem* of students from different classes. The effect described here instead explains the *stigmatization* of students from different classes. Furthermore, it is a differential effect in that it predicts being the target *or* the actor of the labeling as Streber dependent on individual academic self-esteem and classroom achievement. Our findings show that future studies need to include the relations between individual grades, victims' and perpetrators' self-views, and context when examining the labeling of students. Investigating the moderating role of classroom performance in peer stigmatization is a new research topic where further studies are clearly warranted.

The underlying mechanisms of the stigmatization. Based on the results about academic self-esteem, we further investigated the underlying processes of the stigmatization. As discussed above, we argued that negative emotions like envy would play an important role in the stigmatization. Supporting our hypotheses, we found that feelings of envy (perceiver effect envy) fully mediated the link between low academic self-esteem and labeling others as Streber (perceiver effect Streber). Furthermore, being envied by others (target effect envy) fully mediated the link between high academic self-esteem and being labeled Streber in class (target effect Streber).

Our findings are in line with the self-evaluation maintenance model (Tesser, 1988): Students with high academic achievements and high academic self-esteem seem to be a threat to those with low academic self-esteem. Feeling inferior in comparison with other students may have fostered feelings of envy in the inferior student. As a result, our study shows that such students tend to derogate the "Big Fish" by calling him/her a Streber. In other words, being the Small Fish in class – as reflected in low academic self-esteem – is linked to feelings of envy which in turn strongly contributes to the tendency to stigmatize others as Streber.[7]

Our findings dovetail with research on envy as a process variable in the derogation of high competent targets (Salovey & Rodin, 1984; Schaubroeck & Lam, 2004; Smith & Kim, 2007; Tesser, 1988). The current results clearly expand previous findings in that they give insight into the processes that underlie a rather unknown phenomenon, the stigmatization of excellent students as Streber.

Facets of Self-Esteem and their Relationship with Labeling and Being Labeled Streber beyond Academics

Besides academic self-esteem, we found that it were especially the students with low general self-regard who were prone to label some of their classmates Streber. This is in line with previous research showing that actors of interpersonal conflict in eighth-grade had rather low general self-esteem (Marsh, Parada, et al., 2001). Moreover, the study by Marsh et al. (2001) also found that antisocial behavior in eighth grade positively predicted self-esteem in tenth grade, which implies that low general self-regard can be seen as a factor that fosters strategies to enhance self-regard by devaluing others.

Furthermore, we found that teasers exhibited low social self-esteem concerning criticism. That finding is in line with assumptions by Tedeschi and Bond (2000) who argued that sensitivity to disrespect from others and concerns about how one is viewed by others lead to violent behavior. The authors suggested that out of a concern for one's reputation people tend to derogate others in order to reduce uncertainty and achieve a desired self-image. In a similar vein, Salmivalli et al. (1999) showed that bullying was significantly associated with defensive egotism. In that study, defensive egotism was described as a vulnerability to react defensive in self-threatening situations and assessed via items such as "can't take criticism." As that finding resembles the pattern of low social self-esteem concerning criticism found in our study, we are prone to assume that students who are especially vulnerable to negative feedback or negative social comparisons also tend to derogate the sources of such a threat.

With respect to the targets of the labeling, we found that it were especially the students with low self-esteem regarding physical attractiveness and sports, who were labeled. This finding fits very well into the stereotypical picture of a Streber. Usually, terms such as Streber or nerd are associated with not being athletic and not being attractive (Kinney, 1993; Rentzsch & Schütz, 2010). However, our hypothesis that the stereotype of having low social skills could show up in self-views, too, was not supported by the current results. Still, our findings indicate that students who are labeled as Streber have self-views that are in line with some of these stereotypes. Thus, the stereotype of so-called Streber has a kernel of truth.

Furthermore, results revealed that there was no meaningful relationship between general self-regard and the risk of being labeled Streber, which supports our hypothesis on self-affirmation: Self-affirmation theory (Steele, 1988) posits that people, if the self is threatened in one particular domain, may affirm the self in another domain positively, for example "I may be not athletic, but I'm much smarter than him" (Alicke & Zell, 2008, p. 87). We argue, general self-regard was not affected as the negative evaluations in the domain of

physical aspects were compensated for with self-evaluations in the domain of academics. Our findings point to resources in labeled individuals to overcome the stigmatization.

The rival hypothesis was that according to sociometer theory (Leary et al., 1995), being stigmatized as Streber would show in low general self-regard. In spite of no relationship between being labeled a Streber and general self-regard, our findings do not lead us to the conclusion that the stigmatization has no meaningful effects on the targets. As our design was cross-sectional, we were unable to outrule long-term effects. It is certainly possible, in the long-run, that the stigmatization will result in negative consequences (see Prinstein & La Greca, 2002).

It can be summarized that positive evaluations in the domain of academic self-esteem may help to overcome negative consequences of the stigmatization. Still, self-esteem regarding physical attractiveness and sports were negatively accentuated. Having low physical self-esteem can lead to problems in the long run in school subjects like sports, as self-views are often reflected in behavior (Arkin & Baumgardner, 1986). Moreover, reduced self-esteem with regard to physical attributes may play a serious role in ongoing victimizations as corresponding observable behavior (like low achievements in sports etc.) may confirm the stereotype and therefore foster further labeling.

Strengths and Limitations

The present article provided some methodological insights. As there had been no established methods to assess or identify so-called Streber or their teasers, we used different methods to assess Streber and teasers (i.e. self-ratings, peer-ratings, and perceiver and target effects from a round robin variable). Still, the results were consistent across different measures with regard to academic self-esteem. We therefore feel confident that the measures themselves as well as our findings concerning relationships with academic self-esteem are valid. As measures differed between Study 1 and Study 2, it is possible to generalize the results. However, some of the effects (i.e., self-esteem regarding sports and physical attractiveness on being labeled as well as social self-esteem and general self-regard on labeling others) were not consistent across studies. This may be due to the different operationalizations of so-called Streber and teasers. Future research should replicate the current findings in using the different measurements in one sample.

An important strength of the current article is that we used a round robin design in Study 2. Assessing interpersonal perceptions via social relations analyses is preferable to simple self- or peer-ratings: As interpersonal perceptions are two-sided (i.e., depending on the

perceiver *and* the target), social relations analyses can disentangle perceiver- and target effects and thus capture actual relationship patterns better than usual self- and other-ratings.

Another strength of the studies presented here is their high ecological validity. It may be emphasized that participants of the current studies were not sampled from the usual college- or university student populations, but recruited from the populations in which stigmatization of achievement is an actual problem. We studied students from grade eight in high school. Furthermore, both studies took place in a natural context, i.e., within the classroom. Students rated each other within their normal context in which they usually interact and it can be assumed that this helps in getting relatively close to the everyday perceptions of the students. A limitation is that we did not assess behavior in the classroom context but instead peer-perceptions. Therefore, we do not know yet whether the targets in the current studies are indeed teased, rejected, or excluded in class. It thus seems important to assess objective behavior in future studies in order to underpin the conclusions drawn in the current studies. Similarly, we did also not assess group-attitudes toward high achievement or classroom-perceptions of the competitiveness in classes as context specific factors. Instead, we speculated that high class grade average is an indicator of the competitiveness in classes. Future research should take those assumptions into account and examine whether, for example, the average perception of classroom competitiveness moderates the relationship between academic self-esteem and the labeling of students as Streber.

Another problem is that the studies were cross-sectional in nature which does not permit us to draw causal inferences. For example, regarding academic self-esteem and the stigmatization as Streber still the question remains, what was first, being labeled a Streber or having high academic self-esteem? Such questions can only be answered on the basis of longitudinal studies or experimental designs in which students are confronted with high-competent others and their reactions are measured afterwards.

With respect to the issue of causality, two routes seem plausible, a) a kernel of truth or b) internalization (Arkin & Baumgardner, 1986; Swann, 1983). According to the first route, it might be particularly students with high academic abilities, low physical attractiveness, and low physical abilities who become the target of the stigmatization as Streber. Those individual strengths and weaknesses may be reflected in facets of self-esteem via self-perception (Arkin & Baumgardner, 1986; Bem, 1967): When someone perceives his or her behavior, then he or she might draw inferences on the self and integrate these views in self-evaluations. According to the second route, stereotypes can be internalized and consequently may affect domain-specific self-esteem (social route to internalization, Arkin &

Baumgardner, 1986; Cooley, 1902; Oswald & Chapleau, 2010): Students who are labeled Streber would adopt the views associated with the stereotype irrespective of their initial strengths. Still, whether the basis is self-perception, internalization, or both, our results point to important relationships between self-esteem facets and being labeled Streber or labeling others.

Furthermore, as compared to the typical number of level 2 units in most multilevel studies, there was a relatively small number of level 2 units (classes) in the current studies. However, the number of students within each unit was large, which made it possible to get reliable estimates (cf. Asendorpf, Penke, & Back, in press). In future research, it would be preferable to replicate the results with a larger number of level 2 units.

Implications and Conclusion

Important conclusions for preventing stigmatization can be drawn from our findings. Since envy apparently is crucial in the process of the labeling, procedures that foster such feelings should be avoided. For example, it has been mentioned that many teachers still publicly announce all students' performances in class (Exline et al., 2004; Huguet et al., 2009). When individual performances are publicly displayed, however, feelings of inferiority and envy may arise among the less-achieving students and the high-achieving may become the target of stigmatization. It may thus be regarded preferable to keep individual results private. Apart from those interpersonal effects, individual performance may also benefit from such a procedure. The literature on "personal bests" suggests that it is more helpful for individual motivation to put the focus on intrapersonal comparison rather than on interpersonal ones (Martin, 2006; Martin & Liem, 2010; Pohlmann, Möller, & Streblow, 2006).

In this paper we examined an interpersonal phenomenon that has so far received little attention only - the stigmatization of outstanding students as Streber. Many studies have focused on negative inter- and intrapersonal consequences of academic *under*achievement, but only very few have considered that *high* achievement can be linked to negative outcomes, too. We extended previous research in that we showed that – beyond academic achievement – the self-views students have of themselves are important predictors of being labeled and of labeling others. Moreover, the current studies indicate that classroom context, and more specifically, classroom achievement, plays an important role for the relationship between academic self-esteem and the labeling of students. Furthermore, this is the first research that has studied the underlying processes in the stigmatization of students as Streber. Our results revealed that envy is indeed linked to negative self-perceptions and the inclination to

devaluate others. In concluding, we agree that envy can be considered an admission of inferiority.

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Footnotes

[1] The samples from Study 1 and Study 2 of the current article resembled those in the article by Rentzsch et al. (2010).

[2] In a Pilot study we had asked students how many students in their class were generally perceived as Streber. The majority of students said that there were two or three Streber. Given this finding and in order to prevent the task from becoming too complex for the participants, we set a limit of two nominations.

[3] Though a rather small number of level 2 units (classes) was used, the number of level 1 units (students) within classes was rather large. Therefore, the estimation of multilevel regression coefficients was still reliable (e.g., Asendorpf et al., in press).

[4] Twelve participants did not provide information on their gender.

[5] Triple R is a package for the software R that analyzes round robin data based on the Social Relations Model and its formulae provided by Kenny (1994). We also ran social relations analyses with the classic software BIGSOREMO (Kenny, 2007) which revealed almost identical results.

[6] We also conducted separate multilevel analyses without controlling for individual grade average for both outcome measures. The analyses did not reveal further significant effects except for self-esteem regarding sports. Self-esteem with regard to sports showed a significantly negative effect with the target effect Streber which was equivalent to the findings from Study 1.

[7] Our finding that the classroom context moderates level-1 relationships could have been applied to the mediation process, too: According to our argumentations, it should be also possible that the process of the labeling (i.e., the mediation by envy) is moderated by classroom achievement. However, as the slopes of the indirect effects did not vary across groups, a moderated mediation could not be tested. This might be due to our design and measurements. However, that finding can also indicate that the mediation indeed is not dependent on classroom context. Future research should examine that assumption in more detail.

Table 1

Summary of Intercorrelations, Means, Standard Deviations, and Internal Consistencies for Predictor Variables at Level 1 (Students), Study 1

	1	2	3	4	5	6	7
1. Sex	-						
2. SR	-.24**	-					
3. SCo-SE	-.08	.36**	-				
4. SCr-SE	-.20**	.51**	.50**	-			
5. A-SE	-.10	.58**	.15**	.26**	-		
6. P-SE	-.15**	.52**	.37**	.38**	.30**	-	
7. Sp-SE	-.09	.37**	.36**	.26**	.23**	.47**	-
M	0.10	4.85	4.69	4.26	4.29	4.15	4.66
SD	1.00	1.23	1.25	1.44	1.05	1.36	1.28
α		.87	.76	.84	.75	.84	.73

Note. Sex was contrast coded with -1 = males and 1 = females, SR = self-regard, SCo-SE = social self-esteem in contacts, SCr-SE = social self-esteem concerning criticism, A-SE = academic self-esteem, P-SE = self-esteem physical attractiveness, Sp-SE = self-esteem sports, $N = 314 - 317$.
$* p < .05$. $** p < .01$.

Table 2

Coefficients from Multilevel Models describing Relationships between Self-esteem Facets and Outcome Measures at Level 1 (Students), Study 1

	Outcome Measures		
Predictors	Streber nomination	Streber self-rating	Teaser self-rating
Self-regard	0.16 (0.31)	-0.24 (0.15)	0.10 (0.22)
Social SE in contacts	-0.02 (0.22)	-0.18 (0.14)	0.18 (0.14)
Social SE concerning criticism	-0.01 (0.21)	-0.15 (0.10)	-0.32** (0.10)
Academic SE	1.19** (0.29)	1.05** (0.17)	-0.38* (0.17)
SE Physical Attractiveness	-0.40* (0.21)	-0.14 (0.12)	0.23 (0.14)
SE Sports	-0.48* (0.21)	0.11 (0.15)	0.03 (0.10)

Note. Columns represent different models controlled for sex, respectively, cells show coefficients from multilevel analyses and standard errors (in brackets), SE = self-esteem, $N = 309 - 317$.
* $p < .05$. ** $p < .01$.

Table 3

Variance Partitioning and Reciprocity Correlations for Ratings on Streber and Envy, Study 2

	Streber	Envy
Variance components		
Perceiver variance	.210***	.205***
Target variance	.253***	.295***
Relationship (+ error) variance	.537***	.322***
Error variance		.178
Reciprocities		
Generalized reciprocity	-.078	-.446***
Dyadic reciprocity	-.002	.016

Note. *** $p < .001$.

