Rewarding and sustainable health-promoting leadership

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Rewarding and sustainable health-promoting leadership

Abstract

ReSuLead (Rewarding and sustainable health-promoting leadership) is a joint venture of three research teams from Leipzig (Germany), Västerås (Sweden), and Tampere (Finland). The aim of this project is to examine the role of leadership in relation to employees' psychological health and wellbeing. Leadership is considered as a social process which is affected not only by individual behaviour but also by situational, teamrelated, and organizational characteristics. The research design includes a longitudinal study with three waves, as well as the process and summative evaluation of an intervention aiming at developing health-promoting leadership. Longitudinal analyses support that leadership behavior has an impact on health and wellbeing of followers, especially health-promoting leadership, and transformational leadership. But also a number of reverse relationships -that is, employees with better health and wellbeing provide more positive leadership ratings- could be observed. An indirect relationship between leaders' behavior and health and wellbeing via task characteristics could be found. The ReSuLead intervention could be shown to have positive effects on indicators of health and wellbeing, as well as a more positive evaluation of leaders in Germany. Comparing the country samples it was observed that employees in Germany rated their leaders significantly lower in the constructive leader behaviors as compared to the other countries. Differences between men and women (i.e. women reported more stressors, and fewer resources, as well as a worse state of health) were more pronounced in the German and the Finnish sample. Overall, we conclude that increasing resources and reducing stressors at work is the most promising avenue of health promotion. Lower level leaders seem to have only limited control to change working conditions of their followers, but constructive leadership does have positive effects on team climate as well as personal resources. To make the results of this european joint project more widely accessible to the German public, the authors presented a comprehensive German summary of the consortium report.

Key words:

Leadership, stress, wellbeing, health, intervention, evaluation

Wertschätzende und nachhaltige gesundheitsförderliche Führung

Kurzreferat

ReSuLead (Wertschätzende und nachhaltige gesundheitsförderliche Führung) ist ein Verbundprojekt von drei Forschungsteams aus Leipzig (Deutschland), Västerås (Schweden) und Tampere (Finnland). Das Ziel des Projektes ist die Untersuchung des Zusammenhanges zwischen Führung, der Gesundheit und dem Wohlbefinden von Beschäftigten. Führung wird dabei als sozialer Prozess verstanden, welcher nicht nur durch individuelles Verhalten, sondern auch durch situative, teambezogene und organisationale Faktoren beeinflusst wird. Das Forschungsdesign beinhaltet eine Längsschnittstudie mit drei Messzeitpunkten sowie die Prozess- und Ergebnisevaluation eines Interventionsprogrammes zur Stärkung gesundheitsförderlichen Führungsverhaltens. Längsschnittanalysen belegen, dass das Führungsverhalten bedeutsam für die Gesundheit der Geführten ist, insbesondere die gesundheitsförderliche Führung und die transformationale Führung. Es zeigten sich jedoch auch zahlreiche gegenläufige Kausalbeziehungen, d. h. eine Person mit guter psychischer Gesundheit schätzt ihre Führungskraft positiver ein. Es konnte gezeigt werden, dass Tätigkeitsmerkmale den Zusammenhang zwischen Führungsverhalten und (psychischer) Gesundheit vermitteln. Die ReSuLead Intervention erwies sich in Deutschland als effektiv im Hinblick auf eine Reihe von Befindensindikatoren; auch zeigten Trainingsgruppen im Vergleich zu Kontrollgruppen nach der Intervention eine verbesserte Einschätzung ihrer Führungskraft. Im Ländervergleich zeigte sich, dass in der deutschen Stichprobe Führungskräfte in den erhobenen konstruktiven Führungsmerkmalen niedriger eingeschätzt wurden als in den anderen Ländern. Geschlechtsunterschiede, die sich vor allem in schlechteren Tätigkeitsmerkmalen und schlechterer subjektiver Gesundheit bei Frauen äußern, waren besonders ausgeprägt in der deutschen und finnischen Stichprobe. Insgesamt betrachtet ist der wichtigste Hebel zur Gesundheitsförderung die Aufgabengestaltung. Die in der Studie betrachteten Führungskräfte der unteren Hierarchieebenen waren die direkten Vorgesetzten der Beschäftigten. Es zeigte sich, dass sie nur einen begrenzten Einfluss auf die Tätigkeitsmerkmale ihrer Beschäftigten haben, jedoch Faktoren wie das Teamklima und personale Ressourcen positiv beeinflussen können.
Um die Ergebnisse dieses europäischen Verbundprojektes einem breiteren Leserkreis in Deutschland zugänglich zu machen, haben die Autoren eine ausführliche deutsche Zusammenfassung des englischsprachigen Abschlussberichtes dem eigentlichen Bericht vorangestellt.

Schlagwörter:

Führung, Stress, Gesundheit, Wohlbefinden, Intervention, Evaluation

Deutsche Zusammenfassung des Berichtes

Einleitung

Diese Zusammenfassung ist eine Kurzversion des Abschlussberichtes zum Projekt „ReSuLeaD“, der für den Projektträger, die Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, im Frühjahr 2014 erstellt wurde. Sie enthält eine Beschreibung des Projektes, insbesondere der Vorgehensweise und zentrale Ergebnisse. Das Acronym ReSuLead steht für „Rewarding and Sustainable Health Promoting Leadership“, ein Kooperationsprojekt von Arbeitspsychologinnen aus Deutschland (Koordination), Schweden und Finnland. Der deutschsprachige Titel lautet: „Wertschätzende und nachhaltige gesundheitsförderliche Führung“. Das Projekt wurde über einen Zeitraum von drei Jahren durch NEW-OSH-ERA[1] finanziert, (European Research Area-Verbund), ein Förderprogramm im Rahmen des sechsten Europäischen Rahmenprogramms.
Das ReSuLead Projekt analysiert die Bedeutung von Führung in Bezug auf die psychische Gesundheit von Beschäftigten. Ein wesentliches Merkmal des Projektes ist die Kombination einer Längsschnittstudie mit einer Interventionsstudie, die Mehrebenenstruktur der Daten (Beschäftigte sind Teams und einer Führungskraft zugeordnet), so dass Effekte auf Teamebene betrachtet werden konnten und die Durchführung in drei Ländern, deren Führungskräfte gemäß der GLOBE-studie (BRODBECK et al., 2000) unterschiedliche Vorstellung von hervorragender Führung äußern.

Stand der Forschung zum Thema Führung und Gesundheit

Neuere Führungskonzepte betrachten Führung als einen Interaktionsprozess zwischen Führungskraft und Geführten. Im Modell der „transformationalen Führung“ (BASS & AVOLIO, 1995; BURNS, 1978; HOLLANDER, 1964) ist diese Sichtweise enthalten. Ein wesentliches Merkmal dieses Modells ist, dass die Führungskraft sich nicht nur „transaktional“ verhält, d. h. gezeigte Leistung anerkennt bzw. belohnt, sondern sich „transformational“ verhält, d. h. durch Inspiration, intellektuelle Anregung, Wertschätzung und Zuwendung die intrinsische Motivation der Geführten steigert. Zwar hat dieses Konzept in jüngster Zeit grundsätzliche Kritik erfahren (VAN KNIPPENBERG & SITKIN, 2013), jedoch haben zahlreiche Studien gezeigt, dass ein solches Führungsverhalten mit besseren Leistungen einhergeht und einen positiven Zusammenhang zur psychischen Gesundheit der Geführten aufweist (vgl. z. B. die Metaanalyse von VINCENT-HÖPER, HEIMANN, GREGERSEN, & NIENHAUS, 2013; die Studie von PICCOLO & COLQUITT, 2006; eine experimentelle Studie von LYONS & SCHNEIDER, 2009; und eine Längsschnittstudie von NIELSEN, RANDALL, YARKER, & BRENNER, 2008). In einer prospektiven Längsschnittstudie konnte sogar festgestellt werden, dass Führungsverhalten, das Rollenklarheit vermittelt und positive Rückmeldung enthält, mit einem reduzierten Risiko für Herz-Kreislauferkrankungen einhergeht (NYBERG et al., 2009, VAN DIERENDONCK, HAYNES, BORRILL, & STRIDE, 2004). Allerdings gibt es auch Studien, die auf mög-

[1] NEW OSH ERA (New and Emerging Risks in Occupational Safety and Health) im Rahmen des sechsten Europäischen Rahmenprogrammes (ERA-NET scheme)

liche negative Auswirkungen von im Allgemeinen als konstruktiv definierte Verhaltensweisen der Führungskraft auf die Gesundheit der Geführten hinweisen. ROWOLD und HEINITZ (2008) konnten feststellen, dass transformationale Führung auch mit mehr Stresserleben bei den Geführten einhergeht. Als gesundheitsschädigende Führung wurde destruktive Führung untersucht. Damit ist ein feindliches verbales oder non-verbales Verhalten der Führungskraft gegenüber den Geführten gemeint. Es konnte ein bedeutsamer Zusammenhang zwischen solchen Verhaltensweisen zu gesundheitlichen Beeinträchtigungen wie emotionaler Erschöpfung und Depressivität festgestellt werden (TEPPER, 2000).
Als ausreichend belegt kann somit gelten, dass das Führungsverhalten in einem Zusammenhang steht mit dem gesundheitlichen Befinden der Geführten. Dies gilt für das Wohlbefinden, aber auch für Beeinträchtigungen. Die Rolle sogenannter „positiver“ Führungsarten, wie z. B. transformationale Führung, ist nicht ganz so eindeutig wie die der „negativen“ Führung, z. B. der destruktiven bzw. abusiven Führung. Letztere ist jedoch weniger untersucht als die positiven Verhaltensweisen. In der Regel werden Zusammenhänge berichtet; wenig bekannt ist über die vermittelnden Prozesse.

Mehrheitlich handelt es sich in der Führungsforschung um Querschnittserhebungen. Für nahezu alle Studien in der Führungsforschung gilt, dass das Verhalten der Führungskraft über die Befragung der Geführten erfasst wird. Dies macht Sinn, da ein Verhalten, das nicht wahrgenommen wird, vermutlich wesentlich weniger oder gar keine Auswirkung zeigt. Andererseits kann argumentiert werden, dass eine psychische Beeinträchtigung oder gar Erkrankung dazu führen kann, dass die Führungskraft nicht mehr „objektiv“ eingeschätzt wird. Damit wird die postulierte Kausalbeziehung zwischen Verhalten der Führungskraft und der Gesundheit der Geführten infrage gestellt, denn theoretisch ist möglich, dass die Gesundheit der Geführten die Einschätzung der Führungskraft determinieren. Denkbar ist auch, dass Personen mit ausgeprägt positiver Gesundheit, z. B. hohem Selbstwertgefühl, sich eher im Rahmen ihrer beruflichen Entwicklung Führungskräfte suchen, die ein stimulierendes, anregendes Führungsverhalten zeigen. Um solche unterschiedlichen Wirkungsrichtungen zu klären, sind Längsschnittstudien erforderlich, die jedoch bislang in der Führungsforschung eher die Ausnahme sind.

Die Mehrzahl der Studien analysiert den direkten Zusammenhang zwischen Führungsverhalten und Gesundheit. Eine indirekte positive Wirkung der Führungskraft auf die Gesundheit der Geführten wurde im Rahmen der Forschung zur sozialen Unterstützung festgestellt (DORMANN & ZAPF, 1999; LEE & ASHFORTH, 1996).

In Anbetracht des Sachverhaltes, dass Frauen in Führungspositionen noch immer eine Minderheit sind und ihr Führungsverhalten offenbar als transformationaler eingeschätzt wird als das von männlichen Führungskräften (EAGLY, JOHANNESEN-SCHMIDT, & VAN ENGEN, 2003, wenngleich es sich nur um geringe Unterschiede handelt), stellt sich die Frage, ob das Geschlecht der Führungskraft oder das der Geführten, mithin die Geschlechterkonstellation, eine Bedeutung hat für den Zusammenhang zwischen Führungsverhalten und Gesundheit (oder Leistung) der Geführten. WOLFRAM und MOHR (2010) konnten in ihrer Studie feststellen, dass transformationale Führung positiv mit der Arbeitszufriedenheit der Geführten zusammen hängt, allerdings nur bei männlichen Geführten. In einer anderen Studie konnte gezeigt werden, dass ein wertschätzender Kommunikationsstil (verbales Führungsver-

halten, verbal consideration) nur bei den Geführten mit männlicher Führungskraft in Zusammenhang mit einem geringeren Maß an Irritation steht (MOHR & WOLFRAM, 2008). Geschlechtsunterschiede sind demzufolge zu vermuten.
Im Hinblick auf den Förderkontext des Projektes als Kooperationsprojekt dreier Länder ist es naheliegend, der Frage nachzugehen, inwieweit kulturelle Unterschiede für den Zusammenhang zwischen Führungsverhalten und Gesundheit der Geführten von Bedeutung ist. In Bezug auf die drei involvierten Länder konnte durch die GLOBE-Studie ermittelt werden, dass sich die Vorstellungen von guter Führung in den drei Ländern unterscheiden. In Schweden wird eine humanistische Orientierung (Ausmaß, in dem faires und großzügiges Verhalten belohnt wird) als wichtig erachtet, nicht jedoch in Finnland und Deutschland. Hinsichtlich der Wichtigkeit von Orientierung auf die Gruppe vs. das Individuum war für Manager aus Schweden und Finnland die Zusammenarbeit im Team und die Teamintegration ein wichtiges Merkmal hervorragender Führung, nicht jedoch für die Manager aus Deutschland (BRODBECK et al., 2000).

Aus dem Forschungsstand ist demzufolge abzuleiten, dass der Zusammenhang zwischen verschiedenen Führungsverhaltensweisen und Gesundheit untersucht werden sollte unter Einbeziehung von sowohl positiven als auch negativen Aspekten der Führung. Dabei sollten nicht nur gesundheitliche Beeinträchtigungen untersucht werden, sondern auch die Bedeutung der Führung für die (positive) Gesundheit, da Führung auch eine Ressource sein kann. Dies legt nahe, theoretische Grundlagen für den Wirkungszusammenhang zwischen Führung und Gesundheit (der Geführten) in solchen Modellen zu sehen, die die Balance zwischen Anstrengung und Gratifikation betonen, wie beispielsweise das Modell der Gratifikationskrisen (SIEGRIST, 1996) oder das JD-R(Job demands-resources)-Modell, dessen Kernelement das Zusammenspiel von Anforderungen und Ressourcen im Arbeitskontext darstellt (BAKKER & DEMEROUTI, 2007; DEMEROUTI, BAKKER, NACHREINER, & SCHAUFELI, 2001). Aus diesem Ansatz folgt auch, dass Merkmale der Arbeitsaufgabe (Anforderungen, Ressourcen) einzubeziehen sind. Eine arbeitspsychologische Perspektive impliziert ferner, dass Führung nicht kontextfrei untersucht werden kann. Führung bedeutet, mit dem Team eine Arbeitsaufgabe zu erfüllen. Folglich ist davon auszugehen, dass die Merkmale der Arbeitsaufgabe sowohl das Verhalten der Führungskraft und als auch das Erleben der Geführten beeinflussen.

Erforderlich sind Längsschnittuntersuchungen und eine Aufklärung der Bedeutung von Geschlechts- und Kulturunterschieden. Längsschnittstudien sind notwendig, um Wirkungsrichtungen abklären zu können. Zusätzlich kann der Frage, ob (und wie) Führung sich im Hinblick auf die Gesundheit auswirkt, durch ein quasiexperimentelles Design nachgegangen werden: Wird das Führungsverhalten verändert und die Gesundheit der Geführten verändert sich mit einem gewissen zeitlichen Verzug ebenfalls, kann dies als weiterer Hinweis für die Bedeutung der Führung für die Gesundheit bewertet werden. Zudem wäre damit aufgezeigt, das gesundheitsförderliches Führen[2] erlernbar ist; eine Ansicht, die angesichts des Fortbestands des Eigenschaftsansatzes in der Führungsforschung (Führung als angeborene Eigenschaft) in der Alltagspraxis nicht selbstverständlich ist.

[2] und nur dieses kann gefördert werden, da sich ein „Experiment“ mit destruktiver Führung aus ethischen Gründen verständlicherweise verbietet

Auf dem Hintergrund des Forschungsstandes wurden die nachfolgenden Projektziele bzw. Forschungsfragen formuliert.

Projektziele und aufgestellte Forschungsfragen

Ziel des ReSuLead-Projektes ist einerseits die Aufdeckung kausaler Zusammenhänge zwischen Führungsverhalten und der Gesundheit der Geführten und andererseits die Stärkung jenes Führungsverhaltens, das sich als gesundheitsförderlich erwiesen hat. Insbesondere sollen dabei die folgenden Forschungsfragen beantwortet werden:

a. Wirkt das Führungsverhalten auf das psychische Wohlbefinden und die Gesundheit von Beschäftigten? Oder gibt es (auch) Belege für die umgekehrte Kausalität, d. h. hat das psychische Wohlbefinden bzw. die Gesundheit von Beschäftigten einen Effekt auf die Wahrnehmung des Verhaltens von Führungskräften? Spielt das Geschlecht der Führungskraft diesbezüglich eine Rolle?
b. Spielen Anforderungen im Arbeitskontext (z. B. Zeitdruck) und Ressourcen (z. B. Autonomie, soziale Unterstützung) oder Veränderungen in diesen Variablen eine moderierende oder mediierende[3] Rolle in der möglichen Beziehung zwischen Führungsverhalten und der Gesundheit der Beschäftigten?
c. Gibt es kulturelle Unterschiede in Bezug auf die aufgestellten Forschungsfragen?
d. Ist es für die untersuchten Zusammenhänge bedeutsam, ob die Führungskraft männlich oder weiblich ist?
e. Lässt sich gesundheitsförderliches Führungsverhalten lehren bzw. erlernen?

Aus diesen Forschungsfragen und aus dem bisherigen Forschungsstand lassen sich einige Schlussfolgerungen für das Design der ReSuLead Studie und die gewählten Methoden ziehen.

Design und Methoden

Das Forschungsprojekt ist eine Kombination aus einer longitudinalen und einer Interventionsstudie; beide wurden durchgeführt in einem angewandten Setting und nicht repräsentativen Stichproben von Beschäftigten verschiedener Branchen (Bankenwesen, Aufsichtsbehörde, Gesundheitssektor, Sozialbereich, Kinderbetreuung, Unterricht, Reinigungsdienste). Die Untersuchungsteilnehmer/innen wurden über Organisationskontakte rekrutiert. In der Regel wurde der Kontakt über die Geschäftsführung oder die Personalabteilung hergestellt und in allen Fällen das Einverständnis von Betriebs- bzw. Personalräten eingeholt. Das Design der längsschnittlichen Studie ermöglicht es uns zu erklären, inwiefern das Verhalten einer Führungskraft ursächlich ist für die Gesundheit ihrer Mitarbeiter(innen).
Die Interventionsstudie zeichnet sich durch ein quasi-experimentelles Design aus und zielt auf eine Verbesserung der Führungskraft-Mitarbeiter-Beziehung ab. Unsere Intervention unterscheidet sich von „gewöhnlichen“ Führungskrafttrainings insofern, als es sich um ein Training „on-the-job“ handelt, das den Prozesscharakter betont, d. h. mehrere Monate umfasst und die Teammitglieder der Führungskraft einbezieht.

[3] Moderatoren sind Variablen, welche einen Einfluss auf die Stärke bzw. Richtung eines Zusammenhangs zwischen zwei Variablen nehmen. Mediatoren sind Variablen, die einen Zusammenhang zwischen zwei Variablen vermitteln.

Zur Erreichung nachhaltiger Effekte werden Tätigkeitsbedingungen der Führungskräfte und Geführten (Zeitdruck, Autonomie) analysiert und für die Intervention berücksichtigt.

Pilotstudie

Dem ersten Erhebungszeitpunkt der Längsschnittstudie war eine Pilotstudie vorgeschaltet. Mit dieser Vorstudie wurden die Instrumente im Dezember 2010/Januar 2011 an einer Stichprobe von mehr als 300 Beschäftigten in den drei Ländern Deutschland, Schweden und Finnland getestet. Ziel war es dabei, die Anzahl der relevanten Konstrukte sinnvoll in Bezug auf ihre Relevanz einzuschränken, die Äquivalenz der Skalen in den drei Sprachversionen zu überprüfen und systematische Effekte zwischen Führung und Gesundheit zu explorieren.

Längsschnittstudie

Die longitudinale Studie besteht aus drei Erhebungswellen, die einen Zeitraum von 22 Monaten abdecken und Daten aus Deutschland, Finnland und Schweden analysiert. In den Befragungen wurden Beschäftigte und ihre Führungskräfte zu Merkmalen ihrer Tätigkeit und ihrer psychischen Gesundheit befragt. Des Weiteren sollten die Beschäftigten ihre(n) direkte(n) Vorgesetzte(n) hinsichtlich des Führungsverhaltens einschätzen.

Insgesamt konnten N = 2.316 Beschäftigte mit ihren n = 245 Führungskräften (inklusive der Interventionsteams) zur Teilnahme an der ersten Erhebung (T1) gewonnen werden. Zum zweiten Messzeitpunkt (T2) nahmen N = 2.332 Mitarbeiter(innen) und n = 304 Führungskräfte (die größeren Fallzahlen zu T2 resultieren, da zum zweiten Messzeitpunkt in Deutschland eine Organisation aus dem öffentlichen Sektor gewonnen werden konnte, welche noch nicht zu T1 beteiligt war) und zum dritten Messzeitpunkt (T3) N = 1.757 Mitarbeiter(innen) und n = 196 Führungskräfte teil. Von den Befragten konnten N = 1.006 Beschäftigte und n = 131 Führungskräfte als Teilnehmer an allen drei Wellen (T1-T2-T3) identifiziert werden. Daten der Geführten und der Führungskräfte sind zuordenbar, wodurch Multilevelanalysen möglich sind, d. h. analysierbar wird, inwieweit Unterschiede in der Gesundheit der Befragten auf das individuelle Erleben zurückführbar sind, oder ob auch Unterschiede zwischen den Teams bzw. Gemeinsamkeiten innerhalb eines Teams prädiktiv für die Gesundheit der Geführten sind.
Durchgeführte Dropout-Analysen zeigten, dass Frauen ($\chi 2=4.07(1)$, $p=.044$), jüngere Personen ($t=2.66(1903.29)$, $p=.008$) und Beschäftigte mit einem höheren Bildungsabschluss ($\chi 2=63.62(4)$, $p<.001$) mit einer höheren Wahrscheinlichkeit an den Befragungen zu T1, T2 und T3 teilgenommen hatten. Auch bezüglich der Arbeitscharakteristika und der Gesundheit der Teilnehmer(innen) ist festzustellen, dass sich substanzielle Unterschiede eruieren ließen, nicht hingegen in Bezug auf die Führungsvariablen. Insgesamt wiesen dabei die Personen, die nur zu einem oder zwei Zeitpunkten an der Studie teilgenommen hatten, ein besseres arbeitsbezogenes Wohlbefinden auf als die T1-T2-T3-Teilnehmer(innen), was sich u. a. in einer höheren Autonomie, stärkeren Selbstwirksamkeitserwartung, höheren Arbeits- und Lebenszufriedenheit bzw. weniger Irritation, somatischen Beschwerden oder depressiven Symptomen erkennen lässt.