Table 4

Summary of Intercorrelations, Means, Standard Deviations, and Internal Consistencies
for Predictor Variables at Level 1 (Students), Study 2

	1	2	3	4	5	6	7	8
1. Sex	-							
2. Grade	.04	-						
3. SR	-.25**	.09	-					
4. SCo-SE	-.06	-.00	.42**	-				
5. SCr-SE	-.17**	.05	.47**	.39**	-			
6. A-SE	-.16**	.48**	.47**	.21**	.27**	-		
7. P-SE	-.14*	.01	.53**	.34**	.37**	.21**	-	
8. Sp-SE	-.23**	-.12*	.36**	.34**	.25**	.14*	.41**	-
M	0.02	4.36	5.10	4.76	4.18	4.53	4.15	4.67
SD	1.00	0.67	1.06	1.22	1.45	1.04	1.36	1.30
α			.85	.79	.85	.75	.82	.74

Note. Sex was contrast coded with -1 = males and 1 = females, SR = self-regard,
SCo-SE = social self-esteem in contacts, SCr-SE = social self-esteem concerning
criticism, A-SE = academic self-esteem, P-SE = self-esteem physical attractiveness,
Sp-SE = self-esteem sports, $N = 317 – 330$.
* $p < .05$. ** $p < .01$.

Table 5

Coefficients from Multilevel Models describing Relationships between Self-esteem Facets and Outcome Measures at Level 1 (Students), Study 2

	Outcome Measures	
	Streber target effect	Streber perceiver effect
Predictors		
Self-regard	0.03 (0.07)	-0.13* (0.06)
Social SE in contacts	-0.05 (0.03)	-0.02 (0.05)
Social SE concerning criticism	-0.03 (0.03)	-0.03 (0.03)
Academic SE	0.11* (0.06)	-0.03 (0.05)
SE Physical Attractiveness	-0.00 (0.03)	0.05 (0.05)
SE Sports	-0.05 (0.04)	0.04 (0.05)

Note. Columns represent different models controlled for sex and individual grade average respectively, cells show coefficients from multilevel analyses and standard errors (in brackets), SE = self-esteem, $N = 330$.
* $p < .05$. ** $p < .01$.
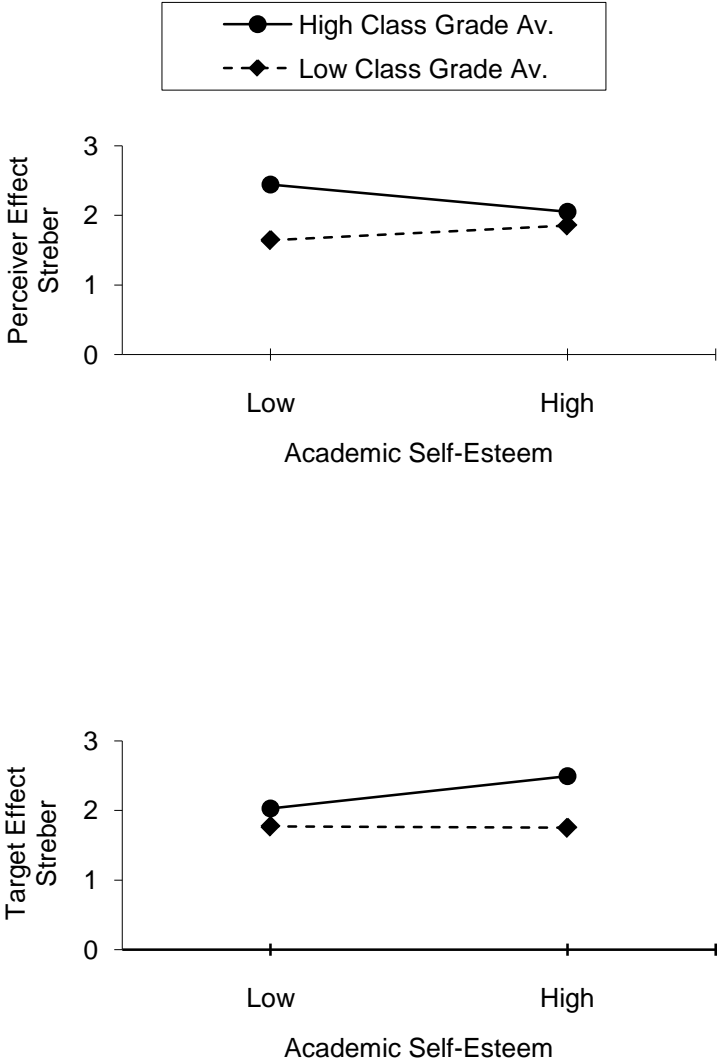
Figure 1. Simple slopes of perceiver effects/target effects for Streber-ratings on academic self-esteem at high and low levels of class grade average.
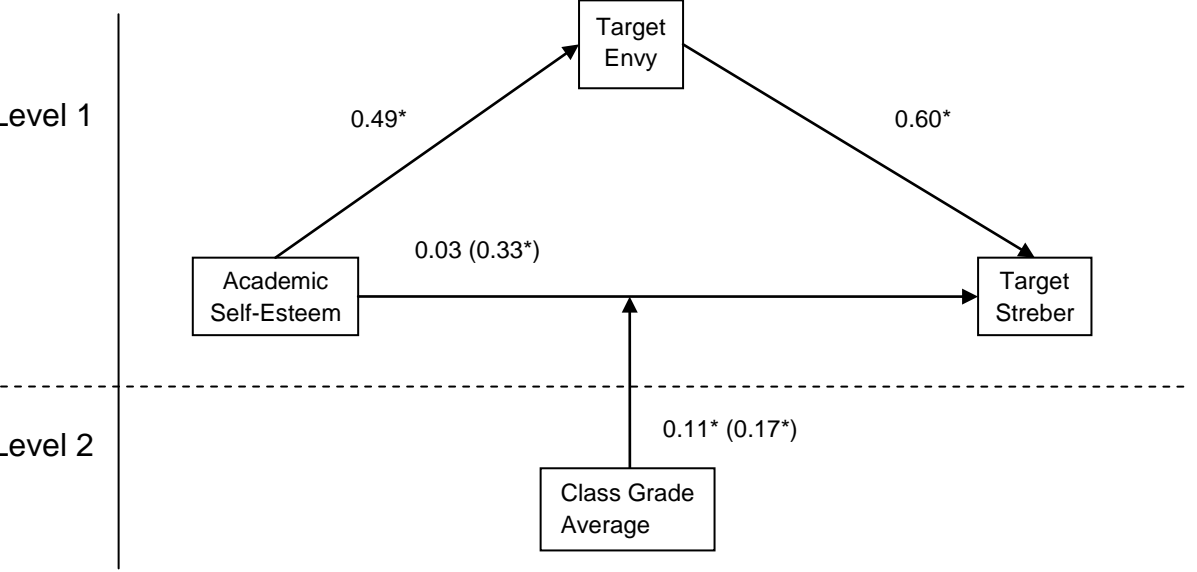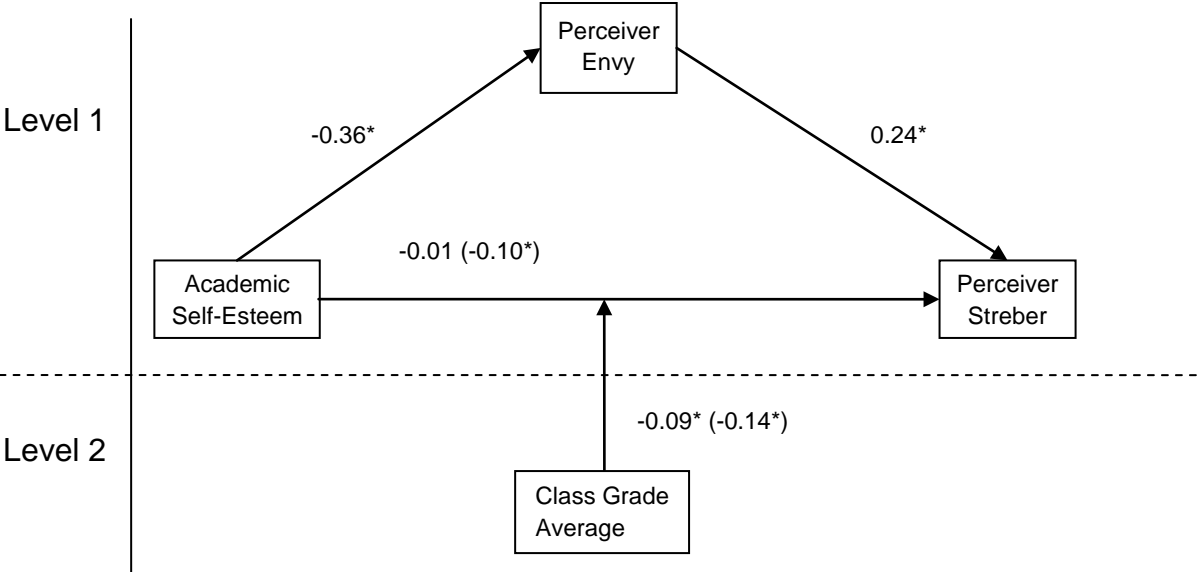
Figure 2. Regression coefficients from unconflated multilevel mediation analyses, in brackets: regression coefficients from unconflated multilevel analyses without a mediator between academic self-esteem and perceiver effects/ target effects for Streber-ratings, *N* = 330.

* p < .05.

When High Achievement Faces Social Exclusion:

Activating a Stereotype of High-Achieving Students Provokes Dysfunctional Cognition,

Negative Affect, and Reduced Task Performance

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Abstract

Previous research on stereotype activation and performance has primarily focused on the consequences of activating *negative* stereotypes about performance *deficits* or the consequences of *positive* stereotypes about *outstanding* performances. By contrast, we investigated the consequences of activating a *negative* stereotype about *outstanding* performances ("High achievers are nerds"). We argue that this stereotype, in which excellence is linked to devaluation and exclusion, inhibits performance in stigmatized students. Thirty-six and 48 students from the eighth grade participated in the current studies. On the basis of a scenario approach, half of the participants were assigned to a stereotype activation condition, the other half to a control condition. Results revealed that for participants for whom the stereotype was self-relevant (i.e., who had already been stigmatized as a nerd), activation of the stereotype led to increased negative affect, negative thoughts, reduced academic state self-esteem, and relative performance drops. Nonstigmatized participants did not show such effects. Results are discussed with regard to stereotype activation and the current debate on education policies.

Keywords: stereotype activation, nerd, high achievement, stereotype threat, task performance

When High Achievement Faces Social Exclusion: Activating a Stereotype of High-Achieving Students Provokes Dysfunctional Cognition, Negative Affect, and Reduced Task Performance

Previous research on stereotype activation has primarily examined behavioral effects on task performances after activating a stereotype (Steele, Spencer, & Aronson, 2002): In this line of research, studies have mainly focused on activating *negative* stereotypes about performance *deficits* (e.g., Steele, 1997; Steele & Aronson, 1995). For example, when female participants were confronted with a stereotype about sex differences in math, they showed impaired performance on a subsequent math task (Ben-Zeev, Fein, & Inzlicht, 2005; Spencer, Steele, & Quinn, 1999). Similar effects were found among ethnic minorities or low-income students (e.g., Aronson, Quinn, & Spencer, 1998; Croizet & Claire, 1998; Steele & Aronson, 1995). Research was also concerned with the consequences of activating *positive* stereotypes about *outstanding* performance, for example, among Asian Americans (who are considered to be good at math; Shih, Ambady, Richeson, Fujita, & Gray, 2002). By contrast, the question of the current investigation was whether the activation of *negative* stereotypes about *outstanding* performances could impair subsequent task performance.

The Devaluation of Students who Show Outstanding Achievements

Usually, outstanding achievement is highly valued by society (see studies on academic achievement in international comparison; e.g., TIMMS; Mullis, Martin, & Foy, 2008; or PISA; Organisation for Economic Co-Operation and Development, 2009). But there seem to be some opposite tendencies among adolescents for whom outstanding achievement is devalued by peers (Boehnke, 2005; Landsheer, Maassen, Bisschop, & Adema, 1998).

In classrooms, there is a common stereotype that students who show outstanding achievement are to be regarded as nerds (Boehnke, 2008; Rentzsch, Schütz, & Schröder-Abé, in press). Similar labels are brain (e.g., Prinstein & La Greca, 2002), geek (e.g., Tyson, Darity, & Castellino, 2005), and teacher's pet (e.g., Tal & Babad, 1990). Though there are some differences, all labels have in common that they refer to high-achieving students. Such labels have been investigated in several countries, for example, in the USA ("nerd"; Brown, Mory, & Kinney, 1994), Germany ("Streber"; Pelkner & Boehnke, 2003; Rentzsch et al., in press), and Israel ("Hnun"; Boehnke, 2008). In any case, the stereotype of high-achieving students ("High achievers are nerds") links high achievement with social devaluation and exclusion (Rentzsch, Schröder-Abé, & Schütz, 2010).

Perceptions of the stereotype seem to differ, however, between students who have been stigmatized and those who have not been stigmatized. Being stigmatized as a nerd is not a trifling matter. The term is one of the most feared (Pelkner & Boehnke, 2003) and most

undesirable labels at school (Brown et al., 1994). It has been shown that students who have been labeled a nerd are highly afraid of the stigmatization (Pelkner & Boehnke, 2003). However, students for whom the stereotype is not self-relevant perceive the labeling as not serious and rather funny (Breidenstein & Meier, 2004; Kowalski, 2000; Newman & Murray, 2005).

In the current research, we wanted to examine the potentially detrimental consequences of being labeled a nerd in class. More specifically, we tested whether the activation of the stereotype has negative effects on previously labeled students with respect to affect, cognition, and behavior.

Stereotype Activation Processes

With regard to stereotype activation, it is a well-known fact that the activation of a stereotype can result in corresponding behavior (e.g., Bargh, Chen, & Burrows, 1996; Dijksterhuis & Bargh, 2001; Hansen & Wänke, 2009; Schmader, Johns, & Forbes, 2008; Shih et al., 2002; Steele, 1997). Several mechanisms may contribute to this effect. Wheeler and Petty (2001) suggested two different processes, a "cold" and a "hot" process, that differ with regard to the implication of the self (see also Marx & Stapel, 2006a, 2006c).

A process is called "cold" when stereotype activation takes place without the influence of self-relevant factors (such as emotional or motivational aspects). Cold processes refer to ideomotor processes or the *perception-behavior expressway* (Dijksterhuis & Bargh, 2001): The perception of a behavior—or of certain traits or stereotype features (e.g., Bargh et al., 1996)—automatically activates perceptual and behavioral mental representations and directly fosters corresponding behavior. Such cold processes are typical among nonstereotyped individuals who are less susceptible to the stereotype (Shih, Pittinsky, & Ambady, 1999). By contrast, there are "hot" processes that are accompanied by motivational or emotional factors (like fear), which is typically the case with individuals for whom the stereotype is self-relevant (Levy, 1996; Shih et al., 2002), for example, among members of a stereotyped group such as African Americans or women (Spencer et al., 1999; Steele & Aronson, 1995). More specifically, the process becomes hot when the *active self-concept* of participants is activated. Regarding the active self-concept account (Wheeler, DeMarree, & Petty, 2005), it has been argued that being primed with a stereotype or with stereotypical traits influences concepts in the active self-concept (mental self-representations that are temporarily active) and as a consequence influences behavior (see also Smeesters, Wheeler, & Kay, 2010). Therefore, primes have more powerful effects when the concepts in question are an important part of the participant's self-concept.

Different "hot" factors have been investigated that may mediate the process between stereotype activation and behavior, for example: arousal (e.g., Ben-Zeev et al., 2005), anxiety (e.g., Marx & Stapel, 2006b), negative affect (e.g., Bosson, Haymovitz, & Pinel, 2004; Krendl, Richeson, Kelley, & Heatherton, 2008), worry (e.g., Brodish & Devine, 2009), threat-based concerns (e.g., Marx & Stapel, 2006a), negative thoughts (e.g., Cadinu, Maass, Rosabianca, & Kiesner, 2005; Schmader & Johns, 2003), motivational factors (e.g., Keller & Dauenheimer, 2003), low self-esteem (e.g., G. L. Cohen & Garcia, 2005; Croizet, Dutrévis, & Désert, 2002), or reduced working memory capacity (e.g., Bonnot & Croizet, 2007; Rydell & Boucher, 2010).

In their integrated process model, Schmader and colleagues (2008) suggested that working memory is the primary executive resource when performance is actively controlled. But working memory capacity can be diminished by certain (hot) factors due to a threat to one's self-integrity (e.g., stereotype threat, Steele, 1997). Accordingly, a threat to one's self-integrity can cause physiological stress or attention to threat-relevant cues that in turn foster negative thoughts or negative feelings.

The Current Research

The current research examined the consequences of activating the stereotype of high-achieving students on stigmatized and nonstigmatized participants. As explained above, students who have been labeled a nerd should have different associations with the stereotype than students who have never been labeled. We therefore assumed that the stereotype ("High achievers are nerds") is part of the stigmatized students' self-concept and is linked to motivational and emotional aspects (such as fear, social exclusion, etc.). Because the stereotype is particularly self-relevant for students who have been labeled a nerd, we hypothesized that—in line with a "hot process"—activating the stereotype would cause negative affect, negative cognitions, and underperformance in stigmatized students. By contrast, with nonstigmatized students, the stereotype would not be self-relevant and would not evoke such effects. "Cold" processes would occur due to which the activation of a stereotype about high achievement would foster subsequent task performance.

In two studies we tested the hypotheses using a scenario approach: Because the stereotype links high achievement with devaluation, high school students were assigned either to read a scenario in which high achievement is connected with negative attention from classmates (stereotype activation condition) or to read a scenario in which no particular attention is paid to average achievement (control condition).

Study 1

In order to explore the threatening nature of the stereotype, we examined affective reactions to stereotype activation in stigmatized participants and others.

Method

Participants. Thirty-six students (17 girls) from German schools participated. Participants' ages ranged from 13 to 14 years ($M = 13.9$, $SD = 0.4$).

Materials and procedure. After having received permission from parents, teachers, and school authorities, a research assistant informed students during regular school lessons about the purpose of the study and emphasized that responses would be kept anonymous. At home, participants filled out an online questionnaire on their gender, age, and stigmatization history: To identify participants who had been stigmatized as nerds, we asked them how often they had been called nerd (in German "Streber") in class (Pelkner & Boehnke, 2003).[1] Responses were scored from 1 (*often*) to 7 (*never*). Students who had a score from 1 to 4 were classified as *stigmatized* and students with higher scores as *not stigmatized*. For ease of interpretation, scores were inverted prior to analyses. After at least 1 week, the second part of the study took place in small groups in a computer room at school. A research assistant provided a short introduction. Additional instructions followed on the screen. Participants were asked to read one of four scenarios to which they were randomly assigned (e.g., Ortner & Sieverding, 2008). The scenarios were comparable with respect to length and content (see Appendix) and varied with regard to the gender of the target (*Paul* and *Paula*) and with regard to whether they were about a high-achieving student receiving negative attention (stereotype activation condition) or about an average student who did not receive special attention (control condition).[2]

In a pilot study, 96 university students had rated the targets in the scenarios on the dimension of conscientiousness—which is an important characteristic of the nerd image (Rentzsch et al., 2010)—and indicated whether the person depicted was a prototypical nerd. The target in the stereotype activation condition was rated as significantly more conscientious than the target in the control condition, ps < .001. Furthermore, participants rated the target in the stereotype activation condition more often as a "nerd" than the target in the control condition, and expected that the person would be more afraid of being labeled a nerd than the target in the control condition, ps = .001.

As a manipulation check, participants in the experiment rated the target with regard to conscientiousness and with respect to worry on one-item scales.[3] Responses were made on 5-point Likert scales with end points labeled *strongly disagree* (1) and *strongly agree* (5).

Subsequently, negative affect in participants was measured on the basis of two items from the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988; German adaptation by Krohne, Egloff, Kohlmann, & Tausch, 1996): "distressed" and "jittery." Responses were made on 5-point Likert scales with end points labeled *not at all* (0) and *extremely* (4).

Results and Discussion

To examine whether the manipulation was successful, we conducted *t* tests on the ratings of conscientiousness and current worry. When there was heteroscedasticity between groups, the more robust Welch test was used. Results indicated that the manipulation had the intended effect: The target in the stereotype activation condition was rated as significantly more conscientious ($M = 4.76$, $SD = 0.44$) than the target in the control condition ($M = 3.79$, $SD = 1.13$), $t(23.74) = 3.47$, $p = .002$, as well as more worried ($M = 3.41$, $SD = 1.06$) than in the control condition ($M = 2.32$, $SD = 1.25$), $t(34) = 2.82$, $p = .008$.

To examine whether the interaction between manipulation (stereotype activation vs. control) and participants' stigmatization history (stigmatized vs. nonstigmatized) showed a meaningful effect, we conducted a 2 x 2 between-subjects analysis of variance (ANOVA) on the affect measure.[4] Due to the small sample size and varying group sizes, we will not present statistics on (nonrobust) significance tests, but will rely on effect sizes only (J. Cohen, 1994; Wilcox, 2003). The interaction revealed a moderate effect, $\eta_p^2 = .03$ (see Figure 1). Post hoc analyses for comparing cell means indicated that only stigmatized participants reported higher negative affect after stereotype activation ($M = 2.13$, $SD = 0.48$) as compared to the control condition ($M = 1.67$, $SD = 0.29$). The difference was very large (Cohen's d = 1.12; J. Cohen, 1988; Hedges, 1981). As expected, nonstigmatized participants did not show a difference between the scenarios with regard to negative affect ($M = 1.69$, $SD = 0.69$ and $M = 1.84$, $SD = 0.96$, respectively), $d = -0.18$. Our results point to the threatening nature of the stereotype among stigmatized participants but not among nonstigmatized participants.

<div align="center">

Study 2

</div>

In Study 2, we wanted to replicate our findings from the first study and broaden the scope of our investigation to effects on cognition and task performance.

Method

Participants. After having received permission from their parents, 42 high school students (25 girls) with an average age of 14.2 years ($SD = 0.8$) and a range of 13 – 16 years participated. Participants were recruited via advertisements in local newspapers and via

promotion at the high school. In return for their participation, they had the chance to win book tokens.

Materials and procedure. The design and materials were equivalent to Study 1. At home, participants filled out an online questionnaire about their gender, age, and stigmatization history (see Study 1). After at least 1 week, the second part of the study took place in small groups at a university computer room. The procedure was equivalent to the one in Study 1.

After having read the scenario, participants rated the target with regard to conscientiousness and current worry. To investigate the effects of activating the stereotype on test performance, participants completed the d2 Test of Attention (Brickenkamp, 2002) before (pretest) and immediately after the manipulation (posttest). The d2 Test measures attention capabilities when discriminating among similar symbols under strong time pressure. Previous research has shown that the d2 Test is susceptible to task-irrelevant cognitions (Eckert, Schilling, & Stiensmeier-Pelster, 2006). Due to the small sample size, a repeated measures analysis could not be conducted, which was why we used difference scores between post- and pretest measures for the total test score (total number of marks adjusted for errors of omission and errors of commission). Almost all difference scores were positive, pointing to practice effects that are typical in attention tests (Westhoff, 1989). Still, difference scores were normally distributed (Kolmogorov-Smirnov $Z = 0.94$, $p = .34$) and not confounded with the general level of attention ($r = .27$, $p = .08$).

Participants were told that they would receive feedback about their test performance at the end of the experiment (actually, only general feedback was given). After having finished the d2 Test, participants responded to the affect measure as described in Study 1 and rated the extent to which they experienced negative cognitions ("It was difficult to concentrate on the test the second time," "I tried to do my best," "The test was more difficult the second time than the first time"). Responses were made on 7-point Likert scales with end points labeled *disagree strongly* (1) and *agree strongly* (7). For ease of interpretation, scores for the item "I tried to do my best" were inverted prior to analysis. Subsequently, participants completed the 7-item State Academic Self-Esteem Scale (Heatherton & Polivy, 1991; German adaptation by Rudolph, Schütz, & Schröder-Abé, 2008). Responses were made on 5-point Likert scales with end points labeled *strongly disagree* (1) and *strongly agree* (5).

Results and Discussion

To examine whether the manipulation was successful, we conducted *t* tests on the ratings of conscientiousness and current worry. As expected, the manipulation had the

intended effect: Participants who had read the scenario on the stereotype of high-achieving students rated the target as significantly more conscientious ($M = 4.57$, $SD = 0.81$) than participants in the control condition ($M = 3.52$, $SD = 0.98$), $t(40) = 3.77$, $p = .001$. Likewise, participants described the target as more worried in the stereotype activation condition ($M = 3.52$, $SD = 1.17$) than in the control condition ($M = 2.71$, $SD = 1.19$), $t(40) = 2.23$, $p = .03$.

To examine the interaction between manipulation and participants' stigmatization history, we conducted 2 x 2 between-subjects ANOVAs on the dependent measures.[4] Again, only effect sizes are presented. As expected, the interaction between condition and participants' stigmatization history on the negative affect measure revealed a moderate effect, $\eta_p^2 = .04$ (see Figure 2). Post hoc analyses on cell means indicated that only stigmatized participants were affected by the experimental manipulation. Only they showed higher negative affect when the stereotype was activated ($M = 1.83$, $SD = 1.03$) as compared to the control condition ($M = 1.25$, $SD = 0.27$). The difference revealed a relatively large effect ($d = 0.71$). By contrast, nonstigmatized participants revealed no difference in negative affect when they read the nerd scenario ($M = 1.46$, $SD = 0.58$) compared to when they read the control scenario ($M = 1.43$, $SD = 0.56$), $d = 0.04$.

With respect to dysfunctional cognitions (see Figure 3), stigmatized participants who were in the stereotype activation condition agreed more with the statement that "it was difficult to concentrate on the posttest" ($M = 3.33$, $SD = 1.22$) than stigmatized participants who were in the control condition ($M = 2.67$, $SD = 1.21$), $d = 0.55$. With nonstigmatized participants, the reverse was found: They felt it was less hard to concentrate on the test when they were in the stereotype activation condition ($M = 2.75$, $SD = 1.22$) than in the control condition ($M = 3.27$, $SD = 1.33$), $d = -0.40$. The interaction revealed a moderate effect, $\eta_p^2 = .05$. The same pattern occurred with the statement "I tried to do my best" (recoded), $\eta_p^2 = .35$: Only stigmatized participants agreed more with that statement in the stereotype activation condition ($M = 1.56$, $SD = 0.53$) than in the control condition ($M = 1.33$, $SD = 0.52$), $d = 0.42$; with nonstigmatized participants it was reversed: They agreed more with the item when they read the control scenario ($M = 1.80$, $SD = 0.94$) than when they read the other scenario ($M = 1.58$, $SD = 0.51$), $d = -0.28$. Furthermore, only stigmatized participants indicated that the d2 Test was more difficult the second time than the first time when they were in the stereotype activation condition ($M = 3.56$, $SD = 1.01$) as compared to stigmatized participants in the control condition ($M = 2.67$, $SD = 1.86$), $d = 0.63$. Nonstigmatized participants did not show a difference between the conditions ($M = 3.42$, $SD = 1.00$ and $M = 3.33$, $SD = 0.82$, respectively), $d = 0.09$. The interaction showed a moderate effect, $\eta_p^2 = .03$.

When examining the adverse effects of the manipulation on state academic self-esteem, the pattern was the same: The interaction between participants' stigmatization history and manipulation revealed a moderate effect, $\eta_p^2 = .04$ (see Figure 4), indicating that stigmatized participants experienced lower state self-esteem in the stereotype activation condition ($M = 4.16$, $SD = 0.54$) than stigmatized participants in the control condition ($M = 4.52$, $SD = 0.25$). The difference was large, $d = -0.81$. By contrast, nonstigmatized participants showed a somewhat higher state self-esteem ($M = 4.02$, $SD = 0.54$) after having read the scenario about the high-achieving student than after having read the one about the average student ($M = 3.90$, $SD = 0.69$), $d = 0.20$.

To examine effects on test performance, we analyzed post − pre difference scores with high scores indicating high performance increases. Results revealed that stigmatized participants in the stereotype activation condition showed smaller increases in performance ($M = 40.56$, $SD = 26.23$) than stigmatized participants in the control condition ($M = 47.33$, $SD = 19.25$), $d = -0.29$ (see Figure 5). By constrast, nonstigmatized participants exhibited even a little stronger increase in performance when they were in the stereotype activation condition ($M = 39.75$, $SD = 26.01$) compared to their performance increase in the control condition ($M = 36.47$, $SD = 22.91$), $d = 0.13$, with an interaction effect of $\eta_p^2 = .01$.[5]

To summarize, our results showed that only stigmatized participants showed higher negative affect when the stereotype was activated as compared to the control condition. This result replicates the findings from Study 1. Stigmatized participants also exhibited more dysfunctional cognitions and lower state academic self-esteem after stereotype activation. It is worthwhile to mention that state academic self-esteem was *lower* after having read a scenario about a *high-achieving* student than after having read the control scenario. Even in the concentration task, stigmatized participants performed worse after the stereotype was activated. With nonstigmatized participants, the effect was reversed: They gained slightly from the manipulation with regard to state academic self-esteem, self-reported effort, and perceived concentration as well as performance on the attention test. Our findings point to hot processes among participants for whom the activated stereotype was self-relevant and to cold processes among nonstigmatized participants.