Die eingesetzten Verfahren zur Erfassung der Konstrukte lassen sich in drei Gruppen zusammenfassen: Führung, Arbeitsmerkmale und Gesundheitsmerkmale. In allen drei Gruppen wurden sowohl Positiv- als auch Negativindikatoren aufgenommen.

Interventionsstudie

Ziel der längsschnittlich angelegten Interventionsstudie ist einerseits im Sinne eines experimentellen Designs die Überprüfung der vermuteten Wirkung von Führung auf die Gesundheit der Geführten. Wird die Führung verändert, so sollten sich auch Veränderungen auf den Indikatoren zur Erfassung der Gesundheit der Geführten ergeben.

Aus den Erkenntnissen verschiedener Studien zum Transfererfolg von Trainings allgemein und zur Effizienz von Führungskräftetrainings im Besonderen lässt sich ableiten, dass es wichtig ist, dass das Training über einen längeren Zeitraum durchgeführt wird und möglichst verhaltensnahe Bestandteile enthält, d. h. reale Situationen aus dem Arbeitsalltag aufgegriffen werden. Dementsprechend wurden die ReSuLead Trainings arbeitsbegleitend (on-the-job) über einen längeren Zeitraum unter Einbeziehung der Teammitglieder durchgeführt.
Die Intervention wurde zwischen der ersten (T1) und zweiten (T2) Erhebungswelle in Deutschland und Schweden durchgeführt. In der Evaluation des Trainings werden Veränderungen in der Interventionsgruppe mit einer Kontrollgruppe verglichen. Da sich in Schweden und Deutschland sehr unterschiedliche Trainingseffekte zeigten, wurden die Daten dieser beiden Länder getrennt betrachtet.

Ziel ist es, nachhaltige Effekte zu erreichen. Deswegen wurde nicht nur der erste Zeitabschnitt (zwischen t1 und t2: vor und nach der Intervention von 15 Monaten) überprüft, sondern auch, ob die Veränderungen 8 Monate nach Ende der Intervention anhielten (Vergleich von t2 und t3) oder sich gar erst verzögert zeigen (Vergleich von t1 und t3, 22 Monate). Das Design umfasst also drei Messzeitpunkte, Interventions- und Kontrollgruppe und eine Differenzierung nach Ländern, mithin ein 2 x 2 x 3-Design.

Insgesamt nahmen in Deutschland 11 Teams (N = 115 Beschäftigte) und in Schweden 17 Teams (N = 353 Beschäftigte) an der Intervention teil.

Für das ReSuLead Training wurden die nachfolgend aufgelisteten Module entwickelt:

- Interaktive Vorträge,
- Führungskräfte-Workshops,
- Team-Workshops,
- Tagebuch schreiben,
- Beobachtung einer Teamsitzung,
- Coaching.

Während der Intervention wurden zwei interaktive Vorträge für die Führungskräfte und ihre Mitarbeiter(innen) angeboten und von der Mehrheit der Interventionsteilnehmerinnen und -teilnehmern auch wahrgenommen. Der erste Vortrag zielte darauf ab, einen allgemeinen Überblick über die Konzepte Arbeit und Gesundheit mit einem Fokus auf das Thema Stress und Führungsverhalten zu geben. Daneben wurde die

Rolle der Geführten für das Erreichen positiver (Arbeits-)Ergebnisse thematisiert. Inhaltlich befasste sich der zweite Vortrag mit dem Thema Kooperation in Gruppen, wobei Informationen zu Motivationsgewinnen und -verlusten sowie Ursachenzuschreibungen präsentiert wurden.

Die Führungskräfte-Workshops wurden konzipiert, um theoretisches Wissen über Gesundheitsförderung weiterzugeben und den Führungskräften eine Möglichkeit zum Austausch ihrer Erfahrungen bereitzustellen. Weiterhin wurden die (weiteren) Bestandteile der Intervention eingeführt.

Neben den Führungskräfte-Workshops wurden während der Intervention Team-Workshops durchgeführt. Im ersten Team-Workshop wurde das Team motiviert, Verantwortung für die eigene Gesundheit zu übernehmen. Zudem wurden die Ergebnisse der ersten Befragung (T1) rückgemeldet, wobei insbesondere auf Stärken und Schwächen (signifikant höhere, bzw. niedrigere Ausprägungen in Stressoren, Ressourcen, Führungseinschätzungen und Gesundheitsindikatoren im Vergleich zu einer vergleichbaren Teilstichprobe des Projektes) eingegangen wurde. Die Teams wurden gebeten, sich gezielt fünf konkrete Ziele auszusuchen, an denen sie in nächster Zeit arbeiten wollen. Der zweite Workshop baute darauf auf, inwiefern diese Ziele umgesetzt wurden. Ebenso wurde der Themenkomplex Teamprozesse und Teamarbeit bearbeitet.

Das Schreiben eines Tagebuchs sollte den Führungskräften helfen, tiefergehend über ihre Führungsposition nachzudenken und ihre Selbstwirksamkeitserwartung in Bezug auf ihre Fähigkeit zu führen zu stärken.

Beobachtungen in Teamsitzungen waren ein weiterer Bestandteil der Intervention. Ziel war es einerseits, einen Eindruck von der Interaktion zwischen Führungskraft und Team bzw. innerhalb des Teams zu gewinnen und anderseits, die Reflektion des Themas Teamarbeit in der Interventionsgruppe zu stimulieren durch Vorgabe eines einfach zu verwendenden Arbeitsblattes mit den Kriterien Teamklima, Verteilung von Aufgaben, Zielerreichung, Entscheidungen treffen und Rollenklarheit.

Bis zu drei Coachingsitzungen wurden auf freiwilliger Basis für die Führungskräfte angeboten. In Schweden nahmen acht von 17 Führungskräften, in Deutschland neun von 11 Führungskräften am individuellen Coaching teil. Dies sollte ihnen die Möglichkeit einräumen, über ihren Führungsstil zu reflektieren, ihnen einen sicheren Raum zur Besprechung von Problemen und Konflikten zu bieten und die Intervention zu reflektieren.

Zusätzlich zur quantitativen multivariaten Überprüfung von Effekten der Intervention wurde eine formative bzw. Prozessevaluation durchgeführt.

Ergebnisse

Längsschnittanalysen

Mittels der Daten der Längsschnittstudie sollte geklärt werden, welche Wirkungsrichtungen vorliegen und wie bedeutsam die Zusammenhänge einzuschätzen sind. Inhaltlich sollten drei zentrale Fragen beantwortet werden:

1. Welche Führungsverhaltensweisen wirken auf (welche) Gesundheitsindikatoren?
2. Hat das Führungsverhalten einen Einfluss auf die Ausprägung der Tätigkeitsanforderungen der Beschäftigten?
3. Über welche Prozesse werden die postulierten Wirkungen des Führungsverhaltens auf die Gesundheit erreicht? Welche Rolle kommt dabei den Merkmalen der Arbeitsaufgabe (Anforderungen wie z. B. Zeitdruck und Ressourcen wie z. B. Autonomie) zu?

Es wurden fünf verschiedene *Führungsverhaltensweisen* erfasst, für die in der Forschungsliteratur entwickelte Messinstrumente vorlagen: Transformationale Führung, Authentische Führung, Faire Führung, Gesundheitsförderliche Führung und Destruktive Führung. Als *Indikatoren der Gesundheit* wurden Arbeitsengagement, Teamklima, Commitment, Selbstwirksamkeitserwartungen, Emotionale Erschöpfung, Irritation, somatische Beschwerden und Depressivität analysiert. Als *Arbeitsmerkmale* wurden vier Belastungsmerkmale – Workload, Kognitive und Emotionale Anforderungen, Arbeitsplatzunsicherheit – und drei Ressourcen: Rollenklarheit, Autonomie, Sinnerleben) in die Analyse einbezogen.

Zur Untersuchung der längsschnittlichen Effekte wurden Regressionsanalysen unter Einschluss des Autoregressors berechnet. Da es aufgrund der Intervention zwischen den Zeitpunkten zu Verschiebungen in der Rangordnung von Variablenbeziehungen kommen kann, wurden alle längsschnittlichen Analysen unter Ausschluss der Interventionsgruppen des Projektes durchgeführt.

Aufgrund der Vielzahl der Variablen wurde ein zweistufiges Vorgehen gewählt. In einem ersten Modell wurden zunächst alle Variablen aus einem Merkmalsbereich gemeinsam in das Regressionsmodell aufgenommen, wobei die abhängige Variable stets zu einem späteren Zeitpunkt erhoben wurde. So wurden zeitversetzte Zusammenhänge zwischen der ersten und zweiten, der zweiten und dritten sowie der ersten und dritten Erhebung geprüft. In einem zweiten Modell unter Einschluss der abhängigen Variablen zum früheren Erhebungszeitpunkt (Autoregressor) wurden dann nur noch jene Variablen belassen, die sich im ersten Modell als signifikante Prädiktoren erwiesen hatten. Aufgrund der Interkorrelation der Variablen untereinander ist dieses Vorgehen zwar kritisch zu bewerten, da es aufgrund von Multikollinearität zu methodischen Suppressor-Effekten kommen kann und mögliche Effekte auch überdeckt werden könnten. Andererseits treten so jene Prädiktoren besonders hervor, die einen besonders großen Zusammenhang zur abhängigen Variable zeigen. Da wir an einem möglichst umfassenden Überblick interessiert waren und die Vielzahl einzelner Modelle bei separater Testung kaum mehr strukturiert darstellbar gewesen wäre, haben wir uns für dieses Vorgehen entschieden. Bei der Interpretation der folgenden Befunde gilt es, diese Auswertungsstrategie zu berücksichtigen.

Anzunehmen ist zunächst ein längsschnittlicher Effekt des wahrgenommenen Führungsverhaltens auf Gesundheitsindikatoren (wir sprechen hier von regulärer Kausalität). Ein solcher Zusammenhang ist zu unterscheiden von umgekehrter Kausalität (Gesundheit zu einem früheren Zeitpunkt sagt die Einschätzungen des Führungsverhaltens zu einem späteren Zeitpunkt vorher). So finden sich in der Literatur beispielsweise längsschnittliche Zusammenhänge zwischen Depressivität und der Einschätzung Organisationaler Fairness. Beschäftigte mit depressiver Symptomatik schätzten zu einem späteren Zeitpunkt ihre Organisation als unfairer ein, während ein Effekt der Fairness auf spätere Ausprägungen in Depressivität nicht gefunden wurde (LANG et al., 2011).Letztlich kann auch eine wechselseitige Beeinflussung möglich sein. Wir sprechen dann von gegenseitiger Kausalität. Generell gilt, dass auch ein Längsschnittdesign noch keinen Nachweis für wahre Kausalität erbringen kann. Durch die Prüfung von Effekten von T1 auf T2 (ca. 14 Monate), T2 auf T3 (ca. 8 Monate) und T1 auf T3 (ca. 22 Monate) sind aufgrund der unterschiedlichen Zeitintervalle möglicherweise auch Schlussfolgerungen in Bezug auf die „Latenzzeit“ möglicher Effekte zu ziehen.

Befunde zur ersten Fragestellung (Führung und Gesundheit)

In der nachfolgenden Tabelle 1 werden die Ergebnisse zur Hauptfragestellung des Projektes zusammengefasst: Hat Führung einen Einfluss auf die Gesundheit der Geführten? Dabei sind zwei Aspekte zu berücksichtigen: Es wird jeweils der Gesundheitszustand zum ersten Zeitpunkt als Prädiktor aufgenommen. Damit wird eine sehr konservative Schätzung durchgeführt. Es wird verlangt, dass ein Führungsverhalten den Zuwachs, also die Verbesserung der Gesundheit (mit) erklärt. Jedoch kann Führung auch zur Stabilisierung des vorhandenen Gesundheitszustands beitragen, was hier nicht abgebildet wird (wohl aber in den entsprechenden Tabellen der Langform des Berichtes, siehe Kapitel 6.1). Als zweites ist zu bedenken, dass – um die Auswertung und Ergebnisdarstellung übersichtlich zu gestalten angesichts der Vielzahl der Variablen – alle Führungskonstrukte gemeinsam als Prädiktoren in das Regressionsmodell aufgenommen wurden. Da die Führungskonstrukte miteinander korreliert sind, setzt sich das Konstrukt durch, das die größte Vorhersagekraft hat. Wie die Tabelle 1 erkennen lässt, trifft dies auf die „Gesundheitsförderliche Führung“ zu. Das ist nicht überraschend, da mit diesem Konstrukt dem Prinzip des triple-match entsprochen wird (DE JONG & DORMAN, 2006), d. h. es werden in einem Modell auf der Seite der unabhängigen und der abhängigen (und gegebenenfalls der intervenierenden) Variable nur solche Konstrukte einbezogen, die thematisch aufeinander bezogen sind. Man setzt also beispielsweise Arbeitsmerkmale mit Arbeitszufriedenheit in Beziehung und nicht mit Lebenszufriedenheit. Im hier vorliegenden Fall wird also ein Führungsverhalten, das auf die Gestaltung einer gesundheitsförderlichen Arbeitssituation abzielt, mit (zumeist aber nicht nur arbeitsbezogenen) Gesundheitsindikatoren in Beziehung gesetzt. Von den anderen vier Führungskonzepten weist nur noch die „Transformationale Führung“ ein eigenständiges Gewicht für zwei Indikatoren der Gesundheit auf. Zu bedenken ist, dass eine getrennte Betrachtung der Führungskonzepte in Bezug auf die Gesundheitsvariablen auch die Prädiktionskraft der anderen Führungskonzepte deutlich steigern würde. Die gemeinsame Analyse hat den Vorteil, die für die Gesundheit der Beschäftigten besonders bedeutsamen Führungskonzepte deutlich zu machen.

Tab. 1 „reguläre“ Kausalität zwischen Führung und Gesundheitsindikatoren

		Commitment	Teamklima	Arbeitsengagement	Selbstwirksamkeit	Irritation	Emotionale Erschöpfung	Somatische Beschwerden	Depressivität
8 Monate (T2 → T3)		x	x		x				x
15 Monate (T1 → T2)		x		x				x	x
22 Monate (T1 → T3)		x	x		x		x		x
8 Monate (T2 → T3)		x							
15 Monate (T1 → T2)			x						
22 Monate (T1 → T3)									

Anmerkung. Die Führungsmerkmale als unabhängige Variablen (UV) (1) Transformationale Führung, (2) Authentische Führung, (3) Faire Führung, (4) Gesundheitsförderliche Führung und (5) Destruktive Führung wurden gemeinsam in die Regressionsmodelle aufgenommen sowie die Abhängige Variable (AV) zum Erhebungszeitpunkt T1

Die Tabelle verdeutlicht, sowohl im Hinblick auf das Commitment der Beschäftigten als auch auf das Ausmaß an Depressivität, dass gesundheitsförderliche Führung nachhaltige positive Effekte hat. Durchgehend konnten nur schwache Effekte nachgewiesen werden, was aufgrund der Multideterminiertheit der gewählten Kriterien aber auch zu erwarten war. Dies ist eine gute Nachricht für die Betriebe, denn Depressionen sind jene Erkrankungen, die unter den psychischen Erkrankungen für die meisten Arbeitsunfähigkeitstage verantwortlich sind. Ebenso erfreulich ist, dass die „Gesundheitsförderliche Führung“ eine langfristige Wirkung auf die Senkung der emotionalen Erschöpfung hat, die vermutlich ein Vorläufer der depressiven Erkrankungen ist. Die Stabilisierung des Commitments ist in Zeiten eines befürchteten Fachkräftemangels ein Mittel, Mitarbeiterinnen an den Betrieb durch „Gesundheitsförderliche Führung“ zu binden.
Zur Verbesserung des Teamklimas trägt die „Gesundheitsförderliche Führung“ ebenfalls bei. Allerdings muss diese Bemühung immer wieder erneuert werden, da der Effekt offenbar nur über den kürzeren Zeitraum von acht Monaten nachgewiesen werden kann. Eine Erhöhung des Arbeitsengagements, die Reduzierung der emotio-

nalen Erschöpfung und der somatischen Beschwerden wird mit der „Gesundheitsförderlichen Führung“ offenbar erst als verzögerter Effekt sichtbar, d. h. hier wird nicht in einem kurzen Zeitraum (von acht Monaten) eine Verbesserung sichtbar, sondern erst nach 15 oder gar 22 Monaten. Erfreulich ist, dass die „Gesundheitsförderliche Führung“ sowohl kurzfristig als auch auf lange Sicht zu einer Verbesserung der Selbstwirksamkeitserwartung beiträgt. Dahinter steht vermutlich der Prozess der adäquaten Aufgabenzuweisung, die den Beschäftigten Erfolgserlebnisse möglich macht.

Unerwartet ist, dass sich keine Wirkungen auf Irritation und Kündigungsabsichten finden lassen. Erklärbar wird dies im Falle der Irritation damit, dass dieses Konstrukt vermutlich eher kurzyklische Veränderungen aufweist. Die Kündigungsabsichten sind vermutlich zu sehr von anderen Faktoren bestimmt, als dass das Führungsverhalten hier bedeutsam wird.

Hervorzuheben ist, dass „Transformationale Führung“ trotz der relativ hohen Korrelation mit „Gesundheitsförderlicher Führung“ zu einer Zunahme des Commitments beitragen kann, jedoch – im Gegensatz zur „Gesundheitsförderlichen Führung“ – nicht anhaltend, sondern lediglich in Bezug auf den acht-Monats-Zeitraum. Die Verbesserung des Teamklimas tritt hingegen erst nach einem längeren Zeitraum von 15 Monaten in Erscheinung. Abschließend sei zu diesem Teil noch angemerkt, dass sich alle Zusammenhänge in der erwarteten Richtung zeigen, d. h. die beiden Führungskonstrukte tragen entweder zu einer Verbesserung der Gesundheitsindikatoren bei oder zu einer Abnahme von Beeinträchtigungen (Erschöpfung, Depressivität, somatische Beschwerden). Die in der Literatur verschiedentlich vorfindbare Vermutung bzw. Befunde, dass auch konstruktive Führungsverhaltensweisen (z. B. Transformationale Führung) zu einer Belastungssteigerung und infolge dessen zu einer Verschlechterung der Gesundheit beitragen könnten, ist mit unseren Daten nicht feststellbar. Auch zeigt die Tabelle, dass die „Gesundheitsförderliche Führung“ nicht nur auf (positive) Dimensionen der Gesundheit wirkt, sondern auch zu einer Reduzierung von Beeinträchtigungen beiträgt. Dies gilt nicht gleichermaßen für die „Transformationale Führung“, was auch dem Ergebnis der Metaanalyse von VINCENT-HÖPER, HEIMANN, GREGERSEN und NIENHAUS (2014) entspricht.

Unsere Längsschnittuntersuchung sollte ermöglichen, nicht nur Wirkungszeiträume, sondern auch Wirkungsrichtungen zu klären. In der nachfolgenden Tabelle 2 wird zusammengefasst, inwieweit Arbeitsmerkmale zu einer veränderten Wahrnehmung von Führung führen. Es wird also die „umgekehrte“ Kausalität geprüft.
Die Tabelle 2 zeigt, dass solche reversen Beziehungen vor allem für zwei Merkmale auftreten: Teamklima und Arbeitsengagement und dies – wenngleich für unterschiedliche Zeithorizonte, aber mehrheitlich langfristig – für alle Führungsarten. Daraus lässt sich schließen, dass ein gutes Teamklima und ein hohes Arbeitsengagement zu einer positiven Einschätzung der Führungskraft durch die Geführten beitragen. In allen Fällen sind die Zusammenhänge erwartungsgemäß, d. h. eine positive Ausprägung der Gesundheit geht mit einem positiv eingeschätzten Führungsverhalten einher. In Bezug auf Destruktive Führung zeigte sich ein schlechtes Teamklima und eine hohe emotionale Erschöpfung als prädiktiv. Bei geringer Kündigungsabsicht wird die Führungskraft als fairer eingeschätzt. Erschöpfungszustände fördern offenbar die Einschätzung der Führungskraft als destruktiv.

Keine reverse Beziehungen sind erkennbar für Commitment, Selbstwirksamkeitserwartung und somatische Beschwerden. Für die noch verbleibenden Konstrukte gibt es nur sehr vereinzelt reverse Beziehungen. Dass Depressivität kaum reverse Beziehungen aufweist, relativiert die These, dass die negative Stimmungslage depressiver Teilnehmer zu einer negativeren Einschätzung der Führungskraft führen würde. Die gänzlich fehlende reverse Beziehung bei der Selbstwirksamkeitserwartung vermindert die Wahrscheinlichkeit, dass Selbstselektionsprozesse in bedeutsamen Maß vorliegen, d. h. dass Personen mit hoher Selbstwirksamkeit sich positiv bewertete Führungskräfte auswählen oder dass – konträr zur negativen Stimmung – eine optimistische Grundhaltung zu verzerrten Wahrnehmungen führen würde.

Tab. 2 „umgekehrte“ Kausalität zwischen Führung und Gesundheit

	Gesundheitsförderliche Führung	Transformationale Führung	Faire Führung	Authentische Führung	Destruktive Führung
Commitment					
8 Monate (T2 →					
15 Monate (T1 →					
22 Monate (T1 →					
Teamklima					
8 Monate (T2 →	X	W	X	X	X
15 Monate (T1 →	W	X			X
22 Monate (T1 →	W	X	X	X	X
Arbeitsengagement					
8 Monate (T2 →	X	X	X	X	
15 Monate (T1 →	W	X	X	X	
22 Monate (T1 →	X	X	X	X	
Selbstwirksamkeit					
8 Monate (T2 →					
15 Monate (T1 →					
22 Monate (T1 →					
Irritation					
8 Monate (T2 →			X		
15 Monate (T1 →					
22 Monate (T1 →					
Emotionale Erschöpfung					
8 Monate (T2 →	X				X
15 Monate (T1 →					
22 Monate (T1 →					X
Somatische Beschwerden					
8 Monate (T2 →					
15 Monate (T1 →					
22 Monate (T1 →					
Depressivität					
8 Monate (T2 →					
15 Monate (T1 →					
22 Monate (T1 →	X				
Kündigungsabsichten					
8 Monate (T2 →					
15 Monate (T1 →			X		
22 Monate (T1 →					

Anmerkung. Die Darstellung beruht auf den Tabellen 6.23-6.25 der Langfassung des Berichtes. Nicht aufgenommen in diese Tabelle wurden die augenscheinlichen Suppressoreffekte. W = Wechselwirkungen, ermittelt über den Vergleich der beiden Tabellen

Als dritte Wirkrichtung sind Wechselwirkungen denkbar, d. h. sowohl die reguläre Kausalbeziehung liegt vor als auch die reverse Beziehung. Vergleicht man die beiden Tabellen, dann wird ersichtlich, dass es vier Überschneidungen gibt. In drei Fällen geht es um die Zusammenhänge zwischen „Gesundheitsförderlicher Führung“ und Teamklima (8 & 22 Monate) bzw. Arbeitsengagement (15 Monate). Eine weitere derartige Wechselwirkung gibt es zwischen „Transformationaler Führung“ und Teamklima (15 Monate).

Bei den Wechselwirkungen ist zu beachten, dass hier nur diejenigen gekennzeichnet wurden, die sich im identischen Zeitabschnitt zeigen. Die detaillierte Betrachtung über die verschiedenen Zeitpunkte, wie sie im Kapitel 6.1 dargestellt ist, gibt weiter Aufschluss über die Wechselbeziehungen. Beispielsweise zeigt sich die emotionale Erschöpfung im Zeitraum von acht Monaten als ein Prädiktor für eine niedrige Einschätzung der „Gesundheitsförderlichen Führung“. In der 22-Monatsperspektive ist jedoch die „Gesundheitsförderliche Führung“ prädiktiv für eine geringe emotionale Erschöpfung.

Abschließend kann zur ersten Fragestellung formuliert werden, dass „Gesundheitsförderliche Führung“ in unserer Stichprobe zur Verbesserung einer Vielzahl von Gesundheitsmerkmalen in nachhaltiger Weise beiträgt.

Befunde zur zweiten Fragestellung (Führung und Arbeitsmerkmale)

Auch für diese Zusammenhänge wird wieder unterschieden zwischen „normalen“ Zusammenhängen und reversen Beziehungen. Zunächst interessiert, welches Führungsverhalten einen Einfluss auf die Gestaltung der Arbeitsbedingungen hat. Von einer „Gesundheitsförderlichen Führung“ erwarten wir eine Reduzierung der Belastungen und eine Erhöhung der Ressourcen. Die nachfolgende Tabelle 3 stellt die Befunde im Überblick für die drei untersuchten Zeitabschnitte dar.

Tab. 3 „reguläre“ Kausalität zwischen Führung und Arbeitsmerkmalen

	Belastungen				Ressourcen		
	Zeitdruck	Kognitive Anforderungen	Emotionale Anforderungen	Arbeitsplatzunsicherheit	Rollenklarheit	Autonomie	Sinnerleben
Gesundheitsförderliche							
8 Monate (T2 → T3)				X		X	
15 Monate (T1 → T2)		X		X		X	X
22 Monate (T1 → T3)				X		X	X
Transformationale Führung							
8 Monate (T2 → T3)							
15 Monate (T1 → T2)					X		
22 Monate (T1 → T3)					X		
Faire Führung							
8 Monate (T2 → T3)						X	
15 Monate (T1 → T2)							
22 Monate (T1 → T3)							

Der Überblick zeigt, dass wiederum die „Gesundheitsförderliche Führung“ den stärksten Anteil hat an der Veränderung der Einschätzung von Tätigkeitsmerkmalen. Dabei überwiegt die Wirkung auf die Ressourcen und diese Wirkung ist durchaus langfristig und nachhaltig. Der Zusammenhang zur Veränderung der kognitiven Anforderungen ist erwartungskonträr. Nach 15 Monaten sind bei „Gesundheitsförderlicher Führung“ die kognitiven Anforderungen (in der Einschätzung der befragten Beschäftigten) höher. Die Zusammenhänge zur Arbeitsplatzunsicherheit sind erwartungsgemäß negativ: Mitarbeiter/-innen, die ihre Führungskräfte als „gesundheitsförderlicher“ einschätzen, nehmen zu einem späteren Zeitpunkt weniger Arbeitsplatzunsicherheit war.

Dass gerade die „Transformationale Führung“ zu einer zunehmenden Rollenklarheit beiträgt, ist insofern überraschend, als dieses Führungsverhalten mehr dadurch gekennzeichnet ist, dass eine Zuwendung zu Visionen, eine positive Sichtweise auf gemeinsame Werte orientiert wird, nicht so sehr auf klare Absprachen und Regeln.

Angesichts der beträchtlichen Interkorrelationen der positiven Führungskonzepte hat die „faire Führung“ einen „Achtungserfolg“ zu verzeichnen: Zumindest auf den kurzen Zeitraum von 8 Monaten bezogen ist sie eine bedeutsame Erklärung für den Zuwachs an Autonomie.
Zählt man bei diesen Befunden die kognitiven Anforderungen zu den Ressourcen einer Tätigkeit, so ist festzuhalten, dass die drei o. g. Führungskonzepte im Hinblick auf die Arbeitsmerkmale vor allem beitragen, die Ressourcen zu verbessern und die Arbeitsplatzunsicherheit zu reduzieren.

Anzumerken bleibt, dass sich „Destruktive Führung“ und „Authentische Führung“ nicht als bedeutsam für eine Veränderung in der Wahrnehmung von Tätigkeitsmerkmalen erwiesen. Einschränkend ist hier jedoch darauf hinzuweisen, dass eine gemeinsame Testung aller erfassten Führungsverhaltensweisen durchgeführt wurde. Bei einer getrennten Betrachtung zeigen sich durchaus auch Zusammenhänge von „Destruktiver Führung“ sowie „Authentischer Führung“ und der Einschätzung von Tätigkeitsmerkmalen.

Dies könnte sich ändern, wenn man die Führungskonstrukte getrennt untersucht. Zumindest haben sie keine „durchdringende“ Bedeutung.

Offensichtlich ist der Einfluss der Führungskräfte auf die zentralen Belastungen (Zeitdruck/workload und emotionale Anforderung) beschränkt. Es bleibt zu klären, ob dies daran liegt, dass den Führungskräften die Hände gebunden sind, d. h. ihnen durch Leistungsvorgaben dafür die Handlungsfreiheit fehlt oder ob es verschiedene andere Gründe gibt.

Wiederum ist nicht auszuschließen, dass es reverse oder gar wechselseitige Beziehungen gibt.

Die Tabelle 4 verdeutlicht, dass das Erleben der Arbeitssituation auch bestimmt, wie die Führungskraft eingeschätzt wird, d. h. die Beschäftigten sehen die Führungskraft in der Verantwortung, für ihre Arbeitssituation Sorge zu tragen. Wiederum ausgeprägter sind die Zusammenhänge mit den Ressourcen. Diese wirken sich – sowohl in kürzeren Zeiträumen, aber auch langfristig – positiv auf die Einschätzung der Führungskraft aus. Die Führungskraft wird weniger positiv eingeschätzt von Personen, die eine höhere Arbeitsplatzunsicherheit empfinden. Das Erleben hoher emotionaler Anforderungen begünstigt eine Wahrnehmung der Führungskraft als destruktiv.

Tab. 4 „umgekehrte“ Kausalität zwischen Führung und Gesundheit

	Gesundheits-förderliche Führung	Transformationale Führung	Faire Führung	Authentische Führung	Destruktive Führung
Zeitdruck					
8 Monate (T2 → T3)					
15 Monate (T1 → T2)					
22 Monate (T1 →					
Kognitive Anforderungen					
8 Monate (T2 → T3)	X	X		X	
15 Monate (T1 →					
22 Monate (T1 →					
Emotionale Anforderungen					
8 Monate (T2 → T3)					
15 Monate (T1 →					X
22 Monate (T1 →					X
Arbeitsplatzunsicherheit					
8 Monate (T2 → T3)	W		X	X	
15 Monate (T1 →					
22 Monate (T1 →	W				
Rollenklarheit					
8 Monate (T2 → T3)		X	X	X	
15 Monate (T1 →		W			
22 Monate (T1 →		W	X	X	
Autonomie					
8 Monate (T2 → T3)	W	X			
15 Monate (T1 →	W				
22 Monate (T1 →	W				
Sinnerleben					
8 Monate (T2 → T3)	X	X	X	X	X
15 Monate (T1 →	W		X		
22 Monate (T1 →	W	X		X	

Anmerkung. Die Darstellung beruht auf den Tabellen 6.8-6.12 der Langfassung des Berichtes. Nicht aufgenommen in diese Tabelle wurden die augenscheinlichen Surpressoreffekte. W = Wechselwirkungen, ermittelt über den Vergleich der beiden Tabellen

Sichtbar wird, dass die Einflüsse der Arbeitsmerkmale auf die Einschätzung der Führungskraft sehr viel zahlreicher sind als jene von den Gesundheitsindikatoren auf die Bewertung der Führungskraft. Die Einschätzung der Führungskraft wird also mehr von den erlebten Arbeitsmerkmalen abhängig gemacht als von der eigenen Befindlichkeit.

Der Vergleich der beiden letzten Tabellen macht zahlreiche Wechselbeziehungen, deutlich, jedoch beschränkt auf die „Gesundheitsförderliche Führung“ und die „Transformationale Führung“. Die (wahrgenommene) Arbeitsplatzunsicherheit reduziert die Einschätzung der Führungskraft als gesundheitsförderlich, aber die gesundheitsförderliche Führung vermag auch die (wahrgenommene) Arbeitsplatzunsicherheit zu reduzieren. Die Wechselwirkungen zeigen sich jedoch vorrangig zwischen „Gesund-

heitsförderlicher Führung“ und Autonomie (über alle drei Zeitabschnitte) und Sinnerleben (für allem für die beiden längeren Zeitabschnitte. Bei der „Transformationalen Führung“ zeigen sich die Wechselwirkung zur Rollenklarheit in den beiden längeren Zeitabschnitten (siehe Tabellen 6.1-6.24).

Befunde zur dritten Fragestellung (Vermittelnde Prozesse für den Zusammenhang von Führung auf Gesundheit)

Es zeigten sich indirekte Effekte zwischen gesundheitsförderlichem Führungsverhalten und Gesundheitsindikatoren, vermittelt über Autonomie, Sinnerleben bei der Arbeit, kognitive Anforderungen und Arbeitsplatzunsicherheit (negativ). Hervorzuheben ist der auch hier sichtbare positive Effekt kognitiver Anforderungen. Dies entspricht der Differenzierung von Stressoren in „challenge“ (Herausforderung) und „hindrance“ (Behinderung, PODSAKOFF, LEPINE & LEPINE, 2005), d. h. der Überlegung, dass nicht jede Anforderung eine Fehlbelastung ist, sondern auch einen Lernanreiz und Erfolgserfahrungen bietet.

Ein Einfluss der Führung auf die Gesundheit der Geführten ist nicht mehr nachweisbar für Depressivität und die Selbstwirksamkeitserwartung, wenn man die Arbeitsmerkmale in die Analyse einbezieht. In Bezug auf Arbeitsengagement und Commitment sowie Teamklima ist die Mediation nicht vollständig, d. h. die „Gesundheitsförderliche Führung“ behält noch einen Teil ihrer Wirkung. Dies lässt darauf schließen, dass die Wirkung der Führung auf die Gesundheit der Geführten vermittelt wird über die Ausprägung der Arbeitsanforderungen, die Gestaltung des Verhältnisses von Belastungen und Ressourcen.

Bei den fünf von uns berechneten Mediatormodellen fällt auf, dass von den Belastungen nur die Arbeitsplatzunsicherheit eine solche „vermittelnde“ Rolle einnimmt, sofern man der Interpretation folgt, dass offenbar die kognitiven Anforderungen eher als Ressource im Sinne der Erhöhung der Handlungs- und Entscheidungsspielräume betrachtet werden können. Ansonsten sind es bei den unterschiedlichen fünf Gesundheitsindikatoren unterschiedliche Mediatoren, die wirksam werden.
Die durchgeführten Multilevelanalysen – d. h. die Überprüfung, ob die Unterschiede zwischen den Teams in ihrer Art der Einschätzung der Führungskraft bedeutsam sind für das gesundheitliche Befinden oder nur das individuelle Erleben der Führung – erbrachten bedeutsame Effekte der Gruppenunterschiede, vor allem hinsichtlich der „Transformationalen Führung“ (siehe Kapitel 6.2). Daraus lässt sich schließen, dass vor allem die „Transformationale Führung“ (auch) ein Gruppenphänomen ist, d. h. dass die Mitglieder eines Arbeitsteams ihre Führungskraft ähnlich erleben. Für alle anderen „positiven“ Führungsverhaltensweisen ist ebenfalls ein solcher Gruppeneffekt feststellbar, wenngleich deutlich niedriger als bei der „Transformationalen Führung“. Geringere Übereinstimmung zwischen den Mitgliedern eines Teams gibt es lediglich bei der „destruktiven Führung“ (ICC .09). Bei der Einschätzung destruktiver Führung sind sich also Teammitglieder weniger einig als bei der Einschätzung konstruktiver Führung. Dies kann zum einen aus unterschiedlichen Bewertungsmaßstäben resultieren, ist aber auch ein Hinweis darauf, dass Führungskräfte nicht gegenüber allen Mitgliedern des Teams das gleiche Verhalten zeigen. Analysiert man die Zusammenhänge zwischen den Gruppenwerten und der individuellen Einschätzung der Führungskraft mit den Gesundheitsindikatoren, so kann man erkennen, dass beides mit den Gesundheitsindikatoren in Beziehung steht (siehe Kapitel 6.2).

Mithin ist also nicht nur das individuelle Erleben der Führungskraft durch die Geführten für deren Gesundheit bedeutsam, sondern auch, wie das ganze Team die Führung erlebt – mit Ausnahme der destruktiven Führung.

Ferner haben die Multilevelanalysen auch verdeutlicht, dass es Teameffekte bei den Arbeitsmerkmalen gibt, d. h. die Teams unterscheiden sich im Hinblick auf das Ausmaß eingeschätzter Autonomie bei der Arbeit und der Bedeutung, die sie ihrer Arbeit zumessen sowie dem erlebten Zeitdruck. Solche Teameffekte sind zu erwarten, wenn man davon ausgeht, dass die Aufgaben der Mitglieder eines Teams sich mehr ähneln als die Aufgaben der Mitglieder verschiedener Teams. Auch für die Gesundheitsvariablen sind Teameffekte feststellbar; hinsichtlich des positiven Indikators Arbeitsengagement in bedeutsamen Ausmaß und höher als für Erschöpfung.

Ferner lässt es unser Design zu, sogenannte trickle-down Effekte zu prüfen. Der Begriff kommt ursprünglich aus der Ökonomie (Adam Smith) und meint, dass positive Zustände sich von oben nach unten weiterverbreiten. Wir haben in unsere Analysen nicht nur positive Merkmale einbezogen, sondern vier Führungskonzepte (Transformationale Führung, Authentische Führung, Faire Führung und destruktive Führung) sowie als Arbeitsmerkmale Autonomie, Sinnerleben, Zeitdruck und emotionale Anforderungen, also sowohl positive wie auch negative Aspekte. Bei den Gesundheitsindikatoren wurde der Effekt für Commitment, Selbstwirksamkeitserleben, Arbeitsengagement und emotionale Erschöpfung geprüft.

Für die vier Führungskonzepte wurde geprüft, ob die Vorgesetzten der von uns untersuchten Führungskräfte ähnlich eingeschätzt werden wie die Führungskräfte von den von ihnen Geführten. Die Analyse zeigt, dass dies nicht der Fall ist (siehe Tabelle 6.27).

Vergleicht man hingegen die Führungskräfte in ihren Arbeitsmerkmalen und Gesundheitsmerkmalen mit den von ihnen Geführten, so ergeben sich eine Vielzahl von trickle-down-Effekten. Mit Ausnahme von Sinnerleben und Commitment ist der Effekt für alle o. g. Variablen nachweisbar. Führungskräfte und die von ihnen Geführten teilen also Merkmale der Aufgabe (Autonomie, Zeitdruck, emotionale Anforderungen) und Gesundheitsmerkmale (Selbstwirksamkeitserwartung, Arbeitsengagement und emotionale Erschöpfung). Solche trickle-down Effekte sind erwartbar, da die Führungskräfte mit ihrem Team eine gemeinsame Aufgabe zu lösen haben und demzufolge auch manche Anforderung ähnlich erleben werden (z. B. Zeitdruck durch Terminvorgaben oder Leistungsvorgaben).

Zusammenfassung: Längsschnittergebnisse

Zusammenfassend können die anfangs formulierten drei Fragen für die Längsschnittanalysen in der Weise beantwortet werden, dass das Führungsverhalten bedeutsam ist für die Gesundheit der Geführten, dass aber auch die Gesundheit der Geführten mit beeinflusst, wie die Führungskraft eingeschätzt wird. Zu der sich daran anschließenden Frage, ob es sich um ein Wahrnehmungsphänomen handelt in dem Sinne, dass z. B. depressive Personen dazu neigen, alles tendenziell negativ einzuschätzen, oder ob sich dahinter reale Unterschiede im Führungsverhalten verbergen, kann Folgendes ergänzt werden: Mit Ausnahme der „destruktiven Führung“ konnte auch ein Effekt der Teameinschätzung identifiziert werden, was die Wahrscheinlichkeit von individuellen Idionsynkrasien reduziert. Es ist also nicht nur die subjektive Wahrnehmung des Führungsverhaltens, welche Effekte zeigt; die Übereinstimmung von Teammitgliedern in der Einschätzung ihrer Führungskraft und Effekte dieser geteilten Wahrnehmung weisen darauf hin, dass es sich tatsächlich um Unterschiede im Führungsverhalten handelt. Ferner ist nicht auszuschließen, dass sich Führungskräfte gegenüber eher beeinträchtigten Personen in der Tat anders verhalten, z. B. weniger fordernd, weniger stimulierend und mit Anregungen verbunden (wie das Bestandteil der „Transformationalen Führung“ ist), aber womöglich auch mit weniger Zuwendung und Fürsorge. Eine dritte alternative Erklärung wäre, dass Personen mit eingeschränkter Gesundheit sich per beruflicher Selbstselektion von eher fordernden Führungskräften weg bewegen zu Führungskräften mit laissez-faire Führung. Diese Möglichkeit ist mit unserm Design ausgeschlossen, da nur diejenigen Teams mit ihren Führungskräften in der Untersuchung verblieben, die keine Wechsel der Führungskraft im Zeitraum der Erhebungen erlebt haben. Als besonders relevante Führungskonzepte für die Gesundheit der Geführten haben sich bei unserer Analysestrategie die „Gesundheitsförderliche Führung“ und zu einem deutlich geringeren Maß auch die „Transformationale Führung“ gezeigt.

Zur zweiten Frage, ob die Führungskräfte mit unterschiedlichem Führungsverhalten einen Einfluss auf die Ausprägung der Merkmale der Arbeitsaufgabe haben, ergaben unsere Analysen eine Vielzahl von reversen bzw. wechselseitigen Effekten. Eine erwartungsgemäße Kausalrichtung (allerdings teils gekoppelt mit der reversen Kausalrichtung, mithin also einen wechselseitigen Effekt) konnte vor allem für die „gesundheitsförderliche Führung“ (auf kognitive Anforderungen, Arbeitsplatzunsicherheit, Sinnerleben und Autonomie) und für die „Transformationale Führung“ (für Rollenklarheit) festgestellt werden (siehe Tabellen 6.1-6.5). Ersteres ist zu erwarten, da das Konzept der „Gesundheitsförderlichen Führung“ als ein wesentliches Element die Herstellung von Handlungsspielräumen und Partizipation als Ressource beinhaltet, allerdings nicht zwingend die Herstellung von Arbeitsplatzsicherheit impliziert. Abzuleiten ist, dass Arbeitsplatzunsicherheit nicht nur ein Erleben der akuten Bedrohung eines Betriebes oder der Wirtschaftslage ist, sondern dass auch durch den Umgang der Führungskraft mit den Geführten Sicherheit oder Unsicherheit transportiert (bzw. vermittelt) werden kann. Die festgestellte Wirkung von „Transformationaler Führung“ auf die Rollenklarheit war weniger erwartbar, da die Aufgabenklärung bzw. Rollenklärung in diesem Konzept nicht unmittelbar angesprochen wird als Bestandteil des Führungsverhaltens. Zahlreiche Zusammenhänge weisen darauf hin, dass die kognitiven Anforderungen offenbar in unserem Kontext eher als Ressource anzusehen sind. Vermutlich werden mit dem verwendeten Messinstrument eher Regulationsan-

forderungen (im Sinne der Komplexität und Variabilität von Arbeitstätigkeiten) erfasst und nicht potentielle Regulationsprobleme wie Überforderung.

Hinsichtlich der dritten Frage, der vermuteten Mediation von Arbeitsanforderungen und Ressourcen als vermittelnde Prozesse zwischen Führungsverhalten und Gesundheit der Geführten, zeigen unsere Daten, dass der Effekt der Führung auf die Gesundheit der Geführten in Bezug auf Depression und Selbstwirksamkeitserwartung vollständig durch Arbeitsmerkmale vermittelt wird (siehe Tabelle 6.25). Dies verweist auf die zentrale Funktion der Führungskräfte bei der Gestaltung gesundheitsförderlicher Arbeitsbedingungen. Führungsverhalten, das nicht auch die Gestaltung von Anforderungen (Reduzierung von Arbeitsplatzunsicherheit) und Ressourcen der Geführten berücksichtigt, scheint bedeutungslos für die Gesundheit der Geführten. Hinsichtlich des Arbeitsengagements, des Commitments und für das Teamklima hingegen kann die Führungskraft wirksam werden über die Wirkung entsprechender Arbeitsmerkmale hinaus.

Evaluation der Intervention

Die Intervention wurde sowohl formativ als auch summativ evaluiert. In der summativen Evaluation ging es dabei um den Nachweis von Effekten der Intervention, in der formativen Evaluation um Information über die Qualität des Prozesses der Intervention und die Erfassung von Kontextvariablen, wie z. B. andere zeitgleich stattfindende Maßnahmen in den Betrieben (EGAN, BAMBRA, PETTICREW & WHITEHEAD, 2009).