General Discussion

Prior research has shown that the activation of *negative* stereotypes about *performance deficits* causes "hot" effects on affect and cognition and impairs performance in stereotyped groups such as females, low-income students, or ethnic minorities (e.g., Croizet & Claire, 1998; Spencer et al., 1999; Steele & Aronson, 1995). The current investigation was the first

to examine the activation of a *negative* stereotype about *outstanding performances* in which excellence is linked to social exclusion. Particularly in the classroom, outstanding achievement is devalued (Boehnke, 2005) and associated with being a so-called nerd (Boehnke, 2008; Rentzsch et al., in press). It has now been experimentally shown that activating such a stereotype leads to adverse effects among students for whom the stereotype is self-relevant. In that group, negative affect, dysfunctional cognitions, low state academic self-esteem, and even diminished test performance were observed. By contrast, for nonstigmatized participants, the activation of the stereotype of high-achieving students did not have adverse effects. In some cases, in that group, there were even positive effects, which can be seen as an indicator of previously shown effects of performance increases after activating stereotypes related to high performance (Dijksterhuis & van Knippenberg, 1998; Shih et al., 2002).

Our results dovetail with previous findings on the importance of self-relevance when distinguishing hot from cold processes after stereotype activation (Marx & Stapel, 2006c; Wheeler et al., 2005; Wheeler & Petty, 2001). As the stereotype about high achievement connected to social devaluation is self-relevant only to students who have been labeled a nerd, these students should respond with negative affect, corresponding cognitions, and impaired performance (Schmader et al., 2008). Our results support that assumption. This finding highlights that the results cannot be explained by mere priming effects. If the effect was due to priming, reading a scenario about high-achieving students would have improved rather than impeded.

By contrast, for nonstigmatized participants, there was no evidence of impaired performance in the stereotype activation condition. This finding was expected as the stereotype was not self-relevant. Additionally, for this group, performance increases and state academic self-esteem were even slightly higher in the stereotype activation condition as compared to the control condition. Those participants also reported more concentration and effort on a subsequent task when the stereotype was activated. Activating a stereotype about high achievement (even if it is related to negative effects such as social exclusion) apparently leads to positive effects in nonaffected (nonstigmatized) participants. This is in line with a cold process or the perception-behavior expressway (Dijksterhuis & Bargh, 2001; Wheeler & Petty, 2001). The effects were small, which is in accordance with the literature that suggests that lifting effects are usually small because of natural performance limits (Schmader et al., 2008).

Limitations and Future Research

The current investigation has several limitations. First, the samples were relatively small. It was therefore difficult to achieve satisfactory power and to draw firm conclusions about the population of high school students. Despite this, the results revealed large effects particularly on measures of affect. Our findings point to mediational processes that underlie the link between behavioral effects and activation of the stereotype of high-achieving students. The observed increase in negative affect is especially noteworthy and suggests an underlying hot process. Furthermore, an increase in dysfunctional cognition was observed. Future research should use larger sample sizes in order to replicate the present findings and analyze the respective mediation processes. Regarding measurement, the test for assessing performance changes in Study 2 showed large practice effects. Therefore, we could not examine performance drops but instead analyzed reductions in performance increases. Future studies should use performance measures in which practice is less likely to improve performance in order to actually observe performance decreases.

Another interesting line of research for future studies could be the study of stereotype activation with real classes in a school setting. In that context, the threat of exclusion after high achievement may be even more "up in the air" (C.M. Steele, 1997) than in small zero-acquaintance group sessions in a psychological laboratory, which could lead to even stronger effects.

Nonetheless, there may be other accounts that can explain the present findings. Because we presented a scenario in which a high-achieving target received negative attention by classmates, one could argue that the activation of negative attention alone might have triggered our effects. However, as the effect occurred only for participants for whom the stereotype was self-relevant, but not for participants for whom it was not, we argue that our manipulation served as a threat to stigmatized participants because they were reminded of the link between high achievement and exclusion. If it was about negative attention alone, reading a scenario about negative attention would have affected nonstigmatized participants in the same manner. It can be assumed that negative attention touches basic needs in humans, such as the need to belong (Baumeister & Leary, 1995), on which students who have been labeled a nerd and others should not differ. Still, future research should investigate the combination of achievement and attention in more detail and use a third scenario in which high achievement is primed without negative attention.

Another explanation assumes a process similar to "choking under pressure" (Baumeister, 1984). In studies on choking under pressure it has been shown that achievement-oriented public situations evoke performance pressure in subjects; these

pressures in turn increase the focus on the self and attention to the task, ultimately resulting in performance drops. In our study, the presentation of a high-achieving student could have lead to more self-attention in the stigmatized individuals and therefore to performance deficits on the attention test. However, as Baumeister, Hutton, and Cairns (1990) observed, choking under pressure occurs only on overlearned, highly proceduralized, automatic skill tasks, but not on tasks requiring effort (see also Beilock, Jellison, Rydell, McConnell, & Carr, 2006; Schmader et al., 2008). The task used here (d2) explicitly required effort, suggesting that choking is not the underlying mechanism.

Last but not least, even though our results point to the narrower concept of stereotype threat as an explanation, there is also a possible explanation based on the more general concept of social identity threat (see Inzlicht & Kang, 2010; Steele et al., 2002). Social identity threat means that certain personal attributes and the stigma related to them put a person at risk of experiencing a threat to his or her social identity. Such a threat can be evoked by cues that signal the possibility of identity-based devaluation (see also Major & O'Brien, 2005). In the case of stereotype threat, people experience a threat of being judged on the basis of the stereotype that targets their group, and therefore, their performance tends to suffer. In the case of social identity threat, the scenario about a high-achieving student who receives negative attention by classmates might have served as a cue that made stigmatized participants perceive a threat of being at risk of devaluation. However, when presenting the scenarios, we were especially careful not to ask participants whether they perceived the target to be a prototypical nerd. Therefore, the identity "nerd" was not directly activated; thus, it could not have served as a cue.

Regardless of the conceptual embedding, our findings point to hot processes that occurred specifically among students for whom the stereotype was self-relevant. Further investigations should examine the underlying processes in more detail.

Conclusion

The current study was the first to investigate the adverse effects of an important social phenomenon, which has up to now not received much attention: the devaluation of high achievement in the school context. Activating a stereotype that links high achievement with social exclusion ("High achievers are nerds") leads to negative affect, negative cognition, and impaired performance in students who have been targets of the stereotype because of their outstanding performances; this effect does not hold for nontargets. Our results may also explain why nonstigmatized students often refer to the stereotyping as not being severe.

Apparently the consensus against achievement inhibits the performance of talented students. The results have serious educational and societal consequences: If the threat of social exclusion leads to underperformance of the gifted, a lot of potential is lost and brain waste is the consequence.

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Footnotes

[1] Other- and self-perceptions of being stigmatized as a nerd correlate strongly (Rentzsch et al., 2010).

[2] The word "nerd" ("Streber" in German) was not mentioned in the text.

[3] In the experiment, participants were not explicitly asked to indicate whether the depicted target was a prototypical nerd in order to avoid directing attention to the label.

[4] Based on the hypotheses, we focused on interactions between person and situation variables. Results indicated that ratings did not differ with regard to the gender of the target person. Therefore, the variable gender was not included in the subsequent analyses.

[5] Effects cannot be explained by the potential confound of school grade average. The correlation between grade and being labeled a nerd was $r = .20$ ($p > .05$). Besides, controlling for grade revealed the same effects as presented before.
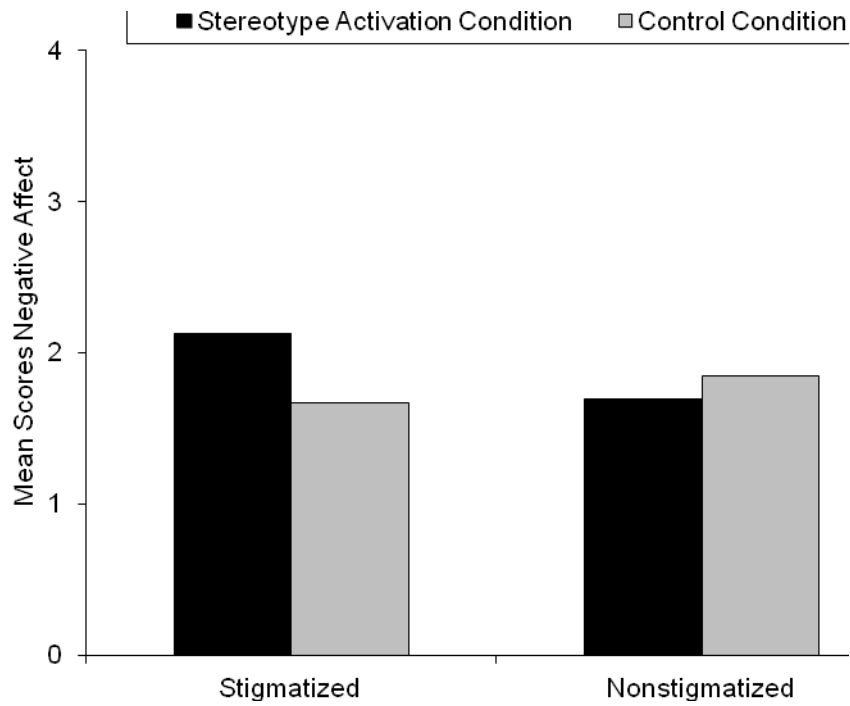
Figure 1. Mean scores on negative affect for stigmatized and nonstigmatized participants in the stereotype activation condition versus control condition, Study 1.

Figure 2. Mean scores on negative affect for stigmatized and nonstigmatized participants in the stereotype activation condition versus control condition, Study 2.
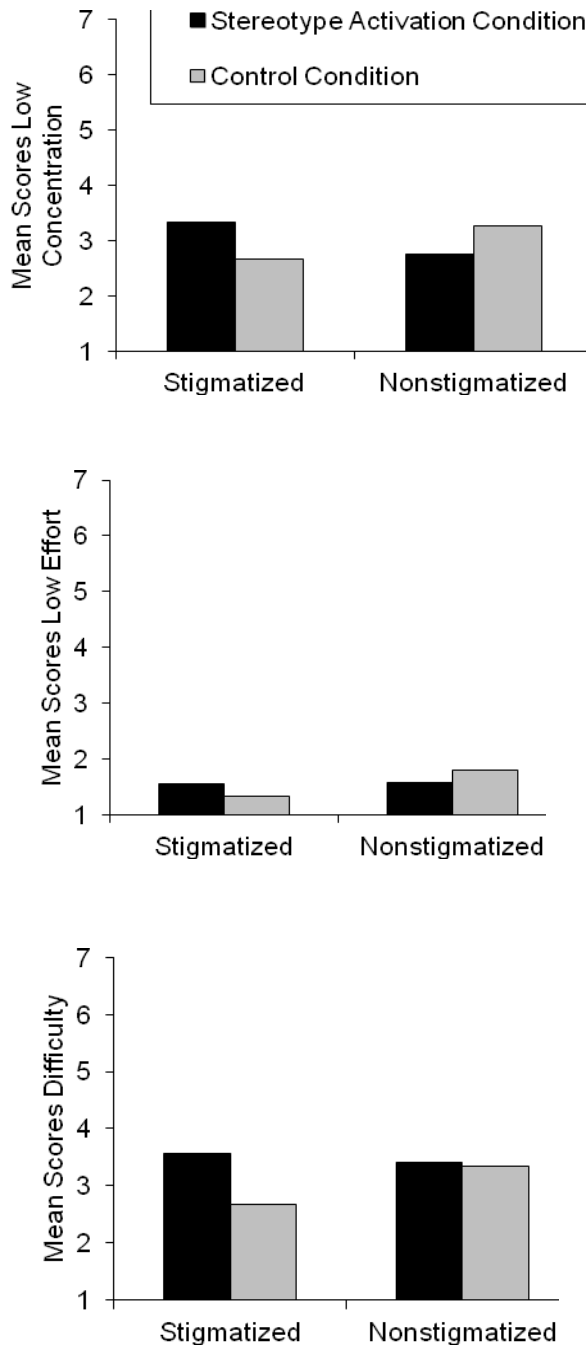
Figure 3. Mean scores on the items "It was difficult to concentrate on the test the second time" (upper graph), "I tried to do my best" (recoded), and "The test was more difficult the second time than the first time" (lower graph) for stigmatized and nonstigmatized participants in the stereotype activation condition versus control condition; high scores mean low concentration, low effort, and high difficulty, respectively, Study 2.