Ergebnisse der summativen Evaluation

Für die summative Evaluation wurden Varianzanalysen mit Messwertwiederholung über alle Zeitpunkte sowie für den Vergleich zwischen der ersten und zweiten, der zweiten und dritten und der ersten und dritten Erhebung berechnet, und Vergleiche von Interventionsteams mit den Kontrollteams in den Betrieben, die an der Intervention teilnahmen, konnten gemacht werden. Da sich die schwedischen Teams bereits zum Start des Projektes von den deutschen Teams unterschieden und auch unterschiedliche Verläufe über die Zeit auftraten, haben wir diese Berechnungen getrennt nach Ländern durchgeführt.
Falls Führung trainierbar bzw. erlernbar ist, dann müsste das Führungsverhalten nach der Intervention von den Geführten anders (positiver) wahrgenommen werden als zuvor. Da die Intervention unter anderem darauf abzielte, den Führungskräften den Zusammenhang zwischen Arbeitsmerkmalen und (psychischer) Gesundheit der Geführten zu vermitteln, wurde erwartet, dass vor allem die „Gesundheitsförderliche Führung“ zugenommen hat. Diese zeichnet sich dadurch aus, dass die Führungskräfte Sorge dafür tragen, dass die Geführten gesundheitsförderliche Bedingungen in den Arbeitsaufgaben vorfinden. Ferner ist zu erwarten, dass nach der Intervention die Belastungen für die Geführten sich verringert haben und die Ressourcen zugenommen haben. Ferner sollte sich der Gesundheitszustand der Geführten verbessert haben. Dies wäre zudem ein quasiexperimenteller Beleg dafür, dass Führung bedeutsam ist für die Gesundheit der Geführten. Diese Annahmen gelten unter dem Vorbehalt, dass in Betrieben vielfältige andere Prozesse ablaufen, die ebenfalls von Bedeutung sein können für das gezeigte Führungsverhalten bzw. die Ausprägung von Arbeitsmerkmalen oder des Gesundheitszustands der Belegschaft.

Wir nahmen dabei an, dass die ReSuLead Intervention Auswirkungen auf

a. eine Reduktion von Stressoren bei der Arbeit (Zeitdruck, Emotionale und Kognitive Anforderungen, Arbeitsplatzunsicherheit),
b. eine Erhöhung von Ressourcen (Rollenklarheit, Autonomie, Sinnerleben),
c. eine Zunahme positiven Führungsverhaltens und eine Abnahme destruktiven Verhaltens, wahrnehmbar durch die Geführten,
d. und auf diverse Indikatoren des (Wohl-)Befindens und der Gesundheit zeigt.

Die Analysen ergaben, dass für die Teams in Schweden keinerlei Effekte der Intervention nachgewiesen werden konnten. Mögliche Ursachen für dieses unerwartete Ergebnisse könnten sein, dass (a) die schwedischen Untersuchungsteilnehmer/-innen von Beginn an in nahezu allen erhobenen Kriterien positivere Urteile abgaben als die deutsche Stichprobe und möglicherweise so auch weniger Verbesserungsmöglichkeiten gegeben waren; (b) die Teams in Schweden deutlich größer waren als die Teams in Deutschland und sich das Training als effektiver für kleinere Teams erwies; (c) in der schwedischen Stichprobe eine größere Vorerfahrung mit den Trainingsinhalten vorhanden war und so keine Effekte mehr erzielt werden konnten; und (d) aufgrund des langen Interventionszeitraums andere Umstände einen größeren Einfluss auf die Zielkriterien hatten als die Intervention. Hinweise darauf finden sich in der Formativen Evaluation der Intervention sowie in den Analysen zu Länderunterschieden im Allgemeinen.

In der deutschen Stichprobe konnte eine Reihe von Trainingseffekten nachgewiesen werden. Dabei können kurzfristige, nachhaltige und verzögerte Effekte unterschieden werden. Kurzfristige Effekte zeigen eine Verbesserung direkt nach der Intervention, die sich bis zum Zeitpunkt der Nachmessung, ca. 6 Monate später, nicht gehalten hat. Nachhaltige Effekte sind dann gegeben, wenn auch zum dritten Zeitpunkt ein Effekt der Intervention weiter besteht. Ein verzögerter Effekt liegt vor, wenn erst in der Nachmessung eine Verbesserung feststellbar ist.

Vorwegnehmend ist festzuhalten, dass es sich bei den nachgewiesenen Effekten des ReSuLead Trainings durchgängig um kleine Effekte handelt. Aufgrund zahlreicher anderer Wirkfaktoren in einem relativ langen Zeitraum ist dies aber auch zu erwarten gewesen. Bezogen auf die Einschätzung von Führungskräften konnten nachhaltige Effekte für „Authentische Führung“ und „Gesundheitsförderliches Führungsverhalten“ belegt werden. Ein kurzfristiger Effekt zeigte sich in Bezug auf „Faire Führung“ (siehe Kapitel 6.3.1). Hinsichtlich der Tätigkeitsmerkmale hatte die Intervention weder zur einer Reduzierung von Stressoren noch zu einer Erhöhung von Ressourcen beigetragen. Dies ist insofern verwunderlich, als wir feststellen konnten, dass Effekte des Führungsverhaltens auf das Befinden der Beschäftigten über die Wahrnehmung von Tätigkeitsmerkmalen (Stressoren/Ressourcen) vermittelt werden und das ReSuLead Training auch explizit die Erhöhung von Ressourcen und Verringerung von Stressoren in der Arbeitstätigkeit thematisierte.
Hinsichtlich der Gesundheitsindikatoren (der Geführten) konnte mit Ausnahme von Irritation und Emotionaler Erschöpfung zu allen weiteren als Kriterien herangezogenen Indikatoren für Gesundheit und Wohlbefinden Veränderungen nachgewiesen werden (siehe Kapitel 6.3.1). Auffallend ist, dass auch schon bei der Analyse der Längsschnittdaten diese beiden Variablen sich als nicht korreliert mit dem Führungsverhalten erwiesen. Ein verzögerter Effekt fand sich für somatische Beschwerden.

Nachhaltige Effekte konnten für Krankheitstage (reduziert), Präsentismus (reduziert), Selbstwirksamkeitserwartungen (erhöht), Arbeitsengagement (erhöht) und Teamklima (verbessert) nachgewiesen werden. Es ist jedoch zu beachten, dass sich nachhaltige Effekte im Vergleich der Zeitpunkte vor dem Training (T1) und 8 Monate nach dem Training (T3) meist nicht mehr nachwiesen ließen, da durch Schwund in der Stichproben nicht mehr die nötige statistische Power vorhanden war. Insofern ist von einer Unterschätzung der nachhaltigen Effekte auszugehen.

Ergebnisse der formativen bzw. Prozessevaluation

Angesichts der fehlenden Effekte des Trainings in Schweden war es ein besonderes Anliegen der formativen Evaluation, Erklärungen hierfür zu gewinnen.

Die Evaluation der Workshops in Deutschland verdeutlichte, dass die Rückmeldung der Ergebnisse aus der Ersterhebung von den Interventionsteilnehmerinnen (Führungskräfte und Geführte) als ein bedeutsamer Bestandteil der Intervention erlebt wurde. Dies konnte zu einem späteren Zeitpunkt auf der Grundlage qualitativer Interviews mit den Führungskräften auch für Schweden bestätigt werden.

Es konnte eine hohe Zufriedenheit erreicht werden, die gemeinhin als Erfolgsprädiktor einer Intervention gesehen wird. In Deutschland zeigte sich, dass die Zufriedenheit in solchen Teams geringer war, die mehr organisationale Veränderungen angaben. Für den zweiten Workshop lag die Zufriedenheit bei den Schweden signifikant niedriger als in Deutschland. Dafür wurde das Teamklima in Schweden positiver eingeschätzt. Das Ausmaß der Zielerreichung durch die Intervention unterschied sich in Schweden und Deutschland jedoch nicht. Ein sehr deutlicher Unterschied war die Teamgröße: In Schweden waren die trainierten Teams deutlich größer als in Deutschland. Große Teams schätzen ihre Führungskräfte als weniger transformational oder gesundheitsförderlich führend ein.

Die Befragung der Führungskräfte in Deutschland und Schweden hinsichtlich der Implementationsqualität ergab in zwei der vier inhaltlichen Dimensionen eine positivere Einschätzung durch die Schweden. Allerdings wurden die einzelnen Elemente der Intervention zumeist von den Deutschen positiver bewertet mit Ausnahme des (freiwilligen) Tagebuchschreibens. Die von den Schweden positiver eingeschätzte Methode der Selbstreflexion, das Tagebuchschreiben, wurde allerdings nur von 9 der 17 Führungskräfte genutzt. Schwedische Führungskräfte gaben an, dass die verschiedenen Module zeitlich zu lange auseinander lagen. Die Implementation kann insofern als gelungen betrachtet werden, als dass das entwickelte Interventionskonzept bei allen Teams vollständig umgesetzt werden konnte. Allerdings hätte die Implementation vermutlich davon profitiert, wenn sie „zielgenauer“ durchgeführt worden wäre. Zu vermuten ist, dass das Wissensniveau in beiden Ländern unterschiedlich war und in Schweden mehr Vorwissen vorhanden war, denn die schwedischen Führungskräfte schätzen diejenigen Bestandteile, die der Wissenserweiterung dienen sollten, durchgehend (signifikant) als weniger nützlich ein. Auch werden von ihnen die Zeitabschnitte zwischen den Modulen als zu groß eingeschätzt.

Hinsichtlich ihres eigenen Engagements als Führungskraft für die Intervention waren keine Länderunterschiede feststellbar.

Die leitfadengestützten Interviews mit den Führungskräften und den Repräsentanten der Organisationen zeigten, dass in den Betrieben gleichzeitig andere Veränderungen, Maßnahmen und Programme stattfanden. In Deutschland waren dies z. B. die Einführung einer neuen Software, Umzüge, die Teilnahme an einem Qualitätsaudit oder Angebote der Verhaltensprävention. Die Beteiligungsrate für die letztgenannten gesundheitsfördernden Programme war jedoch gering. Teilnehmerinnen der Interventionsstichprobe waren nicht nennenswert involviert. In Deutschland wurde von den Führungskräften für den Zeitabschnitt der Intervention mehrheitlich ein Personalaufbau statt Abbau berichtet.

Die Frage, warum in Deutschland Effekte der Intervention auf die Gesundheit der Beschäftigten nachweisbar waren, in Schweden dagegen nicht, kann nicht abschließend geklärt werden. Bei vielen der erfragten Bewertungen wurden von den schwedischen Teilnehmern keine durchgängig negativeren Urteile abgegeben. Einige Bewertungen fallen in Schweden sogar positiver aus. Erkennbar ist als eine zentrale Variable, dass in großen Teams die Bewertungen weniger positiv ausfallen und in Schweden die Teams wesentlich größer waren. Ferner ist zu vermuten, dass das Ausgangswissen der schwedischen Führungskräfte größer war. Wie unsere Prüfung von Kulturunterschieden ergab (s. u.), werden Führungskräfte in Schweden insgesamt schon vor der Intervention positiver eingeschätzt und die Geführten haben einen besseren Gesundheitszustand. Zu ergänzen ist, dass gemäß der GLOBE-Studie in Schweden ein humanistisch orientiertes Führungsverständnis stärker ausgeprägt ist. Möglicherweise ist der Bedarf für die von uns entwickelte Intervention, die auf die Interaktion zwischen Führungskraft und Team basiert, in Schweden weniger dringlich oder nicht der geeignete Weg, um die Gesundheit der Mitarbeiter zu fördern.

Kultur- und Geschlechtsunterschiede

Die Prüfung der Unterschiede zwischen den drei beteiligten Ländern ergab, dass in Deutschland die Führungskräfte weniger positiv eingeschätzt werden als in Schweden. In Deutschland und noch deutlicher in Finnland liegen die Werte für „destruktive Führung“ höher (siehe Abbildung 6.31) Dies spiegelt sich teilweise auch in den Gesundheitsdaten wieder: In der deutschen Teilstichprobe gibt es deutlich geringere Werte im Arbeitsengagement, deutlich höhere Werte für die Depressivität und im Vergleich zu Schweden höhere Irritationswerte und emotionale Erschöpfung.
Die Erfragung der Vorstellung des Idealbildes der Führung anhand der Hofstede-Kategorien ([1] Individualismus vs. Kollektivismus, [2] Akzeptanz von Machtdistanz, [3] Unsicherheitstoleranz, [4] Maskulinität vs. Feminität) bestätigte die Vorstellung, die bereits im Projektantrag formuliert wurde: Schweden und Finnland bewerten den Stellenwert von Kooperation höher als Deutschland. Die Sichtweise, dass eine Führungskraft eine Integrationsfunktion haben sollte, ist in Schweden signifikant stärker ausgeprägt als in den beiden anderen Ländern.

Ebenso mit den Hofstede-Dimensionen wurde eingeschätzt, ob die Teilnehmer eher eine Tätigkeit mit maskulinen oder eher mit femininen Merkmalen als ihren idealen Job beschreiben. Als stereotyp maskuline Merkmale werden in der Konzeption Hofstedes materieller Wohlstand, Unabhängigkeit, das Leistungsprinzip, Analytik, Konfliktbereitschaft verstanden. Als stereotyp feminin werden Werte wie Lebensqualität, Kooperation, Intuition und Kompromissbereitschaft verstanden.

Es zeigt sich, dass schwedische Teilnehmer auf beiden Kategorien die höheren Werte angeben, d. h. für sie ist der ideale Job ein androgyner.

Dies führt zu letzten Frage: Spielen Geschlechtsunterschiede eine Rolle, wenn es um die Wirkung von Führung geht – wie dies verschiedentlich in der Forschungsliteratur dargestellt wurde? Die bisherigen Analysen haben wenige und kaum stabile Geschlechtsunterschiede ergeben, was jedoch der ungleichen Verteilung von Männern und Frauen in der Stichprobe geschuldet sein kann. Aufgrund der gewählten Branchen und der Tatsache, dass für die Fragestellung des Projektes Führungskräfte für die Teilnahme gewonnen werden sollten, die direkt mit einem Team zusammen arbeiten, haben wir vor allem Führungskräfte auf der untersten Ebene in der Stichprobe und diese sind überwiegend weiblich. Bisher lässt sich sagen, dass in den nordischen Ländern die weiblichen Beschäftigten höhere Erschöpfungswerte haben, unabhängig vom Geschlecht ihrer Führungskraft. Zudem ist in Finnland und Schweden der Zusammenhang zwischen gesundheitsförderlichem Verhalten bzw. „Transformationaler Führung“ und Arbeitsengagement bzw. Erschöpfung stärker bei männlichen Führungskräften. Dies entspricht in Bezug auf die „Transformationale Führung“ früheren Befunden von WOLFRAM und MOHR (2010) mit einer deutschen Stichprobe (für männliche Führungskräfte, die in weiblich dominierten Branchen tätig sind). Interpretiert wird dies dahingehend, dass bei männlichen Führungskräften, wenn sie – unerwartet – ein eher „weibliches“ Führungsverhalten zeigen, dies eher als wertschätzend erlebt wird mit entsprechend positiven Folgen für die mentale Gesundheit der Geführten als von weiblichen Führungskräften, von welchen dieses Verhalten erwartet wird.

Zusammenfassung und Ausblick

Das Studiendesign hebt sich durch folgende vier Punkte von bisheriger Forschung ab: Die Studie (1) ist längsschnittlich angelegt, (2) beinhaltet eine Intervention und (3) verwendet eine Kombination aus Selbst- und Fremdberichten der Führungskräfte und ihrer Mitarbeiter(-innen) (multi-source), (4) bezieht unterschiedliche nationale und kulturelle Kontexte ein und ermöglicht durch die Datenerhebung bei realen Teams mit ihren Führungskräften ein Multilevel-Design.

Zu den fünf anfangs formulierten Forschungsfragen

1. Hat das Führungsverhalten einen Effekt auf die Gesundheit der Geführten oder bestimmt der Gesundheitszustand der Geführten die Wahrnehmung der Führungskraft?
2. Welche Bedeutung haben Merkmale der Arbeitsaufgabe im Wirkprozess zwischen Führung und Gesundheit?
3. Gibt es kulturelle Unterschiede in Bezug auf die aufgestellten Forschungsfragen?
4. Ist es für die untersuchten Zusammenhänge bedeutsam, ob die Führungskraft männlich oder weiblich ist?
5. Lässt sich gesundheitsförderliches Führungsverhalten lehren bzw. erlernen?

lässt sich zusammenfassend sagen:

1. Das Führungsverhalten ist bedeutsam für die Gesundheit der Geführten, insbesondere die „Gesundheitsförderliche Führung“ und die „Transformationale Führung.“ Es gibt zahlreiche umgekehrte Kausalbeziehungen, d. h. eine Person mit guter psychischer Gesundheit schätzt ihre Führungskraft positiver ein. Es ist mit unseren Daten zwar nicht entscheidbar, ob Führungskräfte sich gegenüber Personen mit gutem psychischen Wohlbefinden anders verhalten oder ob diese Geführten generell eine positivere Sicht haben, jedoch ist es wenig wahrscheinlich, denn wir haben eine Reihe von Hinweisen, dass die Einschätzungen, die zu den Führungskräften abgegeben wurden, nicht nur individuelle Idiosynkrasien sind. Dies zeigen die Ergebnisse der Multilevel-Analysen. Ausschließen können wir, dass psychisch stabile Personen sich per Selbstselektion eher bei Führungskräften mit positivem Führungsstil antreffen lassen.

2. Zur zweiten Frage konnte festgestellt werden: Für zwei Gesundheitsmerkmale (Depressivität, Selbstwirksamkeitserwartung) hat das wahrgenommene Führungsverhalten keinen direkten Einfluss mehr, wenn man die Ausgestaltung der Arbeitsmerkmale berücksichtigt. Bei anderen Gesundheitsmerkmalen reduziert sich der Einfluss der Führungskraft, wenn Arbeitsmerkmale mit berücksichtigt werden. Auffallend ist, dass die Mehrzahl der Zusammenhänge zwischen Führungsverhalten und Arbeitsmerkmalen ausschließlich reverser Natur sind. Mit anderen Worten: Die Ausprägung der Arbeitsmerkmale determinieren, wie die Führungskraft eingeschätzt wird. Dies mag als Hinweis darauf zu deuten sein, dass Aufgabenmerkmale zuvorderst systembedingt sind (also durch allgemeine Branchen- und Berufsmerkmale geprägt werden) und Führungskräfte innerhalb dieser Systeme nur einen begrenzten Gestaltungspielraum wahrnehmen können. Dabei gilt, dass Beschäftige, die viele Ressourcen in ihrem Berufsalltag wahrnehmen, auch ihre Führungskräfte positiver einschätzen und Beschäftigte, welche hohe Belastungen wahrnehmen, ihre Führungskräfte negativer bewerten.

3. Wir konnten einige Unterschiede zwischen den Ländern feststellen, welche mit früheren kulturvergleichenden Studien konform gehen. So zeigten sich in Schweden durchgängig positivere Einschätzungen von Führungskräften, es wurden mehr Ressourcen und geringere Belastungen wahrgenommen, als in Deutschland und Finnland.

4. Es zeigten sich konsistente Geschlechtsunterschiede in der Wahrnehmung der Tätigkeitsmerkmale. Frauen gaben an, weniger Ressourcen in der Arbeit zu erleben und höheren Belastungen ausgesetzt zu sein. Auch zeigten sich in den erhobenen Befindensindikatoren im Durchschnitt schlechtere Werte bei den Frauen als bei den Männern. Ein interessanter Befund ist dabei, dass Geschlechtsunterschiede in Depressivität durch die unterschiedliche Bewertung der Arbeit (Stressoren/Ressourcen) mediiert wurden.

5. In Bezug auf die fünfte Forschungsfrage belegen die Evaluationsergebnisse, dass ein Training mit Führungskräften und ihrem Team, das sich auf den Zusammenhang von Arbeitsmerkmalen und Gesundheit ausrichtet, sinnvoll ist, d. h. zu positiven Effekten auf die Gesundheit der Beschäftigten führt. Ganz offenbar geschieht dies im Rahmen der Intervention nicht über die Veränderung der Arbeitsanforderungen, sondern über die Stärkung der Ressourcen der Teammitglieder (Selbstwirksamkeit, Arbeitsengagement, Teamklima).

Unerwartet war, dass die Intervention nur in Deutschland, nicht aber in Schweden einen Effekt zeigte. Gesundheitsförderliches Führungsverhalten lässt sich somit zwar lehren und verbessern, nicht jedoch unter allen Bedingungen.

Die Effekte sind nach üblichen Konventionen als klein zu bewerten, was angesichts der vielen gleichzeitigen Wirkprozesse in Betrieben nicht anders zu erwarten ist. Betrachtet man unter Utilitätsgesichtspunkten die Kosten für eine solche Intervention im Verhältnis zu den Kosten, die auch nur eine chronisch depressive Person einem Betrieb verursachen kann, lohnen sich auch Interventionen mit kleinen Effekten. Zu erwarten ist, dass stärker maßgeschneiderte Interventionen, die frei vom forschungsimmanenten Zwang vergleichbarer Vorgehensweisen in den zwei Ländern konzipiert werden können, noch bessere Ergebnisse bringen würden.

Einschränkend kann zur ReSuLead Studie angemerkt werden: Das gewählte Design und die Auswahl der Methoden sind auch immer durch den Umfang der verfügbaren Ressourcen definiert. Die Durchführung der Intervention in nur zwei der drei Länder war eine ressourcenbasierte Entscheidung. Zu vielen Sachverhalten konnten zwei Datenquellen einbezogen werden (Führungskräfte und Geführte) und die Geführten sind den Führungskräften bzw. einem Team zuordenbar, womit Multilevel-Analysen möglich sind. Die „one-source“ Problematik konnte somit in Ansätzen überwunden werden, nicht jedoch die „one method“ Problematik (PODSAKOFF, MACKENZIE, LEE & PODSAKOFF, 2003), da alle Daten (abgesehen von der formativen Evaluation der Intervention) über Fragebogen erhoben wurden. Wünschenswerte zusätzliche Datenquellen zu erschließen (z. B. Beobachtungen des Führungsverhaltens, Auswertung von Datenblättern zum Gesundheitszustand) war mit den vorhandenen Ressourcen nicht zu leisten.

Wir sind noch weit davon entfernt, die zugrundeliegenden Prozesse zu verstehen, da zu vielen Mechanismen noch keine theoretischen Modelle vorliegen. Insbesondere ist die Wahl der Untersuchungszeitpunkte weder empirisch noch theoretisch solide begründbar. Gerade die Festlegung der Untersuchungszeitpunkte wird letztendlich durch die Dauer der Finanzierung bestimmt; insbesondere, wenn eine Intervention zwischen zwei Messungen erfolgen soll. Die bisherigen Unterschiede in Abhängigkeit von dem untersuchten Zeitraum werden noch weitere Analysen nach sich ziehen. Auch sind Kultur-und Geschlechtsunterschiede erst in Ansätzen geprüft. Die Auswertung der Projektdaten mit komplexeren Modellen (etwa Strukturgleichungsmodelle unter Einschluss der Messmodelle) unter Beachtung möglicher Kontrollvariablen sowie dem genesteten Design der Studie (Teammitglieder sind Führungskräften zugeordnet) wird sicher noch zu interessanten Befunden führen.

Die Befunde aus der Längsschnittanalyse, nach denen die Arbeitsmerkmale die Wirkung der Führung auf einige Gesundheitsindikatoren der Geführten vollständig vermitteln, zeigen, wo ein großer Hebel zur Gesundheitsförderung im Betrieb vorhanden ist: in der Erhöhung der Ressourcen und Reduzierung von Belastungen, mithin der Verhältnisprävention. Die Analyse dieser psychischen Risikofaktoren sowie die Beseitigung erkannter Gefährdungen ist zwar in Deutschland im Arbeitsschutzgesetz (§ 5: Gefährdungsbeurteilung) gesetzlich verpflichtend geregelt. Dennoch dominiert in der betrieblichen Praxis im Rahmen des betrieblichen Gesundheitsmanagements nach wie vor die Verhaltensprävention. Wichtig ist dabei, für einzelne Arbeitsmerkmale ihren Status (als Ressource oder Fehlbelastung) zu erkennen und ein Ver-

ständnis von Mehrfachbelastungen zu haben. Führungskräfte können ein wichtiger Adressat sein, um bei der Verhältnisprävention mitzuwirken. Dies setzt aber voraus, dass ihnen das notwendige arbeitspsychologische Wissen um die Zusammenhänge zwischen Merkmalen der Arbeitstätigkeit und Wirkungen auf die Psyche des Menschen vermittelt werden. Die Grenzen einer solchen auf die Interaktion zwischen Führungskräften und Team fokussierten Intervention liegen da, wo auch Führungskräfte (insbesondere die auf unteren Hierarchieebenen) keinen (bzw. nur einen geringen) Spielraum haben zur Gestaltung der Arbeitsbedingungen der von ihnen Geführten. Zumindest in unseren Interventionsgruppen schien dies der Fall zu sein: Die summative Evaluation ergab verändertes Führungsverhalten und verbesserte Gesundheit der Geführten, aber keine Veränderung der Arbeitsanforderungen. In diesem liegt jedoch das große Potenzial zur Veränderung insbesondere der kostspieligen depressiven Erkrankungen.

1 Introduction

The project Rewarding and Sustainable Health Promoting Leadership aims to explore the role of leadership in relation to workers' psychological wellbeing with special consideration being given to work characteristics and the differences in leadership between three European countries, namely Finland, Germany and Sweden. The research design involves a longitudinal study based on standardized questionnaires with three points of measurements within a time span of 22 months. In Sweden and Germany, a training programme was developed and applied to teams and their leaders. The intervention was evaluated using an intervention-, control-group design. Both a summative evaluation and a process evaluation were carried out within the intervention teams.

With this report we aim to provide an overview of the theoretical grounds, the design, samples and main results of the research project ReSuLead (Rewarding and Sustainable Health promoting leadership).

Before we outline the background and research questions in more detail in chapter 2, we will briefly describe how the project was structured into workpackages. In chapter 3 we provide a concise review on the current state of the art in leadership research with relation to the impact of leaders' behavior on health, and wellbeing of employees. In chapter 4 we present the design, samples and instruments that were applied in the project. Chapter 5 deals with a description of the ReSuLead Intervention. In chapter 6 we will present the main results of the project, starting with longitudinal relationships among variables, results from summative and formative evaluation of the intervention program, and finally we will present country related differences. Chapter 7 provides an overall discussion ad future outlook.
Table 1.1 provides an overview of the workflow of the project.

Tab. 1.1 Work packages

Work packages		Project months / initial schedule	Status / Adjustments
WP 1	**State of the art report**	1-6	The state of the art report was finished in 03/2011 as a draft, a final version was delivered in 06/2011
WP 2	**Contact with participants**	1-36	In all three countries a sufficient number of participants (more than planned) could be recruited.
WP 3	**Questionnaire development and pilot**	1-6	The pilot questionnaire was carried out in the 7th project month (11/2010). Data analyses and decisions for the final questionnaire were finished in 03/2011.
WP 4	**Instruction work books**	4-6 (t1), 22-24 (t2), 28-30(t3)	Guidelines for sampling strategy and decisions about the design of the research instruments have been prepared.
WP 5	**Data management and (process-) evaluation**	7-9(t1), 25-27(t2), 31-33(t3)	The first wave of data collection began in the 11th project month (03/2011) and was finished in 06/2011. The second survey was conducted in 05-08/2012 (25-28th project months), and the third survey in 11/2012-01/2013 (31-33th project months).
WP 6	**Model and plan for interventions**	1-8	A general plan and schedule for intervention has been developed.
WP 7	**Conducting interventions**	9-24	The intervention, comprised of lectures, team workshops, leader workshops, observations, diary writing, and coaching (modules will be described in detail in this report) was carried out in 29 teams in Sweden and Germany.
WP 8	**Country differences**	4-6 (before t1), 27-29 (t2), 33-35(t3)	Theoretical considerations, as well as empirical evidence on cultural, and societal differences, affecting leadership have been formulated. Explorative analyses on differences between a German, Finnish and Swedish sample on the variables under study have been performed.
WP 9	**Preparation of manual**	19-36	We started to draft a manual for the intervention modules.
WP 10	**Dissemination of results and web page**	10-18, 28-30, 31-36	The web-site of the Re-Su-Lead project is http://www.uta.fi/projects/resulead/ already since June 2010 (2nd project month), and is updated regularly.
WP 11	**Coordination**	1-36	Frequent face to face meetings have been arranged.

2 Aims and Research Questions

The ReSuLead project explores the role of leadership in relation to workers' psychological wellbeing with special consideration being given to the differences in leadership between three European countries, namely Finland, Germany and Sweden. The GLOBE-study on leadership prototypes has shown differences between these countries, in particular concerning the dimensions of human orientation and group- versus self-centeredness (BRODBECK et al., 2000), which can be assumed to be important when it comes to the relationship between leadership style and wellbeing of the subordinates.

The research project is a combination of a longitudinal and an intervention study, both conducted in a field setting, that is, with samples from the working population. The longitudinal study design allows us to clarify and evaluate the causal chain between leadership and employee wellbeing. The question of causality is of special interest when the topic of leadership is raised as research has shown the process of leadership to be a social exchange and a two-way interaction. In other words, it is not only the leader's behaviour that is relevant, but also the followers' perceptions and reactions to the leader's behaviour (VAN DIERENDONCK, HAYNES, BORRILL, & STRIDE, 2004; VAN QUAQUEBEKE, ECKLOFF, ZENKER, & GIESSNER, 2009). Also according to a recent meta-analysis (KUOPPALA, LAMMINPÄÄ, LIIRA, & VAINIO, 2008), well-founded longitudinal studies are called for to clarify the evidence concerning the relationship between leadership and employees' wellbeing and health.

The intervention study has an experimental field study design and targets the improvement of the leader-follower relationship using training on-the-job as a critical feature that distinguishes it from most other leadership training to date. Another special feature is, that the training does not primarily aim at developing the self of the leader, but concentrates on ameliorating the leader-follower relationship as we assume this relationship to be of more relevance for the health of the subordinates than the minor changes in the self of leaders commonly targeted in leadership trainings (though self of leader and leader-follower relationship will not be unrelated to each other). Special efforts will be taken to enforce a sustainable and rewarding health promoting leadership behaviour, as we will explain in greater detail later. We distinguish leaders from managers. Managers (the supervisors of leaders) are mainly involved in more general strategic planning of the company and overall goal setting, whereas leaders are those who have to pursue these goals together with their team. Thus we focus on leaders on a lower level who have to interact frequently with their team.

The theoretical background of the study is based on two areas of work and organizational psychology: We combine theories of occupational stress and health and theories of leadership. With respect to stress theories, our main focus will be on demands and resources at work using the Job Demands-Resources model as our conceptual framework (e.g., BAKKER & DEMEROUTI, 2007). Concerning leadership theories, those theories that consider the relation between leader and follower as an interaction are particularly helpful, these being, for example, the theories of Leader-Member-Exchange (LMX; LIDEN & GRAEN, 1980) and Transformational Leadership (BASS, 1985).

We do not only focus on single dyads. Within a leader's team, manifold dyadic relations occur and the perceived quality of a single dyadic relation may depend on each team member's perception on the relations others have with the leader. Another important issue will be the inclusion of contextual factors on societal, organizational and individual levels. The societal level is included by comparing data from three countries that have great differences in those contextual variables that are of relevance for the topic of our research: different leadership prototypes (BRODBECK et al., 2000), differences in women's participation in the workforce and different gender ratio of male and female leaders (among other differences) (see EUROPEAN COMMISSION, 2007, 2008). The organizational level will be taken into account by including features that may have an impact on workers' health, such as a recent increase or decrease in the company's workforce. One of the main individual factors will be the inclusion of the gender of leaders and followers, because leadership research has shown, that the effects of a leader's behaviour depend on the gender of the leader as well as on the gender of the follower (MOHR & WOLFRAM, 2008; NYBERG, WESTERLUND, HANSON & THEORELL, 2008). Furthermore, gender differences in health or mental illness are a widespread research result (but warranting, however, periodic re-examination, see MACINTYRE, HUNT & SWEETING, 1996).
We will take a multi-level perspective in analysing the data, which allows us to separate team- and individual influences.

The objectives of the ReSuLead project are twofold. First we wanted to find out, which features of the leader's behaviour will influence subordinates' health. Prior research has not been without contradiction and needs further investigation. We focus on the mental health of employees because national statistics – in every participating country – indicate that sickness absences and work disability due to impaired mental health are on the rise. The WHO estimates that depression will be the main cause of incapacity by 2020 (COMMISSION OF THE EUROPEAN COMMUNITIES, 2007).

Second based on the literature and supported by our own results, we will develop a leadership training program. The outstanding feature of the program will be the scientific background and the principle of "on-the-job training", in contrast to the much more common off-the job courses. With this training program, we want to reach sustainability, that is, lasting effects even after the intervention has come to an end. Several other features of the training aim to enforce sustainability: Supervisors of the leaders will take part at some stages of the intervention, real teams are subject to intervention, not just the leaders, and the intervention will cover a time frame of 16 months.

The longitudinal study explores the effects of leadership behaviour on employees' mental wellbeing and health. More specifically, we seek answers to the following main questions:

1. Do changes occur in the leadership behaviour (evaluated by the employees and their leaders) across time? If there are changes, what factors (e.g., change of the leader, lengthened relationship tenure, increased communication frequency, decrease in job demands, increase in job resources) explain these changes in leadership behaviour?
2. Does leadership behaviour have longitudinal effects on employees' psychological wellbeing and health? Or is there evidence for the reversed causality that is, do employees' psychological wellbeing and health have longitudinal effects on per-

ceptions of leaders' behaviour? Does the gender of the leader and the employee play a role in this regard?

3. Do job demands (e.g., work load) and job resources (e.g., job control and social support), or changes in these variables, mediate and/or moderate the potential relationship between leadership behaviour and employees' mental wellbeing and health?
4. Are there any cultural differences in the questions (a-c) posed?

3 Leadership and Health – What we know and what we don't

The present chapter gives a brief overview of the state of the art of research on the relation between leadership and wellbeing. After a short introduction to research on leadership we present relevant research on the relation between leadership and wellbeing and introduce two important theoretical models of occupational wellbeing. The following section addresses mediating mechanisms and contingencies, among those cultural and gender differences. Furthermore implications for the design of health-promoting leadership interventions are derived.

3.1 A century of leadership research

Leadership research can be categorized according to three main approaches depending on the understanding of effective leadership. Effective leadership can depend on the leader's personal characteristics, on the leaders' behaviour and on the interaction process between leader and subordinates. Early research tried to identify a set of abilities, such as traits and skills, which effective leaders share. Traits are regarded as relatively stable dispositions to specific behaviour, for example self-confidence or ambition. Skills on the other hand are conceptualized as the ability to do something in an effective manner, for example an employee being creative or clever (YUKL, 2009). Research has revealed a variety of traits and skills which have been found to relate to leadership effectiveness for example extraversion, conscientiousness openness and emotional stability (JUDGE, BONO, ILIES, & GERHARDT, 2002). However, different qualities may be helpful in different situations (YUKL, 2010). Second, effective leadership can be a matter of the leader's behaviour. For example, task-oriented leadership behaviour was found to relate to a better understanding of role requirements while relationship-oriented leadership was related to higher job satisfaction and commitment (BLAKE & MOUTON, 1964). Again different leadership behaviour was found to be effective in different situations resulting in the inclusion of situational factors such as the followers' professional experience (HERSEY & BLANCHARD, 1969). Newer leadership concepts do not only focus on the leader but on the relationship between leader and follower. Thus leadership is regarded as a mutual influence process between leader and follower. The most influential leadership concept of this research tradition is transformational leadership, an inspiring leadership style which aims to foster followers' intrinsic motivation (PICCOLO & COLQUITT, 2006). Transformational leadership has been found to relate to increased team performance (JUDGE & PICCOLO, 2004) and to superior wellbeing of followers as a recent meta-analysis demonstrates (VINCENT-HÖPER, HEIMANN, GREGERSEN, & NIENHAUS, 2013). An experimental study (LYONS & SCHNEIDER, 2009) and a longitudinal study (NIELSEN, RANDALL, YARKER, & BRENNER, 2008) support a health-promoting effect of transformational leadership. Moreover, effects on different outcomes have been demonstrated. VINCENT-HÖPER and colleagues (2013) report that transformational leadership relates to reduced emotional exhaustion, stress, and somatisation and to increased work engagement, affective wellbeing, and occupational self-efficacy. Thus, transformational leadership impacts both positive and negative indicators of wellbeing. Similar effects have also been

found for other forms of considerate leadership behaviour (VAN DIERENDONCK, HAYNES, BORRILL, & STRIDE, 2004). An impressive prospective study even found considerate and participative leadership behaviour which provides feedback and role clarity to relate to reduced risk of ischemic heart disease (NYBERG et al., 2009).
The present chapter reviews the literature on wellbeing and health outcomes of leadership factors. Individual's wellbeing and health can be seriously impaired by workplace characteristics, as shown by several psychological stress models. Both supervisor and colleagues influence "how one feels about one's work and about oneself" (VAN DIERENDONCK et al., 2004, p. 165). The issue of leadership is especially important in this regard as leaders can be a source of stress or may provide valuable resources to cope with stressful situations. The present chapter focuses on two broad categories of outcomes. First, job-related wellbeing and health is discussed using the concepts of job satisfaction, job burnout and irritation. Second, the discussion is continued by introducing four context-free indicators of wellbeing. These are psychological wellbeing, general mental health, depression and physical wellbeing. Sickness absence and sickness presenteism were discussed in the previous section. Finally, the issue of cause-effect relations between leadership and different outcome variables is addressed. Between some of these outcomes, especially psychological wellbeing, general mental health and stress, there is some conceptual overlap making clear-cut definitions difficult. This review distinguishes psychological wellbeing as a positive definition of good health and general mental health as the absence of mental illness dependent on the operationalization of the respective study. Moreover, this section also discusses interesting findings that relate work characteristics to health outcomes. These can be regarded as the most important mediator variables of the leadership-health outcomes relation as leaders seem to have substantial impact on work characteristics.

3.2 Job-related wellbeing and health

Job satisfaction. Job satisfaction has been defined as an emotional response to the workplace (CRANNY et al., 1992). Other researchers have described job satisfaction as "an attitude toward one's job" (BRIEF, 1998). Attitudes are defined as both affective and cognitive responses related to an object, for example a person's job (WEISS, 2002).
Job satisfaction is a central variable in organizational research and is an important dependent variable in leadership issues. Therefore, it is not surprising that job satisfaction has taken a prominent place in work and organizational psychology as it is regarded as important in determining an employee's experience and behaviour in the workplace. A meta-analysis by JUDGE and PICCOLO (2004) revealed an estimated true score correlation of .58 between transformational leadership and follower job satisfaction based on 18 studies. The estimated true score correlation was even higher for transactional contingent reward leadership (.64, based on six studies). In contrast, the correlation was -.28 between follower job satisfaction and laissez-faire leadership. Interesting findings by WOLFRAM et al. (2010) imply that transformational leadership is only related to job satisfaction for male leaders. When the supervisor was female, transformational leadership and job satisfaction were unrelated (see chapter 6). Moreover, job satisfaction affects both physical and psychical health (SIX et al., 2004).

Job stress. Stress is conceptualized as an imbalance between high demands and low personal resources which is experienced as unpleasant (GREIF, 1991). Different models hypothesize a relation between leadership variables and job stress. According to the Job Demand Control (JDC) model (KARASEK, 1979) job stress follows from high job demands and a low level of job control.

SOSIK and GODSHALK (2000) examined the relationship between leadership and job-related stress in mentor-protégé dyads. Transformational leadership behaviour by the mentor was positively related to mentoring functions received by the protégé and both were negatively related to protégé stress. Moreover, transformational leadership behaviour was more positively related to mentoring functions received by the protégé than was transactional contingent reward behaviour. Laissez-faire leadership was negatively related to received mentoring functions. More specifically, post-hoc tests revealed that psychosocial support was positively related to idealized influence, inspirational motivation and individualized consideration, but also to contingent reward leadership.

Burnout. Burnout is a consequence of prolonged job stress and is most often characterized by exhaustion, cynicism, and reduced professional efficacy (MASLACH et al., 1996). Exhaustion represents the individual strain dimension of burnout, describing feelings of fatigue and depletion of emotional energy (MASLACH et al., 1996). Cynicism and reduced professional efficacy go beyond the individual stress experience by adding the employee's attitude to the job (cynicism) and to the self (feelings of inefficacy) into the conceptualization of burnout (MASLACH, 2003). The component of cynicism refers to a distant and cynical attitude towards one's work, whereas reduced professional efficacy describes loss of competence and productivity, and the tendency to negatively evaluate one's past and present accomplishments at work (MASLACH et al., 1996).

Job-related situational factors are considered to be the prime correlates of burnout (MASLACH et al., 2001). In previous studies of various job-related situational factors, both job demands and resources have been related to burnout symptoms, and particularly to exhaustion, whereas cynicism and reduced professional efficacy have been related in particular to lack of job resources (e.g. LEE & ASHFORTH, 1996). The meta-analysis by LEE and ASHFORTH (1996) examined predictors and consequences of burnout revealing job demands like role clarity, role conflict, role stress, stressful events, workload and work pressure as important correlates and potential predictors of emotional exhaustion. Also support by supervisor (-.37) and team cohesion (-.22) were significantly related to emotional exhaustion. Results on depersonalization are parallel. It is important to note that a causal interpretation of these correlations is not justified.

As indicated by the meta-analytical results, different researchers have found inverse relationships between supervisory support and symptoms of burnout. These results suggest that a considerate leadership style may prevent burnout. IVERSON and colleagues (1998) found that burnout components emotional exhaustion and depersonalization were both negatively correlated with supervisory support (-.22 and -.20) in a sample of employees at a hospital (IVERSON et al., 1998). WILK and MOYNIHAN (2005) observed a correlation of -.27 between supervisory support and emotional exhaustion in a study on call centre agents. LEITER and colleagues (2010) investi-

gated the relation between burnout and supervision in a sample of physicians and nurses. Supervision included the delegation of authority, consultation with subordinates, and the encouragement of innovation and displayed significant relationships to all three burnout scales (For nurses: exhaustion: -.20, cynicism: -.33, efficacy: .15; for physicians: exhaustion: -.21, cynicism: -.22, efficacy: .15).

HETLAND et al. (2007) assessed the relation between subordinates' burnout symptoms and the direct supervisor's leadership style. Burnout was measured with the Maslach Burnout Inventory (MASLACH et al., 1986). Passive-avoidant leadership style was linked to burnout's components emotional exhaustion and cynicism. Transformational leadership displayed significant relationships to professional efficacy but, interestingly, also to cynicism. These results indicate that transformational leadership may have an ambiguous relation to burnout. Transformational leadership may constitute a buffer against burnout in terms of professional efficacy but may also promote it in terms of cynicism. Of course, these cross-sectional data do not allow conclusions about cause-effect relationships. Transactional leadership was unrelated to burnout components in the study by HETLAND et al. (2007).

TEPPER (2000) investigated consequences of abusive supervision and besides other outcomes also considered burnout. Abusive supervision is conceptualized as "the sustained display of hostile verbal and nonverbal behaviour, excluding physical contact" (TEPPER, 2000, p.178). Abusive supervision displayed a correlation to emotional exhaustion of .36 indicating a medium high association.

It can thus be concluded, that supervisory support may prevent burnout while the study of transformational leadership and burnout yielded ambiguous results. A clear effect was found regarding abusive leadership which seems to promote burnout.

Burnout can also be considered a mediator variable in the relation between leadership and other outcomes, including organizational outcome variables. In their meta-analysis, LEE and ASHFORTH (1996) found emotional exhaustion to be related to turnover intentions (.44), organizational commitment (-.43), and control coping (-.30). Depersonalization displayed significant correlations to turnover intentions (.31), organizational commitment (-.42), job satisfaction (-.44), control coping (-.28), and preventive coping (-.37). Professional efficacy was related to control coping (.52), turnover intentions (-.16), and attitudes towards workplace climate (.28). Of course a causal interpretation of these correlations is not appropriate.