Figure 4. Mean scores on state academic self-esteem for stigmatized and nonstigmatized participants in the stereotype activation condition versus control condition, Study 2.
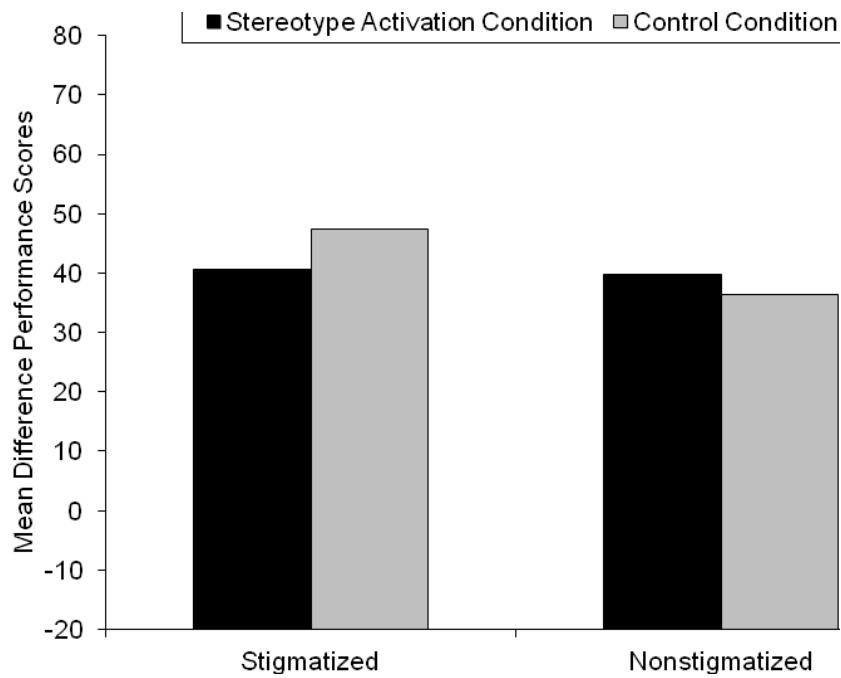
*Figure 5.* Mean difference values representing performance scores on the d2 pretest substracted from performance scores on the d2 posttest for stigmatized and nonstigmatized participants in the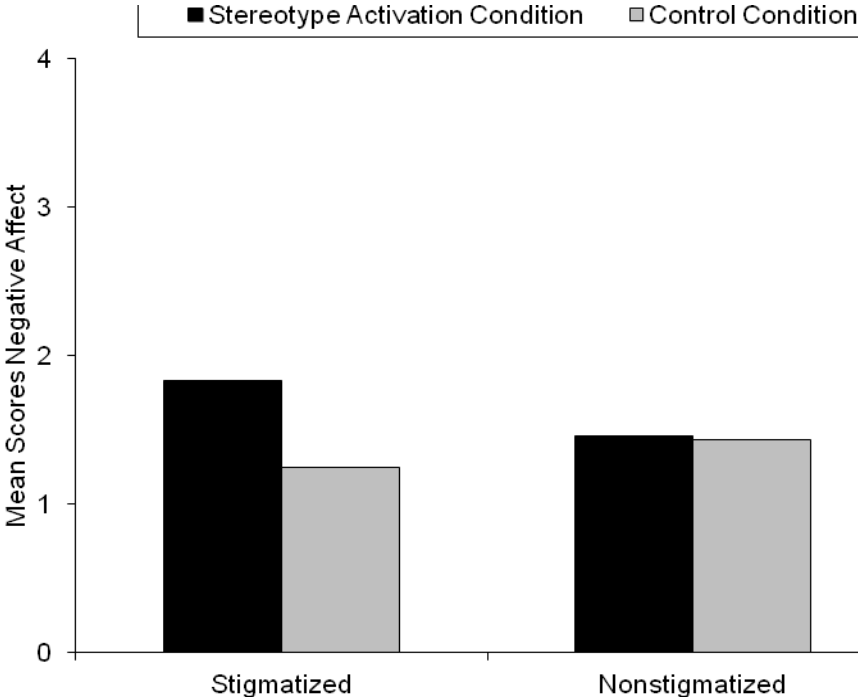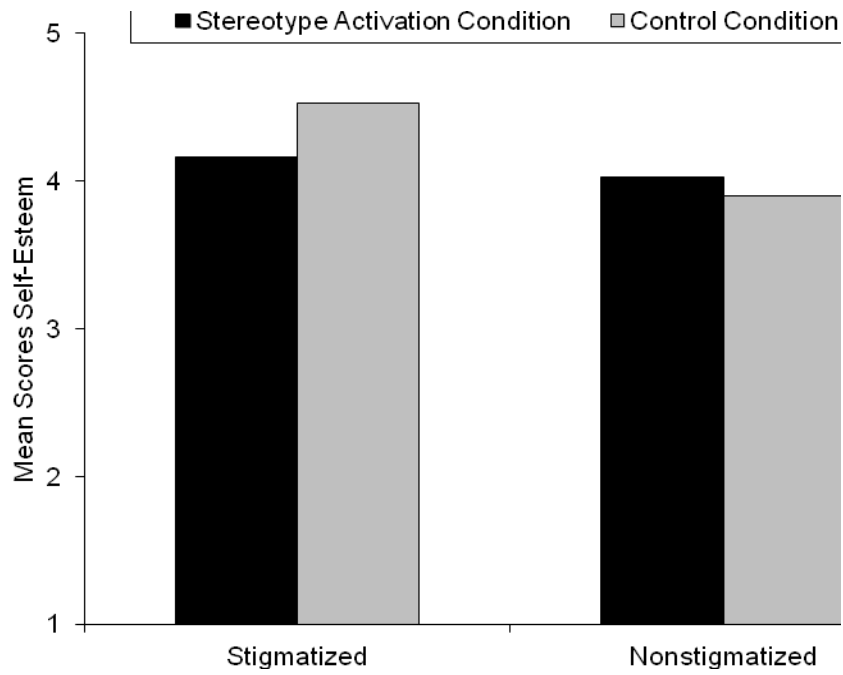 stereotype activation condition versus control condition, $M = 39.83$, $SD = 23.51$, $Min = -15.00$, $Max = 80.00$; high scores mean high performance increases, Study 2.

Appendix

Scenarios for a High-Achieving Female Target (Stereotype Activation Condition, A) and an

Average-Achieving Female Target (Control Condition, B)

A) Paula is a student who likes to go to school. In spite of challenging subject matters, she looks forward to attending lessons. She is very determined and always does her homework in a timely and accurate manner. Her parents and teachers are proud of her achievements at school. Soon, she will be listed for a knowledge competition. When a test is scheduled, she takes enough time to prepare properly. Last week, her class took a test in math. Within one week, the math test had been marked: Overall, the class' performance was moderate. Only one student received an A: Paula! Her face reveals relief and then she hears a whisper behind her back, quietly but clearly …

B) Paula is a student who likes to go to school. In spite of challenging subject matters, she looks forward to attending lessons. She tries to do her homework reasonably well. Her parents and teachers are content with her achievements at school. With regard to her achievements, she performs average in her class. When a test is scheduled, she tries to prepare reasonably well with little effort. Last week, her class took a test in math. Within one week, the math test had been marked: Overall, the class' performance was moderate. Paula received a C. She is content with that. When she looks around, everybody seems to be relieved.

Being labeled "Nerd". Factors that Influence Social Acceptance of High-Achieving Students

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Abstract

The present investigation addresses the question as to whether certain factors can protect high-achieving students at risk of being labeled a nerd against devaluation. In two studies, 125 and 317 students from grade eight evaluated vignettes describing average students and students who were called nerds. Results indicate that being modest about good grades, being engaged in sports, and being sociable led to higher liking. In students who were labeled nerds, but not in average students, display of effort led to less favorable evaluations. The effects of the above mentioned factors were moderated by gender of perceivers and targets. Findings are discussed with respect to sex-role stereotypes and the self-presentation of high-achieving students.

Keywords: adolescents, popularity, liking, high achievement, peers, sex differences, vignettes

Being labeled "Nerd". Factors that Influence Social Acceptance of High-Achieving Students

Every student knows what a "nerd" is. In particular, students who receive good grades at school are at risk of being labeled a nerd (Pelkner & Boehnke, 2003). This leads to a paradoxical situation in which adults call for achievement, but adolescent peers despise it and even punish high-achieving classmates with devaluation. As students are derogated for being high-achieving, one begins to wonder if there are factors that help high-achieving students to reach acceptance in class. Although "nerd" is a well-known label in schools, there has been only little research on students called nerds. In the following, we give a short overview of the concept nerd, review factors that influence ratings of students, and derive hypotheses on which factors are relevant to the social evaluation of students labeled nerds.

The Concept Nerd

In most schools, there seems to be a clear understanding of who is a nerd (B. B. Brown, Mory, & Kinney, 1994; Rentzsch & Schütz, 2010). According to Brown (1990), adolescents are assigned to a specific group by their peers because they have reputations and characteristics that fit with the stereotype of that crowd (see also B. B. Brown et al., 1994). The label nerd refers to one of the least liked crowds at school (B. B. Brown et al., 1994). It includes the following characteristics: being ambitious, intelligent, having good grades, studying a lot, displaying success publicly, being shy, having few friends, not wearing fashionable clothes, not being athletic, and not being physically attractive (Rentzsch & Schütz, 2010). The label nerd is feared by students who receive good grades (Pelkner & Boehnke, 2003; Pelkner, Günther, & Boehnke, 2002). Several labels are used for deprecating high-achieving students, for example nerd (e.g., B. B. Brown et al., 1994; Kinney, 1993), brain (e.g., Prinstein & La Greca, 2002), geek (e.g., Tyson, Darity, & Castellino, 2005), or teacher's pet (e.g., Tal & Babad, 1990). The current study primarily refers to brains and nerds because of their similarity to the German label "Streber".[1] From an etymological perspective, "Streber" is a disparaging term that describes an overambitious, diligent person. Literally it means a person who strives for success, achievement etc.

Being labeled a nerd is not a trifle. If being labeled as such in class goes along with a lack of acceptance and being rejected, serious consequences can occur. Research shows that lack of acceptance is related to social isolation (Moulton, Moulton, Housewright, & Bailey, 1998), loneliness (Juvonen, Nishina, & Graham, 2000), reduced self-esteem (de Bruyn & van den Boom, 2005), and other forms of maladjustment (Parker & Asher, 1987). Furthermore, a six-year longitudinal study by Prinstein and La Greca (2002) showed that students who were

called brains by their peers exhibited increases in anxiety and loneliness as well as decreases in self-esteem over the course of time.

A potential consequence of being labeled a nerd is that the respective student might reduce future performance. If high-achieving students have to make a choice between doing well in school and being popular, they may try to achieve liking by decreasing success. Landsheer, Maassen, Bisschop, and Adema (1998) comment: "If high achievement in the sciences results in unpopularity, it could lead to lesser effort by better students" (p. 188). Similarly, Pelkner et al. (2002) found that the fear of being called a nerd predicted lower achievement in mathematics. Several discussion forums on the internet, in which parents or students describe their concerns about being labeled a nerd, provide information about the social relevance of that topic (see http://www.bullying.org, http://www.schueler-gegen-mobbing.de), but up to now there are no systematic studies addressing the specific effects of various factors on the social evaluation of so called nerds. In the next section we discuss factors that may be relevant in social evaluation and then present two studies that tested the effects of these factors.

Factors that Influence Social Acceptance of High-Achieving Students

Our main goal was to test factors that influence the ratings on likeability and popularity of students called nerd. Adolescents in grade eight typically devalue achievement (Juvonen & Murdock, 1993, 1995; Pelkner et al., 2002; Quatman, Sokolik, & Smith, 2000). Though the image of nerds is primarily based on achievement, not all high-achieving students are labeled nerds (Pelkner & Boehnke, 2003; Rentzsch & Schütz, 2010). The question arises whether there are factors that promote positive evaluations in spite of good grades? In the current investigation we focused on factors that can be modified by the target persons, and we therefore did not include physical attractiveness or ability as factors. With regard to the way in which achievement is communicated, we considered effort and modesty as relevant factors. In adolescents, achieving without trying is more positively regarded than achieving due to striving (Juvonen & Murdock, 1993), and being modest about one's successes is preferred to bragging (Schlenker & Leary, 1982). Still, the presentation of achievement is only one aspect relevant to the evaluation of the student. The overall context is important, too. We therefore tested whether factors that are not directly related to achievement can influence the overall evaluation by providing additional information that is not consistent with the stereotype.

As outlined before, so-called nerds are regarded as non-athletic, shy, having few friends, etc. Furthermore, previous studies showed that students who are labeled as nerds were more introverted than other students and exhibited higher academic self-esteem and

lower self-esteem with regard to sports (Rentzsch, Schröder-Abé, & Schütz, 2010a, 2010b). Considering the importance of sports and social interactions in adolescence (e.g., Eccles, Wigfield, Flanagan, & Miller, 1989; Eder & Kinney, 1995), we assumed that sports and sociability would be especially relevant. In the following we give an overview of previous research on these factors and assumptions regarding the present investigation.

Effort

The current investigation refers to effort as the way in which students present their endeavors to study for school to their classmates. Effort seems critical to how achievement is interpreted. Juvonen and Murdock (1993) asked students to rate scenarios on hypothetical fellow students with regard to their popularity in class. They manipulated effort (high vs. low), ability (high vs. low), and outcome (success vs. failure). Considering successful students, results revealed an interaction effect of ability and effort: Eighth graders rated successful students as least popular if they had high ability and showed high effort and rated them as most popular if they had high ability and showed low effort. Apparently, effort is a critical factor when students evaluate successful peers. Additional research supports that conclusion: Eighth graders avoid attributions to high effort if they have to explain the reasons of their success to their classmates (Juvonen, 2000; Juvonen & Murdock, 1993, 1995). According to Juvonen and Murdock (1993), showing effort at school may indicate agreement with the attitudes of adults, who appreciate effort and good grades. This form of adherence to adult values usually leads to rejection and loss of popularity among peers (B. B. Brown, 1996). Besides, effort may be regarded as an indicator of competitiveness, especially in high-achieving students. Such competitive behavior would be in discordance with norms of equality among peers (Berndt, 1982; Callahan, Cunningham, & Plucker, 1994)[2]. As a result, we expected negative effects of effort in the evaluation of students.

Modesty

The way in which achievement is presented has an important impact on the perception of an individual. People who present themselves as competent may be considered braggarts (Pfeffer, Fong, Cialdini, & Portnoy, 2006) and be disliked (Miller, Cooke, Tsang, & Morgan, 1992; Paulhus, 1998). High-achieving students may be liked more if they are modest than if they brag about their success. In a classical experiment by Schlenker and Leary (1982), college students read descriptions of hypothetical fellow students and rated the target students with regard to favorability, competency, and likeability. The scenarios portrayed persons who described their abilities either in a self-enhancing, an accurate, or a self-deprecating way. Successful students who were modest and downplayed their achievement by claiming that

they had "done all right" were evaluated more positively than all other groups. Even an accurate presentation of students' successes led to rejection.

If students display pride about good grades in front of the class, their peers may feel less smart in comparison. In order to avoid envy, modest presentation of successes may be helpful (Hareli & Weiner, 2002). As Sedikides, Gregg, and Hart (2007) summarize, modesty has the potential to reduce the threat in perceivers' self-esteem when being confronted with a high-achieving target. Modesty may also help a person to be accepted by peers, as modesty is supposed to indicate a desire for harmony in social relations (see Sedikides et al., 2007). We therefore expected positive effects of modest presentation of successes. Even in students labeled nerds, modesty should reduce the negativity of evaluations.

Sports

Liking of students is not just influenced by achievement-related behavior. Leisure activities, such as participation in extracurricular activities, specifically in sports, also plays an important role (Eder & Kinney, 1995). A classical study by Tannenbaum (1962) investigated the evaluation of achievement in high school students. Eleventh graders rated descriptions of hypothetical students that varied with respect to academic brilliance, effort, and athletics. Academically brilliant students who were athletic received more positive ratings than those who were not. Hence, students who have been labeled nerds should be evaluated less negatively if they are engaged in sports than if they are not engaged in sports.

The prototypical nerd is described as a youngster who is involved in classroom activities only (Kinney, 1993). Engaging in alternative activities, such as sports, may buffer against the negative image of being labeled nerd (compensatory self-presentation; Leary, 1995; Schütz, 1997). Brown and Steinberg (1990) mention distraction as one possible strategy of high-achieving students to "skirt the brain-nerd connection" (p. 57). The authors assume that participating in extracurricular activities like sports could help distract attention away from high achievement to other areas. By engaging in activities other than studying, high-achieving students may distract attention from the academic sphere and present themselves as multi-facetted and likeable individuals. Alternatively, sports may serve as a disconfirmation of the nerd-stereotype. As sports engagement is in contrast with the stereotype about nerds, it may therefore weaken the connection with the stereotype. Still, the assumption that sport helps to distract from or disconfirm the nerd-stereotype waits to be tested empirically.

Sociability

Independent of their achievements, students who socialize are evaluated more positively than withdrawn students (Jensen-Campbell et al., 2002). Certain indicators of sociability have a positive affect on ratings of peers (e.g., de Bruyn & van den Boom, 2005). For example, students who behave humorously and sociably in class are popular and accepted by their peers (Fordham & Ogbu, 1986; LaFontana & Cillessen, 2002). In addition, targets of teasing are perceived positively if they respond to teasing in a humorous manner (Georgesen, Harris, Milich, & Young, 1999). Furthermore, displaying confidence rather than shyness renders students likeable (Adams & Roopnarine, 1994; Schlenker & Leary, 1982). We assume that previous findings on average students also apply to students labeled as nerds. Students who socialize should be evaluated more positively than others and even students labeled nerds should be evaluated less negatively if they socialize. In students at risk of being excluded, sociable behavior may - just like the factor sport - disconfirm the nerd-stereotype or distract from the negative evaluation of high achievements.