Irritation. Irritation is conceptualized as a state of mental exhaustion occurring at work before the onset of mental illness (MOHR, 1986). When reaching this state, short daily breaks are not sufficient for recovery, though for example longer breaks or changes in task assignments still make recovery possible (MOHR et al., 2006). Irritation has been increasingly applied as a dependent variable in organizational research (e.g. MOHR et al., 2008). DORMANN and ZAPF (2002) have assessed irritation as a mediator in the relation between social stressors and depressive symptoms in a longitudinal study. Results indicate that the effect of social stressors on depressive symptoms is in fact fully mediated via irritation. The analysis of time lags revealed that quite a long exposure time is necessary, indicating that the hypothesized processes take some time to develop (MOHR, 1986). DORMANN and ZAPF (2002)

suggest that exposure times of “at least two years are required to demonstrate the effects” (p. 33).
Some researchers have investigated irritation as an outcome in leadership research revealing some interesting findings. MOHR and WOLFRAM (2008) found that verbal consideration expressed by a leader led to decreased emotional irritation of his subordinates. Interestingly, this effect was only found for male leaders (see chapter 6).

3.3 Context-free wellbeing and health outcomes

Psychological wellbeing. According to DIENER et al. (1999) wellbeing is a broad construct consisting of four distinct components. These are pleasant affect or positive wellbeing, unpleasant affect or psychological distress, life satisfaction and domain specific satisfaction (i.e. job satisfaction). The World Health Organization regards impaired wellbeing as a determinant of reduced job involvement and absenteeism (HARNOIS et al., 2002).

A recent meta-analysis by KUOPPALA et al. (2008) examined the relationship between leadership and job-related wellbeing and health. The authors found that good leadership (i.e. *considerative, supportive and transformational leadership*) is in fact associated with better wellbeing, lower sick leave and a decreased risk of early retirement. ARNOLD and colleagues (2007) investigated the relation between transformational leadership and employee affective wellbeing. Their study of 319 employees of a long-term care facility revealed a correlation of .57 between transformational leadership and affective wellbeing. SKAKON and colleagues (2010) reviewed the literature on the relation between leadership variables on the one hand and employees’ stress and affective wellbeing on the other. They found that *positive leader behaviour*, leader support and transformational leadership were associated with high levels of employee affective wellbeing and low employee stress levels. Moreover, the study indicated that leaders’ stress level and affective wellbeing might be associated with employees’ stress and wellbeing. This association could be explained by the hypothesis that stressed leaders may increase the stress level of their subordinates (SKAKON et al., 2010).

LYONS and SCHNEIDER (2009) conducted an experimental study comparing the effect of transformational versus transactional leadership (contingent reward and management by exception) on stress outcomes. The authors manipulated leadership style on a stressful task by video instruction and found that transformational leadership was associated with lower degrees of negative affect and lower threat appraisal.

It can be concluded that there is considerable support for an association between leadership and a positive definition of psychological wellbeing (including low stress levels) as proposed by the World Health Organization (WHO).

General mental health. This section summarizes empirical work on relatively broad conceptualizations of mental health assessing symptoms of different psychiatric diseases except for depression which is discussed in a separate chapter. Investigations of the specific psychiatric diseases burnout and depression are reported in sections 3.2.5 and 3.2.6. In the studies summarized in the present section general mental health is defined as the absence of symptoms of mental disorders.

A three-wave longitudinal study by MOYLE (1998) assessed low work demands and high managerial support as predictors of good general mental health while controlling for neuroticism. The general mental health score consisted of four scales measuring symptoms of anxiety, depression, somatic symptoms and social dysfunction. Structural equation modelling suggests that work demands predict both current and future mental health. Results for managerial support were ambiguous as either current or future mental health was predicted by managerial support but not both.

ARNOLD and colleagues (2007) also investigated the relation between transformational leadership and employee mental health. Participants were asked to indicate how often they had experienced various minor symptoms of psychiatric disorders. Participants' mental health correlated to ($r = .29$) with their ratings of supervisory transformational leadership suggesting that transformational leadership has a health promoting effect.

GILBREATH and BENSON (2004) assessed the incremental contribution of supervisor behaviour on employee mental health that goes beyond other important workplace factors. After controlling for age, health practices, support from other people at work and at home, and stressful life and work events a broad measure of leadership behaviour was associated with general health measured by a version of the General Health Questionnaire (GOLDBERG et al., 1988). The General Health Questionnaire includes subscales measuring somatic symptoms, insomnia and anxiety, social dysfunction and severe depression. Supervisor behaviour ($R^2 = .41$) made a significant incremental contribution ($R^2 = .05$) to the prediction of employee wellbeing beyond the total of the workplace factors ($R^2 = .35$) listed above. The authors thus consider that supervisor behaviour potentially influences mental health.

A recent review of the relation between leadership variables and different outcomes by CUMMINGS and colleagues (2010) concludes that transformational and supportive leadership are associated with better staff health and lower levels of anxiety, emotional exhaustion and stress. Thus, it can be concluded that empirical evidence suggests a relation between leadership and psychological health outcomes.

Depression. Several studies have supported an association of work characteristics and employee depression, but very few studies can be found specifically on leadership and employee depression or depressive symptoms. According to a recent review by SKAKON et al. (2010), transformational leadership style has been found to be strongly associated with positive employee outcomes. This finding seems to apply to depressive symptoms as well. In a recent study transformational leadership was associated with reduced depressive symptoms both cross-sectionally and prospectively (MUNIR et al., 2010).

Support by the supervisor may have an important function buffering stress and preventing depression in the workplace. DORMANN and ZAPF (1999) investigated the moderating role of supervisory social support on the relation between social stressors in the work context and depressive symptoms in a longitudinal study. Moderating effects could only be confirmed for a time lag of eight months. Results indicate that social stressors increased depressive symptoms when support was low, while social stressors reduced depressive symptoms in case of high social support. The interaction effect size for the 8-month time lag was -.15 on average.

Leaders usually – depending on their position – have the possibility to influence social and organizational issues. Work unit social factors were a major predictor of subsequent doctor-diagnosed depression, the best predictor being poor team climate (YLIPAAVALNIEMI et al., 2005). Findings from this study emphasized the relational components of organizational justice (unfair and inconsiderate behaviours of leaders). In another Finnish prospective study, organizational equity and especially lack of procedural justice predicted clinical depression or other doctor-diagnosed psychiatric disorders in a sample of female employees (KIVIMÄKI et al., 2003). On the whole, procedural justice has been more consistently related to health effects than relational justice (ELOVAINIO et al., 2001). As KIVIMÄKI and his colleagues (2003) mention, severe relational injustice like workplace bullying has however severe effects. The aforementioned study by TEPPER (2000) also assessed depression as an outcome of abusive supervision and showed that depression was associated with abusive supervision (r = .18) indicating the substantial impact of abusive leadership behaviour.

In a Japanese intervention study depression scores decreased in the groups which participated in a 1-year stress reduction program (KAWAKAMI et al., 1997). Supervisors had a prominent role in this intervention which was oriented towards work environment and targeted at blue-collar work sites showing high depression scores initially. Occupational health and perceptions of supervisors have also been studied in a military setting (PFLANZ et al., 2006). Work stress and depression was significantly related to negative perceptions about the abilities of supervisors and commanders. This study was cross-sectional and did not use any well-known scale to measure stress and depression.

As work characteristics especially can be affected by leaders, these take a prominent part as a mediator between leadership variables and depression in the work context. A recent study by RAU, MORLING and RÖSLER (2010) investigated the association between depression and objectively measured work characteristics (job demand and job control). The idea is that depression may bias self-report measures of work characteristics resulting for example in the reporting of higher job demands by depressed persons in spite of objectively identical conditions. Results indicate that employees suffering from depression in fact had higher objective work demands than those in a mentally healthy control group. In contrast, objective job control was not associated with depression though perceived job control was lower for the clinical sample. This interesting study was thus able to demonstrate that increased work demands are associated with depression.

Generally high job demands have been consistently reported to be related to depression or depressive symptoms. In a review of 16 follow-up studies on work site psychosocial stressors and depression the associations were strongest and most consistent for job strain defined as high demand and low decision latitude among men (BONDE, 2008). However, the conclusion of this critical review was that methodological limitations preclude causal inference. In a study by PATERNITI et al. (2002) high job demands and low social support were independent predictors of increased depressive symptoms for both genders. In men, high decision latitude was predictive of a decrease in depressive symptoms. This study included personality factors, as well: hostility and low self-esteem were independent predictors of an increase in depressive symptoms. In a study based on a diagnostic interview, high job strain (defined by

high demand and low decision authority) was related to all three kinds of depression examined (major depressive episode, depressive syndrome and dysphoria) (MAUSNER-DORSCH et al., 2000). These results were stronger for women.

Altogether, not much research has thus far been reported on the relation between leadership and depression. Transformational leadership predicted reduced depressive symptoms in the study by MUNIR et al. (2010), and supervisory support had a buffering effect on depression in the study by DORMANN and ZAPF (1999). Besides, workplace social factors predicted clinical depression (YLIPAAVALNIEMI et al., 2005), and high job demands were related to employee depression even when objectively assessed (RAU et al., 2010). In particular, longitudinal research is needed to investigate the possible causal effects of leadership factors on employee depressive symptoms. The possible mediating mechanisms linking leader behaviour and employee depressive symptoms are also largely unknown. However, the shortcomings mentioned by BONDE (2008) in the research on work characteristics and depression – such as lack of studies with objective measures (RAU et al., 2010) and independent outcome assessment (MAUSNER-DORSCH et al., 2000) – can be considered to be partly improved.

Physical wellbeing. Measures of physical wellbeing may be of subjective or objective nature. Subjective measures of physical health include indicators that often cannot be observed or diagnosed by others but must be gathered by self-report like headaches or backaches. On the other hand, objective measures include indicators such as blood pressure, salivary cortisol (or other indicators of immune status) or relations to certain physical illnesses.

A prospective study by NYBERG et al. (2009) investigated the association between managerial leadership and ischemic heart disease (IHD). A sample of Swedish male employees rated the leadership behaviour of their supervisors with respect to individual consideration, goal clarity and clarity of role expectations, supply of information and feedback, ability to carry out changes successfully, promotion of employee participation and control. These managerial behaviours are regarded as promoting a favourable work environment. The study found that these positive leadership behaviours significantly reduced the risk of ischemic heart disease approximately ten years later, even when controlling for factors like for example BMI, smoking, education, blood pressure, diabetes and perceived physical work load. These impressive findings underline the powerful impact of health-promoting leadership behaviour on ischemic heart disease, as an important cause of human disability and death.

3.4 Cause-effect relations between leadership and health

VAN DIERENDONCK et al. (2004) examined the relation between leadership and subordinates' wellbeing in a longitudinal study focusing on the causal direction and the time frame of the relationship. Their results suggest a reciprocal relation which implies that leadership behaviour and subordinate wellbeing influence each other in a feedback loop. Regarding the time frame of the relationship the study's design does not allow a precise specification as only concurrent paths display significant relationships. Thus the correct time frame may be between a few days up to five months (time lag between two waves). DE LANGE and colleagues (2004) conducted a longitudinal study testing predictions of the Demand-Control-Support model (JOHNSON et al., 1988; KARASEK et al., 1990). The study assessed cause-effect relations between job demands, job control and supervisory support and mental health variables. Results indicate reciprocal relations between job demands and support by supervisor on the one hand and emotional exhaustion on the other. Consequently, mental health is not only affected by job demands or supervisory support, but may also influence how people perceive their work environments. The authors therefore conclude that work stress models should also acknowledge reversed causal effects. NIELSEN et al. (2008) investigated if transformational leadership and employee psychological wellbeing are directly linked or if the relationship is mediated by followers' perceived work characteristics in a longitudinal study. Their data suggest only limited support for a direct relationship between transformational leadership and employee wellbeing over time. Though there was a significant concurrent path between transformational leadership and employee wellbeing in addition to a mediated path via work characteristics, longitudinal data did not confirm a direct relation. Rather a complex two-step process via work characteristics at time 1 and time 2 fully mediated the relationship between transformational leadership and employee wellbeing longitudinally. Thus, work characteristics which can be influenced by the leader may be important determinants of psychological wellbeing.

KUOPPALA et al. (2008) point to the need for additional well-founded research on the relation between leadership and health. Especially, they encourage prospective studies. Moreover, intervening variables such as work characteristics seem to be of superior importance for the understanding of causal relations between leadership factors and health outcomes.

3.5 Two models of occupational wellbeing

The Job Demands-Resources (JD-R) model (BAKKER & DEMEROUTI, 2007; DEMEROUTI, BAKKER, NACHREINER, & SCHAUFELI, 2001) provides a theoretical framework for the relation between characteristics of the workplace and employee wellbeing. According to this model, employee strain and motivation are determined by the job demands and job resources which employees face in their daily work. Two different processes are hypothesized: The health impairment process claims that excessive job demands can lead to elevated strain levels and the motivational process proposes a motivational effect of job resources. Third, job resources are hypothesized to buffer job demands (BAKKER & DEMEROUTI, 2007) and fourth, low levels of resources have been demonstrated to increase strain levels (SCHAUFELI & BAKKER, 2004).

Another influential model of occupational wellbeing is the Effort-Reward Imbalance model (SIEGRIST, 1996) which proposes am imbalance between efforts and rewards as a source of strain in the workplace. The idea is that employees' investment of effort at the workplace must match the rewards which they receive, in terms of compensation, appreciation, job security and career opportunities, for example. An imbalance between rewards and effort is proposed to result in emotional distress which can result in physical (e.g. cardiovascular) and mental diseases (TSUTSUMI & KAWAKAMI, 2004; VAN VEGCHEL, DE JONGE, BOSMA, & SCHAUFELI, 2005).

3.6 Mediating and moderating effects between leadership and wellbeing

Recent research has concentrated on the identification of processes through which leaders can impact follower wellbeing as this is especially important for the design of health-promoting workplaces. Due to the impact of transformational leadership, research has mainly focused on mediating processes between transformational leadership and various indicators of follower wellbeing. In line with the JD-R model (BAKKER & DEMEROUTI, 2007), several resources have been identified as mediators of this relation. These are social support (HOLSTAD, KOREK, RIGOTTI, & MOHR, in press; NIELSEN & DANIELS, 2012; SOSIK & GODSHALK, 2000), meaning of work (ARNOLD, TURNER, BARLING, KELLOWAY, & MCKEE, 2007; NIELSEN et al., 2008), role clarity and opportunities for development (NIELSEN et al., 2008), self-efficacy (LIU, SIU, & SHI, 2010; NIELSEN & MUNIR, 2009), trust (Liu et al., 2010), and procedural fairness (HOLSTAD, RIGOTTI, & OTTO, 2013).

According to the JD-R model, also job demands have an impact on follower wellbeing (BAKKER & DEMEROUTI, 2007). Though job demands do not necessarily impair follower wellbeing (BAKKER & DEMEROUTI, 2007), excessive workload (LEE & ASHFORTH, 1996) or emotional demands (DE JONGE, LE BLANC, PEETERS, & NOORDAM, 2008; VAN VEGCHEL, DE JONGE, SÖDERFELDT, DORMANN, & SCHAUFELI, 2004; ZAPF, SEIFERT, SCHMUTTE, MERTINI, & HOLZ, 2001) can, for example, result in emotional exhaustion and depersonalisation. Also role conflict can decrease follower wellbeing (LEE & ASHFORTH, 1996). Consequently, leaders risk decreasing follower wellbeing if they do not limit followers' job demands.

Leadership behaviour has proved to be differently effective in different situations (HERSEY & BLANCHARD, 1969). The association between transformational leadership and effectiveness was, for example, higher in public than in private organizations (LOWE, KROECK, & SIVASUBRAMANIAM, 1996) and considerate leadership behaviour was especially effective in cohesive teams (SCHRIESHEIM, 1980). However, when it comes to health outcomes, moderating factors have received less attention. We are only aware of a few studies investigating moderating effects of the relation between leadership and wellbeing. Charismatic leadership was associated with lower burnout levels for individuals with external locus of control and neurotic individuals suffered more from autocratic leaders than emotionally stable employees (DE HOOGH & DEN HARTOG, 2009). FRANKE and FELFE (2011) found the association between transformational leadership and wellbeing to be smaller for followers who were highly committed to the organization (FRANKE & FELFE, 2011). Moreover, the alleviating effect of social support in the relation between transformational leader-

ship and strain was stronger for followers with high levels of professional ambition (HOLSTAD et al., in press). There are several other factors which may potentially moderate the relationship between leadership and wellbeing but have not been investigated yet, for example span of control, team cohesion, or team diversity.

The leader's gender may as well constitute an important moderating factor of the relation between leadership and wellbeing. A meta-analysis (EAGLY, JOHANNESEN-SCHMIDT, & VAN ENGEN, 2003) revealed that women's leadership is more transformational than men's. However, it is not clear if this difference makes female leaders more health promoting. Also effects on leader's wellbeing need to be specified.

Finally, cultural differences have been an important issue in leadership research since the GLOBE study revealed substantial differences regarding the preferred leadership style. Regarding the three countries in the ReSuLead -project, Sweden differed significantly from Germany regarding human orientation. Furthermore, the Swedish data (HOLMBERG & ÅKERBLOM, 2006) differed significantly from all other countries regarding three important dimensions: Team orientation (LEE & ASHFORTH, 1996), participation (MICHIE & WILLIAMS, 2003) and autonomy (KARASEK, 1979) have been related to better wellbeing.

In the following, starting with a necessarily concise review on leadership training programs in general, and different training methods, we will then focus on programs especially concerned with leaders' as well as followers' health. We will report some selected empirical evidence from evaluation studies, and then highlight some factors which should have an impact on leadership training programs. We will finally close this chapter with conclusions for the design of a program aiming to enhance health-promoting leadership.

3.7 Managerial and leadership training programs

There is no doubt that leaders of all hierarchical levels have a great impact on organizational performance, team climate, and the wellbeing of employees (cf. BONO et al., 2003; KUOPPALA et al., 2008). Hence, the development of leaders and leadership is a core theme in many HR-departments of larger organizations (cf. DAY, 2000). These programs in organizations differ in goals, training methods, and target groups. Albeit soft-skills (like communication competencies) are probably included in the vast majority of leadership programs, health related issues are seldom the core focus. Most of these programs within organizations are not evaluated, and if they are the results are not published. Nevertheless there is a huge number of studies, and reports on training programs in general, and managerial training programs in particular. Meta-analyses on managerial training programs have frequently been conducted (cf. BURKE et al., 1986; COLLINS et al., 2004). These researchers took different perspectives, and included different sectors in their analyses. One of the most recent meta-analyses on managerial training focused on private organizations (POWELL et al., 2010). Outcomes in these meta-analyses have been coded according to Kirkpatrick's measurement categories, including reactions, learning-objectives, behaviour, and results (cf. ALLIGER et al., 1989). Overall effects of managerial training were rather small in effect size, and not even statistically significant in most of the investigated combinations. Of course, it must be considered that combination criteria for the

studies can be said to be rather crude, as quite dissimilar outcomes were grouped together, which might have blurred existing evidence of positive effects. Instead of comparing different outcomes, another stream of research looked at the effectiveness of different training methods.

3.7.1 Different training methods and their effectiveness

A basic typology of training is the differentiation into on-the-job, and off-the-job training. On-the-job, or on-site training involves learning from experienced colleagues. Within formalized trainee programs, employees go through several departments, and perform several tasks. This may also involve job rotation. Tasks themselves can have learning potentials. According to action theory (HACKER, 2005), tasks with high learning potentials involve: Frequent changes of tasks with different demands, the duration of action cycles, degrees of freedom, the level of intellectual stimulation, quality and time of feedback, and the need for cooperation. Off-site training methods include classical classroom lectures, programmed instructions (training manuals which allow trainees to adapt the progress to their own pace), simulators (especially for the training of motor skills, and critical situations, e.g. for pilots), and distance learning methods (like online-based courses). Off-site training for team building purposes often include fun activities in nature that are meant to foster trust among team members, and build (collective) self-efficacy by mastering a task together. The effectiveness of these kind of trainings in terms of transfer to daily working life seems to be rather low (cf. LANDY et al., 2010).

Managerial training programs quite often involve Developmental Assessment Centres. Simulation of behaviour, its rating by trained observers, and subsequent feedback is used for developing leaders' competencies. It may either serve as a diagnostic tool for the in-house recruitment on leadership-positions, and/or be used to tailor training programs to special needs of participants. A further tool to be named is 360-degree feedback (LEPSINGER et al., 2009) where leaders are rated by different groups of people, like followers, supervisors, peers, customers, and self-ratings. For example, HAZUCHA, HEZLETT, and SCHNEIDER (1993) have reported some overall positive findings on this method. Feedback in general is seen to be a key factor in behavioural changes. For instance, the well-known results from the Hawthorne Studies have later been attributed to contingent reward through detailed feedback (PARSONS, 1974).

In the 1960s T-group methods (sensitivity training) were a popular method for managerial training (cf. CAMPBELL et al., 1968). T-groups mainly followed goals of enhancing self-awareness, an "expanded interpersonal consciousness" (cf. SCHEIN et al., 1965), authentic, and constructive conflict solving. T-groups usually consisted of 10 to 15 people accompanied by a facilitator (not a leader). Themes of discussion came from the group, and social interaction within the group was analysed by giving feedback to other group-members. This type of training is similar to self-help groups, like Alcoholics Anonymous. CAMPBELL and DUNNETTE (1968) conclude in their review that behavioural changes can be observed after T-group participation. Their main criticism on evaluation studies was that even if behavioural changes have been reported their relation to job effectiveness remained unclear.

In the remainder of this section we will focus on the report of studies, which looked at employee wellbeing as an outcome. Results from evaluation studies using only lecture type elements, without training the behaviour, showed almost no effects on employees' wellbeing. For example, KAWAKAMI, KOBAYASHI, TAKAO and TSUTSUMI (2005) conducted an evaluation study of a web-based training program for supervisors aimed at enhancing supervisor support and reducing mental strain of subordinates. No effects on subordinates' wellbeing could be observed. Their training lasted for a period of one to four weeks. EDEN et al. (2000) evaluated a workshop training program showing how to implement Pygmalion leadership, defined as "a set of behaviours that managers use when they have high performance expectations" (p. 175). These one-day workshops revealed only small effects on the leaders' managerial- and self-efficacy (no data from followers were collected). More promising are the results reported by QUICK (1979). His dyadic goal-setting training included not only lectures on dyadic goal setting, but also discussion of real cases in groups and in depth role-playing exercises (QUICK, 1979). This training proved to reduce employees' strain, as well as absenteeism. The positive effects of trainee-generated scenarios are also documented in a meta-analysis on behaviour modelling training (TAYLOR et al., 2005). DVIR, EDEN, AVOLIO and SHAMIR (2002) conducted a controlled field experiment in a military setting and report positive effects of leadership training. A three-day leadership training program that included the concept of Transformational Leadership proved to meliorate subordinates performance and self-efficacy in comparison to a control group who received an eclectic leadership training (measured directly after the training). More promisingly, studies conducted by BARLING, WEBER, and KELLOWAY (1996), as well as by FRESE, BEIMEL, and SCHOENBORN (2003), show that rewarding leadership can be trained. GREGERSEN et al. (2008) report some small, but substantial changes in leadership behaviour within a project aiming to improve health-promoting leadership. The effects seem to be mainly attributable to a survey-feedback procedure. In general, several reports can be found on trainings that aim to build a specific leadership style. e.g. transformational leadership, authentic leadership, people-oriented leadership, and pygmalion leadership – with mixed results.

In conclusion, it seems important that leadership training aimed at enhancing employees' wellbeing through a rewarding and sustainable leadership style needs to include training of real life behaviour, and not only lecture-type communication of relevant knowledge. This training also needs to be spread over a longer period of time than just a one-shot workshop. Training methods have always been related to the current understanding of leadership. Whereas a social process approach of leadership seems to be widely accepted among scholars today, training culture seems to focus on leadership styles, and on developing leaders (their skills, knowledge, and competencies), not developing leadership (cf. DAY, 2000). Before we come to a short description of factors influencing training outcomes we will briefly comment on Coaching and Mentoring as two individual-focused interventions.

3.7.2 Coaching

According to the International Coach Federation, Coaching can be broadly defined as "partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential" (ICF, 2010; cf. GREIF, 2010). Coaching is either for individuals or groups. Like in psychotherapy, there are many different methods used within coaching processes, including cognitive-behavioural elements, goal-setting, furthering of self-awareness, but also more hands-on-methods, like time management. In recent years Health coaching of leaders is on the rise. Several studies evaluated the potential of coaching processes to reduce work related stress and strain (e.g. de VENTE et al., 2008; GYLLENSTEN et al., 2005). The general tenor is positive.

However, most evaluation studies focus on internal changes, leaving potential effects on job and organizational effectiveness, or even effects on subordinates of leaders open to speculations.

3.7.3 Mentoring

Mentoring refers usually to a dyadic relationship between an experienced, more senior manager or leader, and the focal person in a junior leadership position (MCCAULEY et al., 2004). There are formal programs, as well as informal mentoring-relationships. A differentiation between mentoring and coaching can be difficult, when mentors are recruited from external sources, like consultancies. There has been considerable research on the dyadic characteristics in mentoring-relationships, comparing for example gender, cultural or age similarity. In a frequently cited study, KRAM and ISABELLA (1985) highlight the role of peers, as development relationships. Hence, there need not be a power-distance between protégé and mentor. Mentors serve as role-models, and can play a key role for organizational socialisation processes.

3.7.4 The problem of learning transfer

Aside from the training design, several factors have been reported to have an impact on training or intervention outcomes. They can be broadly categorized into personal factors of the trainee, and environmental factors of the socio-technical system of the organization. Of course these factors have to be regarded in interaction with training/ intervention methods. Success of a program will be contingent on tailoring the program to specific needs, and circumstances.

Personal factors. Old habits die hard. It is a common fact that in many cases people fall back into their habits soon after they leave a training. Several personal factors are thought to affect training outcomes. Among these are readiness to learn, goal orientation (performance vs. mastery orientation), self-monitoring, self-efficacy beliefs, and outcome expectations. Only a few studies have dealt with the differential effectiveness of leadership training contingent upon the individual features of the leaders. ANDERSON (1990) proposed the self-monitoring of leaders to be a relevant moderator variable. Leaders high in self-monitoring should profit more from "techniques requiring leaders to change their own behaviours [...]" and those low in self-monitoring

from "techniques requiring leaders to change conditions within their organizational environment" (ANDERSON, 1990, p. 153).

BLUME, FORD, BALDWIN and HUANG (2010) recently conducted and published a meta-analysis on learning transfer of trainings in organizations. Two major dimensions of transfer can be distinguished: "(a) generalization – the extent to which the knowledge and skill acquired in a learning setting are applied to different settings, people, and/or situations from those trained, and (b) maintenance – the extent to which changes that result from a learning experience persist over time" (BLUME et al., 2010, p. 1067f). There are a number of facilitating or inhibiting factors to transfer of trainings. They can be found within the personality, abilities and motivation of trainees, the design and methods used during the training, and in situational factors such as (post-training) conditions for transfer, like supervisor support, and the possibilities given to perform the trained behaviour within the job.

Environmental factors. Especially supervisor and peer support could be shown to be relevant for transfer learning from training to on-the-job performance (COLQUITT et al., 2000). But also the opportunities to show certain behaviours are crucial for learning transfer. HOUSE (1968) for instance, reports negative effects of leadership trainings. These negative effects can be attributed predominantly to a role conflict: "The role conflict resulted from lack of congruence between the concepts taught in the training program and the behaviour of their superiors" (HOUSE, 1968, p. 557). A learning, and development oriented organizational climate can help to socialize employees that training is important (SAKS et al., 2006). More specifically, GURT and ELKE (2009) pointed towards the role of organizational health culture as a relevant mediator for the impact of leadership focused health programs.

3.8 Broadening the perspective: Health-promoting interventions with a leadership focus

Training leaders is only one strategy to involve them in occupational health programs. Normally, when the psychological wellbeing and health of subordinates is a topic in leadership training, leaders are trained to give safety instructions to subordinates, inform them about basic occupational health issues and motivate them to show health behaviour (sports, healthy food, abstain from drug use), or they are trained to do appraisal interviews with employees returning to work after periods of longer absenteeism. Training that focuses on the (daily) role of leaders for the health of the subordinates is rare.

Formalised occupational health programs usually follow a project plan, that includes (1) the implementation of a project-team (committee), (2) organizational diagnosis (including employee surveys, interviews, and structured work-place diagnosis), (3) feedback of results, (4) the installation of health circles, aiming to produce concrete measures for health-promotion, (5) implementation of changes, and (6) evaluation (cf. RIGOTTI et al., 2008, ULICH et al., 2008). The coordinating project team usually consists of a mixture of the following persons (dependent on the organizational size, and structure): upper management, members of the work council, employees from the HR-department (specialised on health promotion), occupational safety experts, representatives of different hierarchical levels, occupational health physicians. Some-

times external experts, like representatives from health insurances join this team. This committee is implemented to set goals for the program, to monitor its process, and to decide upon resources. Besides survey-feedback procedures, health circles have become the most prevalent strategy within these kinds of structured occupational health programs, at least in Germany (AUST et al., 2004; BEERMANN et al., 1999). The composition of health circles may include leaders, or may only include employees from one hierarchy level. The participation of employees in these circles can be regarded as part of the intervention, as they learn that their experience and their views are taken seriously by the organization. People in leadership positions might be involved in these programs at different stages. They can be part of the organizing committee, participate in the health circles (which can change the willingness of participants to talk about problems at work), or will be involved whenever something falls under their own jurisdiction. Even if these formalized programs did not intend to focus on leadership processes as a source of stress or wellbeing, leadership often becomes a core topic.

3.9 Leadership as a social process – new directions for training

In the first chapter we have seen, that leadership research has gone through several prevailing paradigms, starting from a trait-perspective ("best man"), over leadership styles, contingent approaches (people vs. production-oriented) up to dyadic perspectives. A current trend is to understand leadership as a social process. The development of competencies, and skills steps back in favour of action focused practice (e.g. CARROLL et al., 2008).

DAY (2000), for instance, differentiated between *leadership* development and *leader* development. While the latter aims at increasing leaders' competencies and personal development, which is the focus of the majority of training programs, the focus should shift to leadership development: Leadership is "building networked relationships among individuals that enhance cooperation and resource exchange in creating organizational value" (DAY, 20000, p. 585). In a similar fashion, BARKER (1997) criticized the focus of leadership trainings on personal competencies and developed sound arguments for viewing leadership as a social process that contains complex relationships. For designing programs to promote health related leadership this implies the need to look through a systemic lens.

3.10 Evaluation of programs

There are some obstacles to the evaluation of occupational health programs: (1) a dynamic environment, which brings changes not intended by the program; these changes may have detrimental or furthering effects on health (cf. RICHTER et al., 2010), (2) inappropriate time lags between measurements, some effects might be delayed, others may fade quickly, and (3) difficulty finding an appropriate control group. These problems are not easy to solve within an organizational field setting.

According to KRAIGER, FORD, and SALAS (1993) training outcomes can be broadly categorized by cognitive, skill-based, and affective outcomes. All these outcomes are personal (internal) attributes. They may in turn influence behaviour and performance

of trainees and in the case of leadership training may also show effects on the subordinates. Stating it simply, we can say that (classical) training aims to change internal attributes, which in turn have effects on external outcomes such as productivity, behavioural changes, or even have an impact on other persons (KRAIGER et al., 1993). By embedding health-promoting leadership interventions as a systemic approach, focusing not only on leaders' development, but on the whole socio-technical system, we will also need to choose different criteria in evaluation studies, as only leaders' attributes, and performance.

3.11 Conclusions

From this brief overview, and based on the idea that leadership is a social process, it seems important to design programs that not only focus on the skills, behaviour, and knowledge of leaders, but take a more systemic perspective. This implies including the whole team with their supervisor in health-promoting leadership programs. Also, external factors should be part of the program as behaviour is largely dependent on the possibilities to show it, and rewards provided for it. A systemic approach to furthering health-promoting leadership should also take task characteristics into account, as it could be shown that there is an indirect effect of leaders' behaviour and employees' wellbeing, mediated by complexity, degrees of freedom, and feedback provided. Such a program should allow learning on-site in daily working life. Support of upper management (the leaders of the leaders) needs to be gained, and team members of target leaders should be involved in these programs.
Regarding leadership as a social process it seems important that interventions do not only focus on leaders' knowledge, skills, and behaviour but take a systemic perspective which integrates followers' perspective, tasks, and organizational background. According to HACKER (2005) tasks can have high learning potential if they change frequently and involve different demands, sufficient degrees of freedom, intellectual stimulation, feedback, and need for cooperation. Also the organizational background should support learning, for example by organizational values encouraging participation in training programs and emphasizing the importance of lifelong learning. The inclusion of the entire team builds on the premise that team members can support each other in the implementation of the trainings' content and help to sustain effects of training sessions (COLQUITT, LEPINE, & NOE, 2000).

A major problem of training programs is a lack of transfer from the training situation to daily working life. Employees tend to fall back into old habits when they return to their daily routines after a course. A recent meta-analysis distinguishes two major dimensions of transfer: Generalization, the degree to which knowledge is applied in different situations and maintenance which refers to the temporal stability of learning (BLUME, FORD, BALDWIN, & HUANG, 2010). On-the-job training programs which take place in the regular work environment seem to produce better results due to better transfer.
It has been criticized that leadership training programs mainly focus on developing leaders (skills, knowledge and competencies) and disregard the development of leadership (DAY, 2000). Consequently, behavioural training of real life interactions between leaders and subordinates should be part of leadership training (TAYLOR & RUSS-EFT, 2005) as well as group discussions of real cases (QUICK, 1979).

4 Design and Methods of ReSuLead

4.1 Study Design

Prior to the main study a pilot online-study was conducted with the main purpose to validate instruments in the three language versions German, Swedish and Finish. The main study comprised a longitudinal study and an intervention study. The longitudinal study consists of three questionnaire waves in Germany, Sweden and Finland across about 22 months in average. In the questionnaires employees and their leaders were asked about characteristics of their work and on their health and wellbeing. Concerning leadership behaviour, employees were asked to rate their nearest superior. For leaders the questions were reformulated as self-appraisals and leaders were thus asked to rate their own behaviour. The intervention study, conducted in Germany and Sweden, aimed to find out whether leadership can be improved through training and whether health and wellbeing of employees can be affected through improved leadership. The intervention took place between the first and the second questionnaire wave. In the following we will provide detailed descriptions of the different methods, samples, and instruments used.

4.2 Pilot study

A questionnaire was developed in summer/autumn 2010 and tested in a pilot study in December 2010/January 2011. The pilot study aimed at reducing the constructs to the most meaningful ones, assessing the equivalence of the language versions, and exploring systematic effects between leadership and health outcomes. The pilot study included the work characteristics role clarity, autonomy, skill utilization, meaning of work, and workload. Moreover emotional and cognitive demands, job insecurity, and work-family conflict were measured. The leadership scales that we included were Leadership Climate (NYBERG et al., 2009), Transformational Leadership (BASS et al., 1996), Leadership Communication Quality (MOHR et al., 2008), Fair Leadership (LINDSTRÖM et al., 2000), Health and Development Promoting Leadership (VINCENT, 2010), and Abusive Supervision (TEPPER, 2000). Diverse outcome variables were assessed: Work Engagement, Job Exhaustion, Job Satisfaction, Cognitive Irritation, Turnover Intentions, Organizational Commitment, Psychological Contract, Team Climate, Occupational Self-Efficacy, Work Ability, sick leave and sick presence, Negative Affectivity, General Health, Somatic Stress, Life Satisfaction, and Depression. Additionally, several background variables were included in the questionnaire.

In both Germany and Finland approximately 140 employees completed the questionnaire, 60 employees participated in the pilot study in Sweden. The pilot study was an online survey, invitations to participate were send out to personal contacts of the researchers, and also internet platforms have been used to advertise for the participation in the study. The only limitation given was that participants should be in dependent employment and have a direct supervisor. The sample can be described as ad-hoc.

The results revealed substantial correlations between leadership constructs and health outcomes (see table 4.1 exemplarily for the German sample). Moreover, the pilot study underlines the importance of work characteristics as suggested by the state of the art report.

Tab. 4.1 Correlation between leadership constructs and health outcomes exemplarily for the German sample.

	Job exhaustion	Workability	Negative affect	General health	Somatic problems	Depression
Leadership climate	-.35**	.41**	-.43**	.21*	-.15	-.40**
Transformational leadership	-.35**	.41**	-.34**	.17*	-.07	-.40**
Communication quality	-.35**	.29**	-.25**	.23**	-.15	-.17*
Fair leadership	-.31**	.38**	-.42**	.26**	-.20*	-.44**
Health promoting leadership	-.30**	.40**	-.41**	.20*	-.15	-.36**
Abusive leadership	.31**	-.43**	.37**	-.16	.30**	.31**

Note. N ranges from 119 to 141.
*p < .05. ** p < .01

Analyses revealed some differences between the three countries:

Participants. The participants were higher educated than the general population on average. In Finland 93 % and in Sweden 97 % of the respondents had university level education or had taken university level studies. However, in Germany only 65 % had university level education. Country differences in the educational level are reflected in the participants' socio-economic status so that in Finland and Sweden the largest respondent group was upper white collar workers while in Germany the largest respondent group was lower-level white collar workers.

Leadership. Among the leadership characteristics explored, country differences were found only in leadership climate. Leadership climate describes the manager's consideration for the individual employee, provision of clarity in goals and role expectations, supplying information and feedback, ability to carry out changes at work successfully, and promotion of employee participation and control. Leadership climate defined this way was most favorable in Sweden and least favorable in Germany.

Wellbeing. Job-related wellbeing was approached by work engagement, which refers to experiences of motivation, energy and deep concentration at work. Job-related ill-being in turn was described by emotional exhaustion which depicts feelings

of fatigue and depletion. In both of these constructs, country differences were found. In comparison with Finland and Sweden, experiences of work engagement were less common in Germany and emotional exhaustion in turn was more common in Germany than in Sweden. Emotional exhaustion was found to be moderately strongly associated with turnover intentions (r = .46, p < .001) which were most common in Germany and least common in Sweden. Yet, organizational commitment was strongest in Germany. Among the three countries, in Germany also the level of occupational self-efficacy (belief in one's own abilities and confidence in coping with work tasks) was lowest and the level of depressive symptoms was highest.

Conclusions. To sum up, it seems that the German participants differed from the participants in the other two countries particularly in experiences of wellbeing. Measured on several indicators, the German respondents scored lowest in wellbeing. It is worth noting that the lower educational level of the German participants on average may explain the differences detected between the countries. For example, emotional exhaustion and depressive symptoms were more common among lower educated than among higher educated participants in Germany. Also, leadership climate was appraised to be more favorable by higher than lower educated German respondents. In the Finnish and Swedish data, the amount of lower educated respondents was not sufficient for comparisons between educational levels.

Based on the results from the pilot questionnaire the following constructs were dropped from the questionnaire for the main study: Leadership Communication Quality (because it was highly correlated to other leadership constructs, but did not show discriminant validity with health outcomes), Negative Affectivity (because controlling for negative affectivity did not change significantly the relationship between leadership constructs and health outcomes), and Psychological contract (because we included additional constructs, and we had to keep the overall length of the questionnaire manageable). As suggested by the state of the art, the following constructs were additionally integrated into the questionnaire: Authentic Leadership (because prior research has proven an augmentation effect above transformational leadership), Emotional Irritation (because Emotional Irritation could be shown in prior research to be a mediator between stressors, and strain at work, e.g. DORMANN & ZAPF, 2002), Social Self-Efficacy and Emotional Self-Efficacy (because different forms of self-efficacy could be shown to be important moderators in the stressor-strain relationship). Moreover some minor changes in the wording of items were made and a different (shorter) scale on Transformational Leadership was used for the main study.

4.3 Main Study: Longitudinal sample

Overall N = 2316 employees plus N = 245 leaders took part in the first wave of measurement (T1), and N=2332/304 at T2, and N = 1757/196 at T3. These figures include intervention teams. For the following analyses on longitudinal relationships, respondents from the intervention teams were excluded from the sample prior to analyses, as the changes due to the intervention may have an impact on the covariation of variables across time. A more detailed description of the analysed sample is given in the next section. The overall matched longitudinal sample (i.e. respondents

who answered all three questionnaires) comprised 1006 employees, and 131 leaders.

Characteristics of the sample employed in the analyses of longitudinal relationships, i.e. non-intervention group employees who participated at the study across all the three points, are presented in table 4.2. We can see from the table that three out of four participants are German, while only 2.4 % of the participants are Swedish and 22 % are Finnish. The German sample included employees from both private and public sectors, and about 60 % of the participants in the longitudinal analyses are working in the private sector. A large majority of the participants were women and only about every fifth participant in this sample was male. Mean age was 42.5 years and for about half of these employees the highest completed education was the first stage of tertiary education (including short university programs, bachelor and master degrees). There were very few temporary workers or shift workers in the data, as 95 % of the employees had permanent job contracts and less than 8 % of the participants had other than fixed day time working hours. The participants have been working for the same employer for about 15 years in average and they work nearly 40 hours in average in a week. Of the participants 75.4 % rated the same leader at the three consecutive questionnaire waves.

The participants in the longitudinal sample were employed in various occupations (not shown in the table) in the three countries. Of the German participants, 74 % worked in a bank and 13 % in an accounting office. Concerning the Swedish longitudinal sample, most of the 21 participants located in health care or social sector. In the Finnish longitudinal sample the largest fields were child care (33 %), teaching (19 %) and cleaning (13 %).

Tab. 4.2 Sample Description for the main study

		T1			T2			T3			T1-T2-T3		
		Ger	**Swe**	**Fin**	**Ger**	**Swe**	**Fin**	**Ger**	**Swe**	**Fin**	**Ger**	**Swe**	**Fin**
Response Rates		74%	73%	64.2%	62.1%	46%	39.3%	53.5%	41.4%	53.9%	N=794	N=124	N=225
Nr. of Organizations		10	2	4	9	2	4	9	2	4	8	2	4
Nr. of Teams		203	26	80	221	26	74	194	24	67	178	19	60
Tenure (M/ SD)		15.1/ 9.1	12.8/ 10.9	15.2/ 10.9	15.3/ 9.3	10.6/ 10.1	15.1/ 11.1	15.6/ 9.5	12.3/ 9.8	16.0/ 11.2	17.3/ 8.9	13.6/ 10.0	17.2/ 11.4
Sector	Public	23.9%	100%	100%	21.5%	100%	100%	32.7%	100%	100%	26.2%	100%	100%
	Private	76.1%	-	-	78.5%	-	-	77.3%	-	-	73.8%	-	-
Type of Employment	Permanent	93.5%	94.2%	95.3%	94.3%	91.4%	94.3%	93.4%	96.4%		94.6%	93.4%	98,3%
	Temporary	6.5%	5.8%	4.7%	5.7%	8.6%	5.7%	6.6%	3.6%		5.4%	6.6%	1,7%
Participants	Leaders (incl. intervention teams)	**137** (149)	**15** (33)	**63**	**218** (228)	**7** (24)	**52**	**120** (130)	**8** (23)	**43**	**72** (82)	**3** (15)	**34**
	Subordinates (incl. intervention teams)	**1203** (1310)	**208** (449)	**557**	**1594** (1690)	**118** (309)	**333**	**1120** (1203)	**104** (260)	**294**	**651** (711)	**21** (106)	**189**
Gender	Women	73.6%	83.4%	82.4%	74.6%	81.8%	83.4%	77%	82.7%	83.1%	77.5%	82.9%	83,1%
	Men	26.4%	16.6%	17.6%	25.4%	18.2%	16.6%	23%	17.3%	16.9%	22.5%	17.1%	16,9%
Age (M/ SD)		40.8/ 10.3	46.2/ 10.8	48.4/ 9.6	41.3/ 10.1	46.5/ 10.4	48.9/ 9.6	41.3/ 10.6	47.6/ 10.3	50.7/ 8.8	42.9/ 9.7	48.5/ 10.6	51.2/ 8.5

4.3.1 Attrition analysis of the longitudinal sample

To examine attrition the participants who participated through all the three waves (longitudinal participants) and the participants who left the study prematurely (i.e., dropouts) were compared with each other in terms of background factors and study variables. More specifically, the first wave values of the longitudinal participants (control group participants who had responded at all three waves and remained in the employee position throughout the study period, N = 861) were compared to the values of the dropouts (control group employees who responded at the first wave but discontinued after the first or after the second wave, N = 1103). In addition, attrition was examined following the same procedure in the three countries separately. These country-specific attrition analyses were based on 651 longitudinal cases and 551 dropouts in Germany, and the corresponding figures for Sweden were 21 and 187 and for Finland 189 and 365, respectively. Thinking about the comparisons between longitudinal participants and dropouts, it should be kept in mind that the number of longitudinal participants in Sweden was very small. This is due that here respondents that took part in the intervention are not considered for these analyses.