Sex Differences

A host of studies points to sex differences in achievement and social behavior that are relevant to the present investigation. For instance, competition is more relevant to boys' than to girls' self-esteem management (e.g., Leary, Robertson, Barnes, & Miller, 1986). The comparison of achievements in self and others is more important to the self-esteem of males than to the self-esteem of females (Blanton, 2001; Schütz, 2001; Schwalbe & Staples, 1991). The presence of high-achieving students may thus be more threatening to boys than to girls (Schwalbe & Staples, 1991). We therefore assumed that boys will react to high-achieving students in a more competitive manner than girls do and will therefore evaluate nerd-like behavior more negatively. Girls are more relationship-oriented and should therefore be more interested to maintaining a good relationship with peers (even with high-achieving ones) than in devaluing them (Leary et al., 1986; K. D. Rudolph & Conley, 2005).

The hypotheses just presented refer to the sex of perceivers. Informed by research on sex-role stereotypes, we also expected differences that are related to the sex of targets. Several investigations point out that attributes like 'competitive', 'independent', 'clever', etc. are particularly preferred in boys, whereas attributes like 'warm', 'sympathetic', etc. are particularly preferred in girls (Bem, 1974; Broverman, 1972; Nesbitt & Penn, 2000; Prentice & Carranza, 2002; Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968; Seem & Clark, 2006). According to sex-role stereotypes, perceivers are likely to attribute success of females to effort and the success of males to ability (Deaux, 1984; Hansen & O'Leary, 1983; Swim & Sanna, 1996). As role congruity theory predicts (Eagly & Karau, 2002), behavior that is the

opposite of sex-role stereotypes should be devalued by peers and behavior that is consistent to these stereotypes should be preferred (e.g., Feather, 1975; Feather & Simon, 1975). Therefore, we expected that targets who behave in a stereotype inconsistent way should receive more negative ratings than targets who conform to their relevant gender stereotype. For example, presenting efforts in class should be more strongly devalued in boys than in girls, as achieving good grades through effort and not through ability is inconsistent with male sex-role stereotypes.

The present investigation

The current investigation focused on students in grade eight, as exclusion based on outstanding achievement is especially likely at this age (Juvonen & Murdock, 1995; Kiesner & Pastore, 2005; Pelkner & Boehnke, 2003). This investigation differed from previous research in the following aspects: 1) We systematically studied the evaluation of average students and of students who have already been stigmatized as nerds and tested whether certain factors increase or decrease negative evaluations. 2) Besides studying the effects of effort and athletics in high-achieving students (e.g., Juvonen & Murdock, 1993, 1995; Tannenbaum, 1962), we added two additional factors: modesty and sociability. 3) In the studies by Juvonen and Murdock (1993, 1995), the hypothetical students were of the same sex as the participants. We included ratings of same-sex and opposite-sex students. We derived the following hypotheses:

1) Employing effort at school leads to reduced ratings of liking.

2) Presenting achievements modestly leads to more positive evaluations.

3) Engagement in sports leads to more positive evaluations.

4) Sociable behavior leads to more positive evaluations.

5) There should be no main effects of sex of perceiver or sex of target, but interaction effects between sex and achievement factors should occur. It is expected that boys as perceivers will more strongly devalue achievement-related behaviors, such as showing effort or exhibiting pride about successes publicly, than girls will. We also assumed that behavior that is inconsistent to the gender-stereotype will be evaluated less positively than stereotype-consistent behaviors, e.g., boys but not girls putting high effort into school-work should be devalued.

In Study 1, eighth grade students read scenarios about hypothetical students and rated them with respect to liking. In Study 2, students read and rated scenarios on high-achieving students who had been called nerds. Study 1 was supposed to serve as a basis for comparison for the findings from Study 2. The question was how ratings are affected by the factors effort,

modesty, sports, and sociability, and how they interacted with sex of perceivers and targets. Additionally, we tested in an exploratory fashion if there were two-way interactions of the factors that indicated compensatory effects, and if there were effects of school-type and achievements of the participants. We reason that if factors such as sports and sociability increase liking even in high achieving students, these factors can be used to buffer against negative evaluations

Study 1

This study focused on grade eight students' evaluations of peers. We manipulated the following target characteristics: studying more or less hard for school, being modest or boastful, engaging in sports or not, and behaving in a sociable way or not.

Method

Participants. Participants were 125 students (65 females, 60 males) from grade eight. Fifty-two were from "Gymnasium" and 73 from "Mittelschule"[3]. The average age of the students was 13.5 years (SD = 0.6, Min = 13, Max = 16 years). The study was run in a city with a population of approximately 250,000 inhabitants in the southeast of Germany.

Design. Following previous designs for assessing ratings of peer behavior (e.g., Juvonen & Murdock, 1993, 1995; Tannenbaum, 1962), we created vignettes about hypothetical students. Vignettes described an average student (the target). Each participant (the perceiver) received eight vignettes describing different targets (see Table 1). To reduce the burden upon participants, we varied sex of target as between subject factor. We randomly assigned vignettes with male or female targets to participants. The other factors were varied within subjects. Four vignettes were about achievement factors (achievement vignettes) and four about non-achievement factors (non-achievement vignettes). The achievement vignettes were systematically varied with respect to effort and modesty of the target, the non-achievement vignettes with respect to sports and sociability. Sports was crossed with sociability, and effort was crossed with modesty.[4] The achievement vignettes varied with respect to effort and modesty as follows[5]:

A. *obviously studies/doesn't study a lot for school and always/rarely does her/his homework* (high vs. low effort). *When the teacher returns a very good test to her/him she/he does not display pride/ shows pride in front of the whole class* (high vs. low modesty).

The non-achievement vignettes varied with respect to sports and sociability as follows:

Outside of school S. is engaged in a sports club/is not engaged in sports (sports yes vs. no). *In class, she/he is lively, talks a lot with classmates and jokes frequently/behaves quietly and cautiously* (sociability high vs. low).

Liking of the target persons was assessed by ratings on two seven-point scales ranging from 1 = "I don't like him/her at all" to 7 = "I like him/her very much" and from 1 = "is not popular" to 7 = "is very popular", respectively. Both ratings were significantly correlated (ranging from $r = .54$ to $r = .71$ for each vignette). Therefore, we aggregated those ratings into a liking-score of the target person. We did not use names with the target students because it was not possible to find eight female and eight male names that were similar enough with regard to perceived intelligence and attractiveness (U. Rudolph, Böhm, & Lummer, 2007; U. Rudolph & Spörrle, 1999). Furthermore, with 16 names we would have run the risk that participants would have encountered their own names or names of their friends in the vignettes. Thus, we chose different initials for targets to ensure that the perceivers differentiated between them. First, four vignettes were presented in an alternating order of achievement and non-achievement vignettes. Then two filler-items and four more vignettes were presented (see Table 1 for the order of the vignettes presented).

Summing up, we used a mixed design: The within subject variables were effort (high vs. low) and modesty (high vs. low) with the vignettes on presentation of achievement. With the non-achievement vignettes the within variables were sports (yes vs. no) and sociability (high vs. low). The between subject variables were sex of perceiver (male vs. female) and sex of target (male vs. female).

Procedure. We administered the questionnaire in four schools after having received permission from the school authorities. Letters to the parents included information on purpose and procedure of the study as well as guarantees of anonymity. Only students who had parental consent participated. The 45-minute sessions took place during regular school days. Teachers were usually absent: However in some cases, they were discretely marking papers in the back of the classroom. The principal investigator informed the students that their responses were anonymous and that numeric codes were used. The first page included information on the duration of the session and the researchers' contact information.

Results and Discussion

We performed separate analyses with the achievement vignettes and the non-achievement vignettes using an alpha-level of .05 per analysis. With the achievement vignettes we conducted a 2 (effort: within subject factor) x 2 (modesty: within) x 2 (sex of target: between) x 2 (sex of perceiver: between) mixed-design analysis of variance (ANOVA) for repeated measures. With the non-achievement vignettes we used the same procedure with the following design: 2 (sports: within) x 2 (sociability: within) x 2 (sex of target: between) x

2 (sex of perceiver: between). In accordance with our hypotheses only main effects and two-way interactions are presented.

Analyses of the achievement vignettes. Contrary to expectations, effort did not produce a main effect, $F(1, 121) = 0.87$, $p = .35$, $\eta^2 = .01$ (see Table 2 for means and standard deviations for each condition). As expected, we found a significant two-way interaction of target sex and effort, $F(1, 121) = 4.74$, $p = .03$, $\eta^2 = .04$. As can be seen from Figure 1 (upper graph), the effect of effort was moderated by sex. Male targets showing high effort were evaluated more negatively than male targets showing low effort. For girls it was reverse, i.e., they received better ratings when showing high effort than when showing low effort. The evaluations of male targets were more extreme than the evaluations of female ones. The interaction between perceiver sex and effort just missed conventional levels of significance, $F(1, 121) = 3.65$, $p = .058$, $\eta^2 = .03$, but the same pattern applied with respect to sex of perceiver. Male perceivers evaluated targets displaying low effort more positively than targets displaying high effort (see lower graph in Figure 1). In contrast, female perceivers showed a slight preference for high effort in targets. The main effects for sex of target or sex of perceiver were not significant ($\eta^2 < .001$).

As expected, the analysis revealed a large main effect of modest behavior, $F(1, 121) = 78.19$, $p < .001$, $\eta^2 = .39$. Targets who present their successes modestly received more positive ratings than those who display pride about good grades. Interestingly, when testing for an interaction effect between effort and modesty in an exploratory fashion, we found a significant two-way interaction, $F(1, 121) = 15.82$, $p < .001$, $\eta^2 = .12$. The effect of modesty was more pronounced in targets displaying high effort than in targets displaying low effort.

Analyses of the non-achievement vignettes. Table 3 shows means and standard deviations for each condition. Sports produced a significant main effect, $F(1, 121) = 60.38$, $p < .001$, $\eta^2 = .33$: Targets described as being engaged in sports received more positive ratings than targets not engaged in sports. The main effect for sociability had the largest effect size, $F(1, 121) = 170,47$, $p < .001$, $\eta^2 = .59$. Sociable targets were more liked and more popular than targets who were less sociable. There were no significant main effects for sex of perceiver or target ($\eta^2 < .005$)[6]. Exploratory testing for multiplicative or compensatory effects of the factors revealed a significant two-way interaction between sports and sociability, $F(1, 121) = 16.53$, $p < .001$, $\eta^2 = .12$, indicating that the effect for sociability was particularly strong when targets were not engaged in sports. Targets who behave in a sociable way and participate in sports received the most positive evaluations.

Ancillary analyses. Testing for other influences using school type (Mittelschule vs. Gymnasium) or achievement of the participants (high vs. low graders) as further between subjects variables in the analyses did not reveal any significant main effects ($.001 < \eta^2 < .016$). Ratings were not influenced by whether participants themselves had good grades or whether they were from Mittelschule or Gymnasium.

Summary of results. In sum, the results support most of our hypotheses. Average students who are modest about their achievements, and who are sporty or sociable received the highest evaluations. Contrary to expectations, effort did not produce a main effect. Sex of perceivers or sex of targets did not produce any main effects, but some interaction effects.

Study 2

After having studied the factors that influence liking of average students, Study 2 focused on high-achieving students who had been called nerds previously. Building on the results of Study 1, we wanted to find out whether the findings from average students generalize to students labeled nerds or whether the impact of the factors is different in those students at risk of exclusion. Unless noted differently, the method and analyses of Study 2 paralleled Study 1.

Method

Participants. Three hundred seventeen students (174 females, 143 males) from grade eight participated. 226 were from "Gymnasium", 91 were from "Mittelschule".[7] Age of participants was about 14 years on average (SD = 0.49) and ranged from 13 to 17 years. Six students who did not provide complete questionnaires had to be excluded from the analyses.

Design. Vignettes in Study 2 were the same as in Study 1, except for the fact that the target person was a high-achieving student who had been called nerd: "*A. has always had good grades at school and has been called a nerd. It is obvious that she/he studies/doesn't study a lot for school and always/rarely does her/his homework* (high vs. low effort). *When the teacher returns a very good test to her/him she/he does not display pride/ shows pride in front of the whole class* (high vs. low modesty)." and "*S. has always had good grades at school and has been called a nerd. Outside of school she/he is engaged in a sports club/is not engaged in sports* (sports yes vs. no). *In class, she/he is lively, talks a lot with classmates and jokes frequently/behaves quietly and cautiously* (sociability high vs. low)."

Procedure. The procedure was the same as in Study 1.

Results and Discussion

Analyses of the achievement vignettes. Consistent with our hypothesis, the analysis revealed a significant main effect for effort. High-achieving targets who put a lot of effort

into school were rated less positively than those who did not, $F(1, 307) = 94.92$, $p < .001$, $\eta^2 = .24$. In contrast to average students (see Study 1), the effect size in the rating of students labeled nerds was quite large. As in Study 1, there were significant two-way interactions including sex of target or sex of perceiver, respectively. As predicted, we found significant interactions between sex of target and effort, $F(1, 307) = 11.40$, $p = .001$, $\eta^2 = .04$, and between sex of perceiver and effort, $F(1, 307) = 4.30$, $p = .04$, $\eta^2 = .01$. Figure 2 indicates that the ratings of male targets were more extreme than the ratings of female targets. Furthermore, boys as perceivers differentiated more strongly than girls between high-achieving students exhibiting high or low effort at school. High-achieving target students who were described as putting a lot of effort into school work received the most negative ratings from male subjects. Modesty also produced a main effect: Displaying pride over one's success after a good grade led to less positive ratings than modest behavior, $F(1, 307) = 268.63$, $p < .001$, $\eta^2 = .47$ (see Table 4 for means and standard deviations for each condition). Furthermore, the main effect of modesty was qualified by a significant interaction between sex of target and modesty (see Figure 3, upper graph), $F(1, 307) = 5.04$, $p = .03$, $\eta^2 = .02$. Again, ratings of female targets were influenced less by modesty than the ratings of male targets. The interaction of sex of perceiver and modesty was significant, too, $F(1, 307) = 6.74$, $p = .01$, $\eta^2 = .02$. The lower graph in Figure 3 indicates that boys evaluated high-achieving targets who were modest about their success more positively than girls did. We found no significant main effects for sex of perceiver, $F(1, 307) = .76$, $p = .39$, or for sex of target, $F(1, 307) = .24$, $p = .62$ (see Table 4 for means and standard deviations). To summarize, male perceivers apparently based their ratings more strongly on effort and modesty than females did. Also the evaluation of male students labeled nerds depended more on these factors than the evaluation of high achieving female students.

Analyses of the non-achievement vignettes. The following analysis addresses the question as to whether engaging in sports and social interaction (i.e., behavior that is not stereotype related) helps to improve the liking of students labeled nerds. Table 5 presents the means and standard deviations of each condition. The analysis revealed a main effect of sports in which high-achieving targets who engaged in sports were rated more positively than targets who did not, $F(1, 307) = 214.59$, $p < .001$, $\eta^2 = .41$. Similarly, there was a large effect of sociability in that sociable targets were rated more positively than targets who were described as less sociable, $F(1, 307) = 717.67$, $p < .001$, $\eta^2 = .70$. As in Study 1, analyses revealed a significant sports x sociability interaction, $F(1, 307) = 65,79$, $p < .001$, $\eta^2 = .18$. The effect of sociability was more pronounced in targets who did not engage in sports, and the

positive effect of sports was more pronounced in targets who were described as being not sociable.

Ancillary analyses. School type and achievement of the participants did not produce significant main effects ($.001 < \eta^2 < .007$).

Summary of results. In sum, all of our hypotheses were supported. Even high-achieving students who had been labeled nerds received relatively positive ratings when they presented themselves as modest, sporty, or sociable in class. Interestingly, in accordance with the results from Study 1, we found an interaction effect with sports and sociability, again. It seems that sociability buffers against the negative evaluations of students if they are not engaged in sports. In contrast to the findings from Study 1, high-achieving students who put a lot of effort into school were generally less liked. In accordance with Study 1, there were interaction effects with sex of perceivers or targets.

General Discussion

This investigation aimed at identifying factors that are crucial in the social evaluation of average students and high-achieving students labeled nerds. Using a vignette approach, factors related to the presentation of achievement (effort and modesty) and factors not related to achievement (sports and sociability) were varied. Both of the hypothetical student-types - average students and those labeled nerds – received relatively negative ratings when they displayed pride about good grades, were not engaged in sports, and did not socialize.

Displaying effort was related to a lower rating of liking for students labeled nerds but not for average students. This result dovetails with the finding of Juvonen and Murdock (1993), who found that negative ratings of high effort only apply to *successful* students (like high-achieving students called nerds). Additionally, former research has shown that students are reluctant to attribute their *successes* to effort in front of their peers (Juvonen, 2000; Juvonen & Murdock, 1993, 1995). We presume that the effects of effort are stronger in students labeled nerds than in average students due to the emphasis on high-achievement in students labeled nerds. Vignettes on average students did not provide information about academic achievement of the target person. Our result suggests that effort alone is not critical, but it is when it comes to high-achieving students at risk of being excluded as nerds. Considering the results of the current investigation and results from previous studies (e.g., Juvonen & Murdock, 1993, 1995), why is it that the presentation of effort combined with achievement leads to rejection in class? We assume that an underlying process is the violation of norms. Adolescent peer groups usually expect their members to conform to their group norms (Callahan et al., 1994) but not to adult norms. Brown (1996) showed that nerds are

stereotyped as strongly compliant with adult values. When high-achieving students show high effort, they do not conform to the peer group, because their behavior matches adult expectations which in turn contradicts peer expectations. To directly investigate this assumption, future studies should vary the level of norm violation by high-achieving students and test whether stronger norm violation leads to less liking or not. Furthermore, we suppose that students may ascribe competitive intentions to the efforts of so-called nerds. Active striving violates the idea of equality among peers (Berndt, 1982), which might be one of the reasons why openly showing high effort is devalued. Future research should investigate that possibility by varying the ratings of high-achieving students for perceived competitiveness. Still, another explanation why effort was devalued only in so-called nerds, but not in average students might be that effort corresponds to the stereotype of nerds and, therefore, serves as confirming the stereotype.[8] This might have caused the negative ratings in so-called nerds, as effort is not a stereotype-confirming factor in average students. But to directly compare the effects in average (or low-) and high-achieving students, future research should vary the level of achievement as another between-subject factor. Another interesting approach would be to use achievement of the target students as another within-subject variable in order to analyze interaction effects between achievement-related factors like effort or modesty and the achievement-level of the targets. But with this approach, the potential costs of an exaggerated burden on participants should be considered.

Additionally, ratings of effort in *average* students depended on the sex of the *targets* - only with boys did effort result in negative ratings. With girls the reverse was true: High effort was evaluated positively in female targets (and by female perceivers). Possibly, gender-role expectations are relevant when achievement related behavior is evaluated. Traditional sex roles describe girls as diligent, warm, etc. while describing boys as clever, independent, or competitive, etc. (Bem, 1974; Broverman, 1972; Leary et al., 1986; Nesbitt & Penn, 2000; Prentice & Carranza, 2002; Rosenkrantz et al., 1968; Seem & Clark, 2006). Boys who display effort behave in a stereotype inconsistent way. Thus, they are perceived more negatively than boys who do not display effort. Girls who display effort, on the other hand, do not violate the stereotype and are not evaluated negatively. With vignettes from Study 2 on the other hand, stereotypes about nerds might prevail, like being overambitious, having good grades etc. In contrast to the findings from Study 1, our results in Study 2 show that high-achieving girls who displayed high effort in class received more negative ratings than high-achieving girls who displayed low effort. There might be a halo-effect (Thorndike, 1920) in which traits associated with the stereotype about nerds (such as striving or putting in

effort) are particularly salient when rating high-achieving students and thus only have effects in this group. Therefore, displaying a lot of effort might, again, serve as confirming the stereotype about nerds and thus lead to negative evaluations of high-achieving girls, too.

Considering *perceivers*, effort and modesty had bigger effects on the ratings of students with boys as perceivers as compared to girls. Girls were apparently less affected by these factors. The results dovetail with known gender patterns showing that boys are more likely than girls to use social comparisons in order to enhance or maintain their self-esteem (Schwalbe & Staples, 1991). Being confronted with a high-achieving student may be more of a threat to boys than to girls. Consequently boys may be more likely to react by derogating the target to reduce the threat. Aside from those interaction effects, there were no main effects of participants' or targets' sex in our study.

Our results indicate that showing pride after receiving a good grade reduces liking. For high-achieving students who are at risk of being excluded as nerds, it may be advisable to present achievements modestly if they do not want to jeopardize their acceptance in class. This finding is in accordance with the observation by Schlenker and Leary (1982) in which individuals receive more favorable evaluations when they present their achievements modestly than when they self-enhance. Displaying pride over achievements could foster the impression that the student is a braggart (Miller et al., 1992; Pfeffer et al., 2006). Furthermore, others may feel they look bad in comparison with the high-achieving student and become envious. To protect themselves from this self-threat they may devalue the high-achieving target (Hareli & Weiner, 2002; Sedikides et al., 2007). These assumed underlying processes (like social comparison processes and consequent efforts of self-esteem protection) were not directly tested in the present study and should also be addressed in future research.

With respect to factors that are not related to achievement, previous research has emphasized the effects of sports on popularity (e.g., Eder & Kinney, 1995). In accordance with those results, our study indicates that engaging in sports activities increases popularity and liking among classmates. Even in students who have already been called nerds, sport activity can enhance their standing in class. Sports engagement is in contrast with the self-image and stereotype about nerds who are considered as being not good at sports (Kinney, 1993; Rentzsch & Schütz, 2010) and may therefore weaken the connection with the stereotype. Furthermore, our results indicate that quiet behavior leads to reduced liking while sociability is evaluated positively. Revealing the largest effect size in all of our findings, this result fits previous research indicating that students behaving sociably and confidently in the

classroom are generally more liked than students who withdraw (e.g., Jensen-Campbell et al., 2002; LaFontana & Cillessen, 2002).

When comparing the effects of the factors across both types of vignettes, it can be seen that the effects of the non-achievement factors (sports and sociability) were larger than the effects of factors directly related to the presentation of achievement (effort and modesty). Our data support the assumption that behaviors that are opposed to the stereotype about nerds may compensate for the negative impressions stemming from the stereotype - possibly by a disconfirmation process in which sports engagement and sociable behavior may disconfirm the link between a particular person and the stereotype. Another process at work may be that behavior which is not related to achievement helps to shift attention away from achievement and thus to reduce activation of the nerd concept. Therefore, sport activities and sociable behavior may serve a compensatory function in that it distracts attention away from negative evaluations of high achievement and leads to a more positive overall image (Leary, 1995).

Although we did not specify any hypotheses about compensatory effects between achievement and non-achievement factors we found interesting interaction effects. In the study on average students, the positive effect of modesty was stronger in students who obviously put a lot of effort into school work. In both studies, the effects of sociability were stronger with students who are not engaged in sports. If sports engagement as a protection factor is not present, sociability seems to have a much stronger influence on ratings than if the target person is engaged in sports. Sociability apparently has the potential to compensate for less positive evaluations of students who are not interested in sports. These findings have potential relevance to prevention programs.

The present studies are limited in several ways. First, not all possible conditions were realized. Each study consisted of eight vignettes per participant. Other combinations of the factors would have led to a disproportionately high demand from the participants. For example, the combination of the variable sex of target and all (four) within subject variables would have produced 32 conditions for the vignettes, so sex of target was varied as a between subject factor and vignettes were split into achievement vignettes and non-achievement vignettes consisting of two factors each. Furthermore, the overall design was not completely counterbalanced, but the order of the vignettes presented in each questionnaire was held constant. Second, the investigation used a scenario approach with hypothetical situations. We examined factors that influence what students think about behaviors of nerds. As attitudes do not necessarily translate into action, further research with evaluations of real students as targets or even behavioral data is needed to complement our findings. Still, the

effect sizes were quite large and it may be worthwhile to use that basis for further studies. Obviously, it should be taken into account that social evaluations in everyday contexts are more complex than in vignettes. For example, physical attractiveness is a much stronger predictor of the rating of others than various behavioral patterns (Kennedy, 1990; Langlois et al., 2000).

All together the results provide support for the assumption that there are certain behavioral factors that help high-achieving students to be accepted by their peers even when they have already been called nerds. In the long run, it may be possible to derive recommendations for the self-presentation of high-achieving students. Displaying less effort in class, presenting school-achievements modestly, socializing, and engaging in sports might help to overcome the negative impressions that others may have of high-achieving students who are at risk of being labeled as nerds. By presenting themselves in a way that is not related to the stereotypes (Leary, 1995), students labeled as nerds might compensate for the negative impressions related to the nerd stereotype, which might in turn lead to better integration in class. Future studies could examine the effectiveness of and students' opinion on such strategies.

Of course, intervention should not be restricted to altering behavioral patterns of stigmatized individuals. Beside self-presentational efforts, other stereotype-reduction strategies should also be considered. For example, encounters with students who represent the nerd stereotype in after-school settings and engaging in fun activities together can lead to better mutual understanding and reduced stereotypical evaluations (e.g., Hannover & Kessels, 2002). Research suggests that encounters between members of stigmatized and non-stigmatized groups help to get to know the stigmatized person better and therefore lead to a change in attitudes toward that person (R. Brown & Hewstone, 2005; Hewstone & Brown, 1986; Pettigrew & Tropp, 2006).

The considerations above focus on the individual and should be complemented by a broader focus, taking into account the social and societal context of behavior. Negative evaluations of achievements among adolescents are a serious problem. Apparently, general trends in education and society like stressing competition and social comparison nourish stereotypes about achievement. As long as this climate exists, high-achieving individuals risk being labeled negatively. To change that situation, we will need further information on those who are labeled, those who label others, and relevant context factors such as classroom climate. Research on personality differences and studies that analyze behavioral differences in real life contexts are clearly warranted.

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Footnotes

[1] The German label is neither readily transferable to other derogatory terms used in school nor to the type of so-called nerds who are known for their enthusiasm about computers.

[2] Having higher abilities than others also violates the norm of equality, but as effort is controllable and potential is not, the actor can only be blamed for the first.

[3] The Free State of Saxony in Germany has a two-track school system in secondary school. The selection for secondary school depends on grades earned in elementary school. Students who receive the highest marks in grade four proceed to "Gymnasium" the other students attend "Mittelschule". The term "Mittelschule" is used in the Free State of Saxony for a type of school comprising subtypes of schools ("Hauptschule" and "Realschule") and lasting from grades five to ten.

[4] Otherwise, the crossing of all four factors would have resulted in a much higher number of vignettes and would have led to an exaggerated burden on participants.

[5] The original vignettes in German language can be obtained from the first author.

[6] There was a significant two-way interaction between perceiver sex and sports, $F(1, 120) = 9.61$, $p = .002$, $\eta^2 = .07$, which had not been predicted. The ratings of male participants depended more strongly than the ratings of female participants on whether targets were engaged in sports or not.

[7] The sample resembled that of the first study in the article by Rentzsch et al. (2010a).

[8] We thank an anonymous reviewer for suggesting this interpretation.

Table 1

Overview of the vignettes

number	description
1	high effort, low modesty
2	sports, low sociability
3	low effort, high modesty
4	no sports, high sociability
5	high effort, high modesty
6	sports, high sociability
7	low effort, low modesty
8	no sports, low sociability

Table 2

Means and Standard Deviations of Ratings of the Achievement Vignettes – Study 1

		Male Perceiver				Female Perceiver			
		Male Target		Female Target		Male Target		Female Target	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
High Effort	Low Modesty	3.32	1.01	3.70	1.24	3.50	0.97	3.77	1.05
	High Modesty	4.55	1.31	4.80	1.22	4.75	1.10	4.99	1.20
Low Effort	Low Modesty	4.23	1.14	3.80	1.36	3.87	1.22	4.00	1.45
	High Modesty	4.91	0.99	4.63	1.20	4.42	0.97	4.31	1.18

Table 3

Means and Standard Deviations of Ratings of the Non-Achievement Vignettes – Study 1

		Male Perceiver				Female Perceiver			
		Male Target		Female Target		Male Target		Female Target	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Sports	High Sociability	6.04	0.80	5.78	1.33	5.22	1.01	5.83	1.24
	Low Sociability	4.63	0.97	4.06	1.17	4.10	0.94	4.44	1.33
No Sports	High Sociability	5.39	1.68	5.08	1.45	5.03	1.27	5.63	1.20
	Low Sociability	2.95	1.25	3.36	1.43	3.60	1.21	3.67	1.23

Table 4

Means and Standard Deviations of Ratings of the Achievement Vignettes – Study 2

| | | Male Perceiver | | | | Female Perceiver | | | |
| | | Male Target | | Female Target | | Male Target | | Female Target | |
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
High Effort	Low Modesty	2.89	1.07	3.28	1.03	3.30	1.00	3.57	1.13
	High Modesty	4.33	1.19	4.49	1.26	4.52	1.19	4.46	1.21
Low Effort	Low Modesty	4.09	1.44	3.75	1.15	4.01	1.35	4.13	1.30
	High Modesty	5.36	1.19	5.04	1.16	5.19	1.09	4.63	1.27

Table 5

Means and Standard Deviations of Ratings of the Non-Achievement Vignettes – Study 2

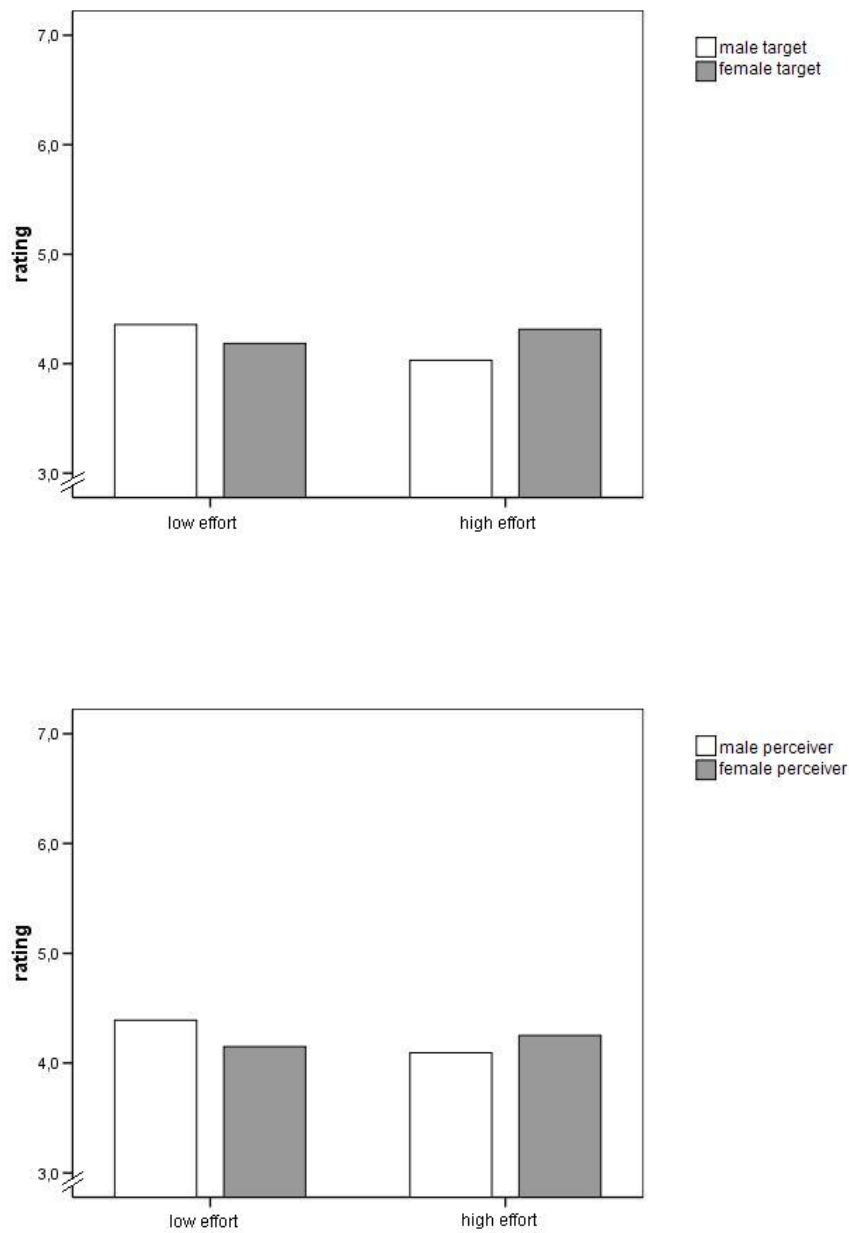| | | Male Perceiver | | | | Female Perceiver | | | |
| | | Male Target | | Female Target | | Male Target | | Female Target | |
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Sports	High Sociability	5.94	0.95	5.91	0.87	6.06	0.94	6.01	0.95
	Low Sociability	4.56	1.12	4.46	1.07	4.60	0.95	4.52	1.06
No Sports	High Sociability	5.58	1.01	5.42	1.19	5.69	1.07	5.56	1.03
	Low Sociability	3.57	1.41	3.29	1.30	3.48	1.18	3.47	1.21

Figure 1. Mean ratings of achievement vignettes as a function of sex of target and effort (high vs. low), and sex of perceiver and effort (high vs. low) – Study 1.
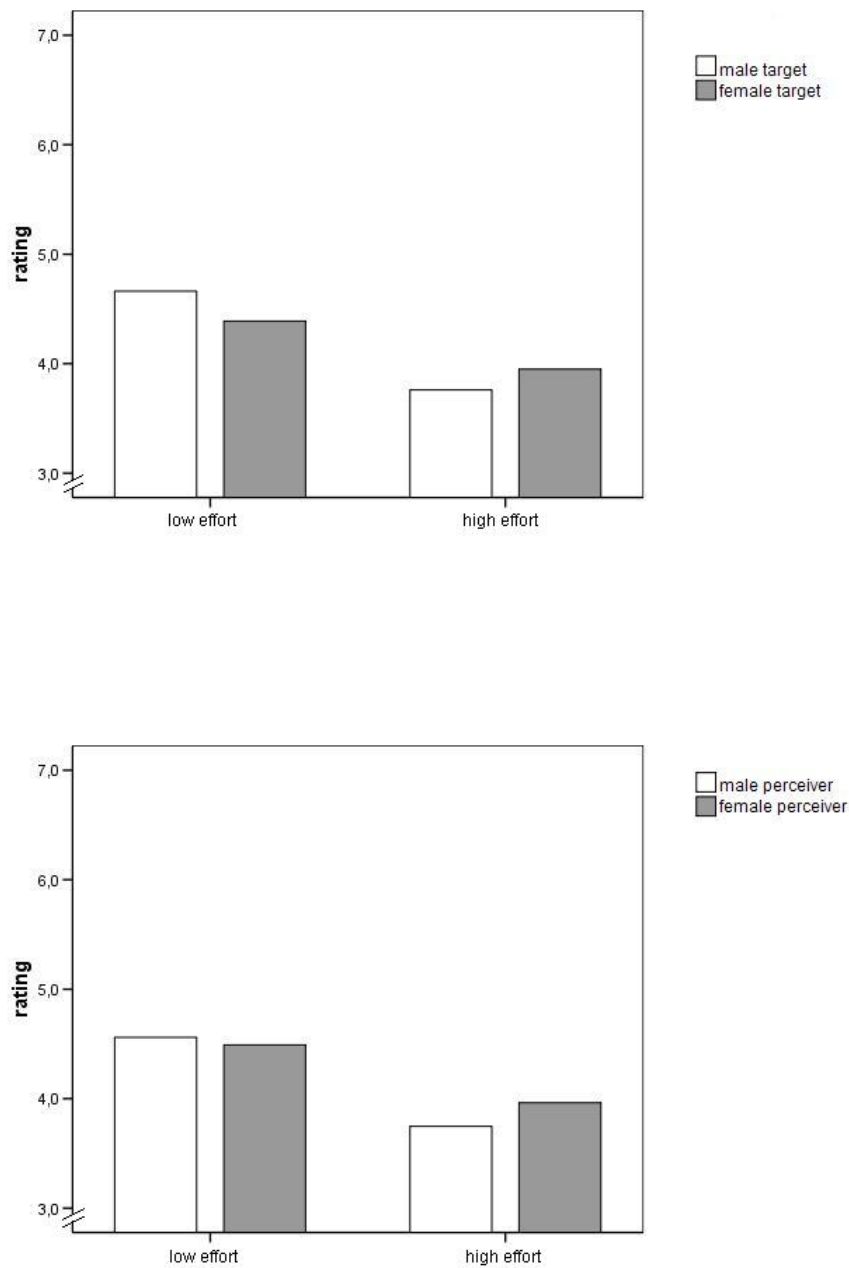
Figure 2. Mean ratings of achievement vignettes as a function of sex of target and effort

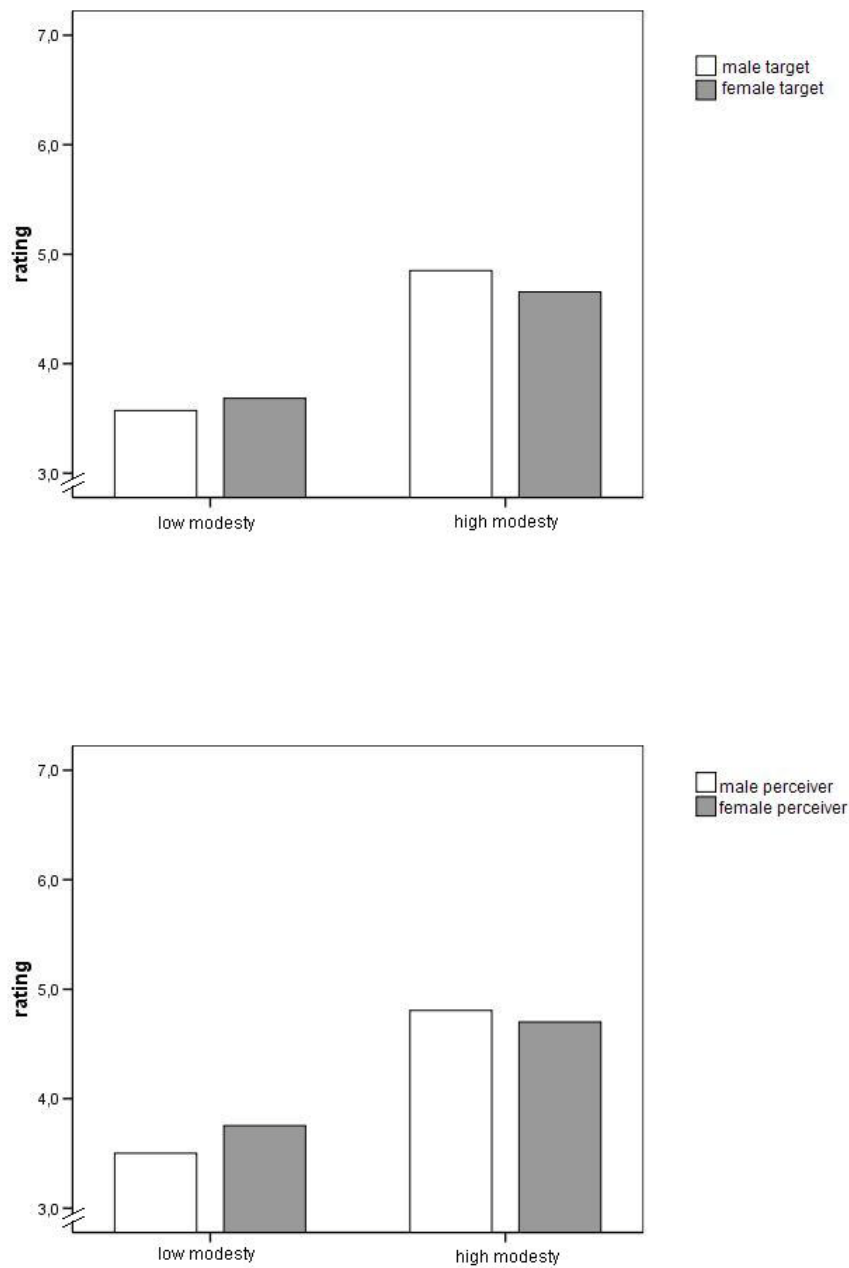(high vs. low), and sex of perceiver and effort (high vs. low) – Study 2.

Figure 3. Mean ratings of achievement vignettes as a function of sex of target and modesty

(high vs. low), and sex of perceiver and modesty (high vs. low) – Study 2.

Lebenslauf

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Geburtsdatum	18.01.1984
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Schulausbildung   1994 bis 2002
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Sprachkenntnisse   Latein (2000 Latinum)
Englisch (2003 UNICERT, 2005 bis 2006
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Interessen   Volleyball (SSV-Chemnitz), Tango Argentino

Studium

seit 10/2007	Promotionsstudium Psychologie, Technische Universität Chemnitz
09/2007	Abschluss als Diplom-Psychologin, TU Chemnitz (1,0)
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Lehre

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Stipendien

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05/2005 bis 09/2007	Stipendium der Studienstiftung des deutschen Volkes
08/2005 bis 05/2006	DAAD Auslandsstipendium (ISAP) für den Studienaufenthalt an der University of Oklahoma, USA

Workshops und Summer Schools

04/2010	Workshop „Einführung in Mplus, Multiple Regression und Moderierte Mediationsanalysen in Mplus", Friederike Dislich, TU Chemnitz
03/2010	Workshop „Einführung in die Mehrebenenanalysen mit HLM", Maike Luhmann, TU Chemnitz
01/2010	Workshop „Moderations-, Mediationsanalysen, Mehrebenenanalysen und Konfirmatorische Faktorenanalysen in R", Bertolt Meyer, TU Chemnitz
10/2009 bis 02/2010	Teilnahme am Seminar „Datenanalyse und Simulation mit R", Prof. Peter Sedlmeier, TU Chemnitz
12/2009	Workshop „Analyse von Moderatoreffekten in Strukturgleichungsmodellen: Theorie und Praxis in Mplus", Christina Werner, TU Chemnitz
09/2009	Workshop „Modellierung multimethodaler Daten und ihrer Mehrebenenstruktur" (Mplus), Prof. Eid, Universität Koblenz Landau
09/2009	Sommerakademie der Studienstiftung des Deutschen Volkes, Guidel (FR), AG „Wahrnehmung, Gehirn und Inferenz"
07/2009	Workshop "Latent Variable Modeling in Mplus", Muthén & Muthén, Freie Universität Berlin
04/2009	Workshop „Social Relations Analysen", Humboldt-Universität, Berlin
03/2009	Workshop PISA 2000, Forschungsdatenzentrum, Berlin
10/2008	4. Doktorandenworkshop der Fachgruppe für Differentielle Psychologie, Persönlichkeitspsychologie und Psychologische Diagnostik, Landau
09/2008	Mplus-Workshop: Einführung in die Analyse von Strukturgleichungsmodellen (SEM) mit Mplus, FU Berlin
05/2008	6th International Doctoral Seminar in Social Sciences, Telc (EUSOC)
03/2008	Workshop „Einführung in die Analyse kausaler Effekte mit EffectLite, LISREL und Mplus", Prof. Steyer, Friedrich-Schiller Universität Jena
04/2007	Workshop „Einführung und Statistik mit R", Dr. Partchev, Friedrich-Schiller Universität Jena
09/2006	Sommerakademie der Studienstiftung des Deutschen Volkes, Görlitz, AG „Sozial-kognitive Neurowissenschaften"

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Gutachtertätigkeit

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Erklärung

Hiermit erkläre ich, Katrin Rentzsch, die vorliegende Dissertation selbstständig verfasst und keine anderen als die angegebenen Hilfsmittel verwendet zu haben.

Chemnitz, 06.12.2010
Ort und Datum   Unterschrift