Comparison between longitudinal participants and dropouts showed that women stayed slightly more actively in the study than men ($\chi 2 = 4.07(1)$, $p = .044$). Also age played a role in the participation as the longitudinal participants (mean age 42.51 years) were slightly younger that the dropouts (mean age 43.81 years ($t = 2.66(1903.29)$, $p = .008$). Age in turn was related to gender, as women were younger than men in the whole sample used in the attrition analysis ($t = 5.37(635)$, $p < .001$). Longitudinal participants and dropouts differed from each other also in educational level ($\chi 2 = 63.62(4)$, $p < .001$), as participants with higher education stayed somewhat more actively in the study. In the longitudinal sample 67.2 % of the participants had post-secondary or higher level education, while 53.6 % of the dropouts had the same level education. Attrition was additionally examined separately in the three countries. There was no attrition related to age or education in any of the countries. However, in Germany gender was related to attrition as women were more active to stay in the study than men.

The longitudinal participants and the dropouts differed in several work characteristics and health and wellbeing variables. However, there were no differences in leadership ratings. The dropouts had higher levels in autonomy ($t = 3.37(1957)$, $p = .001$), meaningfulness of the work ($t = 4.28(1945)$, $p < .001$) and emotional demands ($t = 2.22$ (1954), $p = .027$). Further on, the dropouts experienced higher levels in work engagement ($t = 6.55(1908)$, $p < .001$) and occupational self-efficacy ($t = 3.84(1904)$, $p < .001$), general health ($U = 417292$), $p = .006$), life satisfaction ($U = 411389$, $p = .002$), job satisfaction ($U = 405276$, $p = .001$) and workability ($U = 409880$ $p = .001$). In contrast, the longitudinal participants had higher levels in irritation ($t = -3.30(1856)$, $p = .001$), somatic stress ($U = 477124$, $p = .002$), depressive symptoms ($U = 492576$, $p < .001$) and work-family conflict ($t = -3.64(1720)$, $p < .001$). In all, it seems that the dropouts were better off in occupational wellbeing and general health than the longitudinal participants.

In the country-specific attrition analyses, the longitudinal participants and dropouts differed in leadership ratings in Germany, as the longitudinal participants evaluated their leaders as more transformational and less abusive and additionally they had more cognitive demands than the dropouts. Furthermore, the German longitudinal participants had more somatic stress symptoms than the dropouts. In the Swedish data the dropouts seemed to have more demanding work, as they had more workload, more cognitive demands and on the other hand more possibilities for skill utilization than the longitudinal participants. Regarding the Finnish data, the dropouts had more job insecurity and had more often temporary work contract than the longitudinal participants. Further on, the Finnish longitudinal participants had more trust in the management of the organization than the dropouts. There were no other differences between the longitudinal participants and the dropouts in the three countries.

4.3.2 Instruments

The instruments used can be categorized in five domains: work characteristics, leadership, attitudes, health and wellbeing and personal resources. Concerning the leadership ratings we asked our participants to rate their immediate supervisor. Leaders in the sample were asked to rate their own leadership behaviours (we did not include abusive leadership here), as well as in certain organizations provide ratings on the leadership behaviour of their own supervisors.

The outcome measurement refers to wellbeing and work attitudes both on an individual- and organizational-level. In order to examine the validity of the measures used, we first conducted a pilot study. The pilot data were gathered through an online questionnaire on the Internet in the three participating countries. Based on the pilot results some item translations were revised, and some measures were dropped due to high correlations with other measures.

All of the instruments are validated in earlier studies. In many cases we use shortened versions of the measures, which often also are validated as such, because we wanted to keep the questionnaire short enough and easy to complete. Using several topical leadership instruments in the same study we are able to compare the health effects of these constructs. Hence, we are currently not developing new measures but aim to shed light on the health effects of various existing leadership dimensions.

All the measures were tested by means of explorative (EFA) and confirmatory (CFA) factor analysis in the multi-country data, and separately for each country. The reliabilities of the measures turned out to be good (> .70) with a few exceptions. For some of the instruments, measurement invariance between the country samples could not be fully established. A detailed technical report on the psychometric properties can be obtained by the authors of this report.

Most of the instruments have been employed in all three waves. Instruments that have been used only at T1, and were left out in subsequent surveys were skill utilization (due to low alpha reliability), leadership climate as it showed to be highly correlated to other facets of leadership behaviour without showing incremental validity to outcome measures, work-family conflict due to its overlap to the construct of irritation, and the problematic wording referring only to family issues, trust in management, be-

cause of high overlap to organizational justice. A selection was also necessary to gain space for additional questions that were included in the T2 or T3 wave.

In the following tables (Tab 4.3-4.7) first the employed instruments are presented according to the five domains. Then we will present the questions related to socio-demographic factors, describing the life, and job situations, and additional questions which were only included in the questionnaires for leaders in our sample. Finally we will present those constructs, instruments and questions that have been added to the T2, and/or T3 questionnaires.

Tab. 4.3 Instruments to assess work characteristics

Construct k Items	Alpha T1/T2/T3	Source	Sample Item
Work characteristics			
Job Stressors			
Workload	.79/.82/.83	Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain: Interpersonal conflict at work scale, organizational constraints scale, quantitative workload inventory, and physical symptoms inventory. *Journal of Occupational Health Psychology, 3*(4), 356-367.	How often does your job require you to work very fast?
Cognitive Demands	.77/.74/.75	**COPSOQ II** Pejtersen, J. H., Søndergård Kristensen, T., Borg, V., & Bjorner, J. B. (2010). The second version of the Copenhagen psychosocial questionnaire. *Scandinavian Journal of Public Health, 38*(3), 8-24.	Do you have to keep your eyes on lots of things while you work?
Emotional Demands	.84/.85/.86	**COPSOQ II** Pejtersen, J. H., Søndergård Kristensen, T., Borg, V., & Bjorner, J. B. (2010). The second version of the Copenhagen psychosocial questionnaire. *Scandinavian Journal of Public Health, 38*(3), 8-24.	Does your work put you in emotionally disturbing situations?
Job Insecurity	.83/.86/.86	De Witte, H. (2000). Work ethic and job insecurity: Assessment and consequences for wellbeing, satisfaction and performance at work. In R. Bowen, K. De Witte, H. De Witte, & T. Taillieu (Eds.) *From group to community* (pp. 325-350). Leuven: Garant. (in Dutch).	I am sure I can keep my job.
Job Resources			
Role Clarity	.74/.78/.79	**COPSOQ II** Pejtersen, J. H., Søndergård Kristensen, T., Borg, V., & Bjorner, J. B. (2010). The second version of the Copenhagen psychosocial questionnaire. *Scandinavian Journal of Public Health, 38*(3), 8-24.	Does your work have clear objectives?
Autonomy 4 Items	.78/.84/.84	Psycones: Guest, D., Isaksson, K. & De Witte, H. (2010). (Eds.). *Employment contracts, psychological contracts and worker wellbeing: an international study*. Oxford: Oxford University Press.	I can plan my own work.
Skill Utilization[a] 3 Items	.66/-/-	Psycones: van der Doef, M., & Maes, S. (1999). The Leiden Quality of Work Questionnaire: its construction, factor structure, and psychometric qualities. *Psychological Reports, 85,* 954-962.	My job requires a high level of skills.
Meaning of Work	.76/.81/.83	**COPSOQ II** Pejtersen, J. H., Søndergård Kristensen, T., Borg, V., & Bjorner, J. B. (2010). The second version of the Copenhagen psychosocial questionnaire. *Scandinavian Journal of Public Health, 38*(3), 8-24.	Is your work meaningful?

a: Assessed only at T1

Tab. 4.4 Instruments to assess leadership behaviors

Construct	Alpha T1/T2/T3	Source	Sample Item
Leadership			
Leadership Climate[a] ***9 Items***	.89/-/-	Nyberg, A., Alfredsson, L., Theorell, T., Westerlund, H., Vahtera, J., & Kivimäki, M. (2009). Managerial leadership and ischaemic heart disease among employees: the Swedish WOLF study. *Occupational and Environmental Medicine, 66*, 51-55.	My boss gives me the information I need.
Transformational Leadership ***7 Items***	.94/.94/.94	Carless, S. A., Wearing, A. J., & Mann, L. (2000). A short measure of transformational leadership. *Journal of Business and Psychology, 14*, 389-405.	My immediate superior communicates a clear and positive vision of the future.
Authentic Leadership ***16 Items***	.95/.95/.95	Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management, 34*(1), 89-126.	My immediate superior says exactly what he or she means.
Fair Leadership ***2 Items***	.84/.84/.83	[QPS Nordic] Dallner, M., Elo, A., Gamberale, F., Hottinen, V., Knardahl, S., Lindström, K., et al. (2000). *Validation of the general Nordic questionnaire (QPSNordic) for psychological and social factors at work.* Copenhagen: Nordic Council of Ministers. Nord 2000:12.	Does your immediate superior distribute the work fairly and impartially?
Health and Development promoting Leadership ***10 Items***	.88/.91/.91	Vincent, S. (2010). Health-promoting leadership behaviour: A new measure. Paper presented at the 4th International Seminar of Positive Occupational Health Psychology, Lisbon.	My immediate superior allows me to decide for myself how I organize my tasks.
Abusive Supervision ***5 Items***	.91/.92/.91	Mitchell, M.S., & Ambrose, M.L. (2007). Abusive supervision and workplace deviance and the moderating effects of negative reciprocity beliefs. *Journal of Applied Psychology, 92*(4), 1159-1168. Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of Management Journal, 43,* 178-190.	My boss ridicules me

a: Assessed only at T1

Tab. 4.5 Instruments to assess attitudes

Construct	Alpha T1/T2/T3	Source	Sample Item
Attitudes			
Work-Family Conflict[a] ***3 Items***	.72/-/-	Matthews, R. A., Kath, L. M., & Barnes-Farrell, J. L. (2010). A short, valid, predictive measure of Work-Family conflict: Item selection and scale validation. *Journal of Occupational Health Psychology*, *15*(1), 75-90. Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and initial validation of a multidimensional measure of Work–Family conflict. *Journal of Vocational Behaviour, 56*(2), 249-276.	I have to miss family activities due to the amount of time I must spend on work responsibilities.
Organizational justice ***3 Items***	.60/.81/.79	Elovainio, M., Heponiemi, T., Kuusio, H., Sinervo, T., Hintsa, T., Aalto, A.-M. (2010). Developing a short measure of organizational justice: A multisample health professionals study. *Journal of Occupational and Environmental Medicin, 52* (11), 1068-1074. Colquitt, J. A. (2001). On the dimensionality of organizational justice: a construct validation of a measure. *Journal of Applied Psychology*, 86, 386-400.	The appreciation that I get is appropriate for the work I have completed.
Job Satisfaction	1 item	Wanous, J. P., Reichers, A. E., & Hudy, M. J. (1997). Overall job satisfaction: How good are single-item measures? *Journal of Applied Psychology, 82* (2), 247-252.	How satisfied are you with your job as a whole?
Organizational Commitment ***4 Items***	.66/.75/.78	Psycones: Cook, J. & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need non-fulfillment. *Journal of Occupational Psychology, 53*, 39-52.	I feel myself to be part of the organization.
Turnover Intentions ***3 Items***	.89/.88/.87	Mauno, S., Kinnunen, U., Mäkikangas, A., & Nätti, J. (2005). Psychological consequences of fixed-term employment and perceived job insecurity among health care staff. *European Journal of Work and Organizational Psychology, 14* (3), 209-237. See also Mayer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of Applied Psychology, 78,* 538-551. Sager, J., Grieffeth, R., & Hom, P. (1998). A comparison of structural models representing turnover cognitions. *Journal of Vocational Behaviour, 53,* 254-273.	It is likely that I seek other jobs in the near future.

Continued Tab. 4.5

Construct	Alpha T1/T2/T3	Source	Sample Item
Attitudes			
Organisational Trust 3 Items	.82/-/-	Psycones: Guest, D. & Conway, N. (1998). *Fairness at work and the psychological contract*. London: IPD.	To what extent do you trust senior management to look after your best interests?
Life Satisfaction	1 item	Psycones: Guest, D. & Conway, N. (1998). *Fairness at work and the psychological contract*. London: IPD.	How satisfied do you currently feel about your life in general?

a: Assessed only at T1

Tab. 4.6 Instruments to assess health and wellbeing, and related constructs

Construct	Alpha T1/T2/T3	Source	Sample Item
Wellbeing			
Work Engagement 6 Items	.93/.94/.95	Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire. A cross-national study. *Educational and Psychological Measurement, 66*(4), 701-716.	At my work, I feel that I am bursting with energy.
Job Exhaustion 3 Items	.83/.84/.83	Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *Maslach Burnout Inventory manual.* Third Edition. Palo Alto, California: Consulting Psychologists Press, Inc.	I feel emotionally drained from my work.
Irritation 8 Items	.87/.87/.88	Mohr, G., Müller, A., Rigotti, T., Aycan, Z., & Tschan F. (2006). The assessment of psychological strain in work contexts: Concerning the structural equivalency of nine language adaptations of the Irritation-scale. *European Journal of Psychological Assessment, 22*(3), 198-206.	I have difficulty relaxing after work.
Team Climate 14 Items	.92/.92/.92	Kivimäki, M., & Elovainio, M. (1999). A short version of the team climate inventory: Development and psychometric properties. *Journal of Occupational & Organizational Psychology, 72*(2), 241-246.	How far are you in agreement with the objectives of your work unit?

Continued Tab. 4.6

Construct	Alpha T1/T2/T3	Source	Sample Item
Wellbeing			
Work Ability	1 item	Tuomi, K., Ilmarinen, J., Jahkola, A., Katajarinne, L., & Tulkki, A. (1998). Work ability index. Helsinki: Finnish Institute of Occupational Health.	What is your work ability like in relation to the demands of your job?
Sick Leave/ and Sick Presence	single items	Guest, D., Isaksson, K. & De Witte, H. (2010). (Eds.). *Employment contracts, psychological contracts and worker wellbeing: an international study*. Oxford: Oxford University Press.	How many days have you been absent from work due to your state of health?
General Health	1 item	**COPSOQ II** Pejtersen, J. H., Søndergård Kristensen, T., Borg, V., & Bjorner, J. B. (2010). The second version of the Copenhagen psychosocial questionnaire. *Scandinavian Journal of Public Health, 38*(3), 8-24.	In general, how would you say your health is?
Somatic Stress 4 Items	.61/.62/.60	**COPSOQ II** Pejtersen, J. H., Søndergård Kristensen, T., Borg, V., & Bjorner, J. B. (2010). The second version of the Copenhagen psychosocial questionnaire. *Scandinavian Journal of Public Health, 38*(3), 8-24.	The following questions are about how you have been during the last 4 weeks. How often have you had stomach ache?
Depression 12 Items	.91/.91/.91	Bech, P., Rasmussen, N.A., Raabæk Olsen, L., Noerholm, V., & Abildgaard, W. (2001). The sensitivity and specificity of the Major Depression Inventory, using the present state examination as the index of diagnostic validity. *Journal of Affective Disorders, 66*, 159-164.	How have you been feeling over the last two weeks? How much of the time you have felt low in spirits or sad?

Tab. 4.7 Instruments to assess self-efficacy as personal resource

Construct	Alpha T1/T2/T3	Source	Sample Item
Personal Resources			
Occupational Self-Efficacy 6 Items	.80/.80/.82	Rigotti, T., Schyns, B., & Mohr, G. (2008). A short version of the occupational self-efficacy scale: Structural and construct validity across five countries. *Journal of Career Assessment, 16*(2), 238-255.	I can remain calm when facing difficulties in my job because I can rely on my abilities.
Social Self-Efficacy 5 Items	.85/.79/.82	Adaption from Smith, H. M., & Betz, N. E. (2000). Development and validation of a scale of perceived social self-efficacy. *Journal of Career Assessment, 8*, 283-301.	How confident are you in your ability to start a conversation at work with someone you don´t know very well?
Emotional Self-Efficacy 8 Items	.89/.92/.92	Adaption from Kirk, B., A., Schutte, N., S., & Hine, D., W. (2008). Development and preliminary validation of an emotional self-efficacy scale. *Personality and Individual Differences, 45*, 432-436.	How confident are you in your ability to correctly identify your own negative emotions at work?

We also asked our participants to provide information on their sociodemographic background and some information about their current position and employment contract.

Tab. 4.8 Additional questions on job, and life situation

Construct	Items
Age	Please indicate your year of birth.
Sex	Are you female or male?
Education	According to the ISCED scheme
Living situation	Do you live with a partner? How many people live in your household (including yourself)?
Children	Do you have any children living at home? If yes, how many? How old is your youngest child living at home?
Major life events	Over the past 12 months, have you experienced some major life event which has affected your wellbeing negatively
Job title	What is your job title in your current organization
Type of position	How would you classify your current job?
Position	Team member vs. leader
Organization tenure	How long have you been working for your current employer?
Work unit tenure	How long have you been working in your current work unit in the organization?
Job tenure in organization	How long have you been working in your current job tasks in the organization?
Type of employment contract	Is your current employment contract: Permanent or Temporary?
Contractual hours	How many hours are you contracted to work per week?
Weekly working hours	How many hours do you actually work per week?
Working time arrangements	Which of the following best describes your work hour arrangements? Daytime / Shiftwork / Other schedule
Other jobs	In addition to this job, do you have any other paid job(s)? How many hours per week do you work on average in this other job(s)?

Furthermore additional questions for leaders were included in the questionnaires. The following table provides an overview.

Tab. 4.9 Additional questions for leaders only

Construct	Items
Leadership position	How would you define your leadership position? Management / Middle leader / Foreman
Leading span	How many subordinates do you have?
Share of women/men in team	How many of them are women/men?
Own supervisor support	To what extent do you feel that you get support from your own superior?
New team members	How many new employees have joined the team during the year?
Fluctuation	How many employees have left the team during the year? (and reasons)
Team performance	How would you rate the performance of your unit or team during the previous year on a scale from 1 to 10?
Current Leadership tenure	How long have you been working as a leader in your current team or work unit?
Leadership tenure	How long have you been working in a position of leadership all your experience taken together?
Additional questions asked at T3	
Organizational change	- Changes regarding your area of responsibility or your work tasks - Introduction of new technical equipment (new software, machines etc. - Introduction of new products or services
Participation in Occupational Health programs	- Individual programs (e.g. stress management programs, sport programs) - Team building - Risk assessment - Mentoring and/or coaching - Other [occupational health management activities]

5 The ReSuLead Intervention

The ReSuLead intervention is based on the general definition of leadership as a relational process, where the outcome of the intervention largely depends on the social exchange between the two parties (i.e. psychological contract, see GUEST, ISAKSSON, & DE WITTE, 2010; ROUSSEAU, 1995).

The state of the art on leadership and health at the time of the planning of our work motivated us to explore positive rewarding leadership behaviours, the role of the leader as a source of support and how these affect health. As to theories of leadership, those concepts that consider leading an interactional process and differentiate between different types of positive interaction may be helpful for describing supportive behaviour, but should be complimented by other behaviours, such as – for example – giving clear information and delegation of decision making. As results to date have not been without contradiction, a longitudinal quasi-experimental design was planned to help clarifying the relationship. Additional variables that may play a role in the relationship between leader's behaviour and health of the workers also were considered. We focused in particular on those factors that are under the control of the leaders – besides broader contextual variables like culture and features of the organization that are outside of the control of the individual leader.

The intervention aims to develop leaders' behaviour into a more rewarding and health supporting form and will demonstrate whether leadership behaviour can be improved by training on-the-job and whether this potential improvement in leaders' behaviour is positively reflected in employees' psychological wellbeing and health. In addition, we are interested in identifying the mechanisms behind any improvement in employees' wellbeing and health.

A special interest in our intervention study will be in wave three (T3), which occurs six months after the intervention has ended, as it intends to find out if there are *sustainable* effects of the leadership training. If post-tests show increases in psychological wellbeing and health of the subordinates in the intervention group, but not in the control group, we will have evidence supporting the assertion that leaders' behaviour has an impact on the psychological health of the follower. We are also interested in determining which factors might mediate this impact.

Our proposed intervention program defines leadership as a social process, embedded within a broader cultural framework. DAY (2001), for instance, differentiated between *leadership* development and *leader* development. Whereas the latter aims at increasing leaders' competencies and personal development, which is the focus of the majority of training programmes, our focus is on leadership development: Leadership is "building networked relationships among individuals that enhance cooperation and resource exchange in creating organizational value" (DAY, 2001, p. 585). In a similar fashion, BARKER (1997) criticised the focus of leadership training on personal competencies and developed sound arguments for viewing leadership as a social process that contains complex relationships.

5.1 Intervention and Matched Control groups

Overall, in Germany 11 teams (N = 115), and in Sweden 17 teams participated in the intervention (N = 353). For most of the teams it was possible to find matched control groups, working in the same field, with similar tasks, and comparable group size. Table 5.1 provides an overview of intervention teams, organisations, branch and team size for Sweden and Germany. A more detailed description of the sample will be provided in the chapter on summative evaluation.

Tab. 5.1 Intervention – and matched Control Groups in Germany and Sweden

	Intervention Groups			Matched Control Groups		
	Organisation	Branch	Team size	Organisation	Branch	Team size
Germany	City L.	Day Care	9	City L.	Day care	12
	City L.	Day Care	10	City L.	Day Care	10
	City L.	Day care	9	City L.	Day care	10
	City L.	Day care	14	City L.	Day care	13
	City L.	Day care	7	City L.	Day care	8
	City L.	Day care	5	City L.	Day care	6
	City G.	Social Support	15	City G.	Social Support	16
	City G.	Social Services	9	City G.	Social Services	9
	City G.	Human Resources	14	City G.	Legal Services	12
	Bank	System support	14	Bank	System Support	8
	Bank	Finance	9	Bank	Finance	14
Sweden	City E.	Kitchen and cleaning	28			
	City E.	School	25	City V	IDA Family support	36
	City E.	Elderly care	22	City V	Elderly care	26
	City E.	Elderly care alarm	18			
	City E.	Pre school	25	City E	Pre School	18
	City E.	Pre school	15	City E	Pre school	24
	City E.	Elderly care	17	City V	Psychiatric care	23
	City E.	Kitchen	30			
	City E.	Social services	37	Left project during spring 2011		
	City E.	Social services	52			
	City V	City admin.	5	City V	City admin.	5
	City V	City admin.	10	City V	City admin.	23
	City V	City admin.	10			
	City V	City admin.	10			
	City V	Pre school	16	City V	Pre School	31
	City V	School	25	City V	School	23
	City V	School	17	City V	School	6
	City E.	Kitchen and cleaning	28			

5.2 Coverage of intervention – participation

Table 5.2 provides an overview of the participation coverage of the intervention modules for the different organizations in Sweden and Germany. All teams participated in the team based modules. Every leader participated in at least one of the leader workshops. The majority of leaders took part in the coaching sessions.

Tab. 5.2 Coverage of participation in the intervention

	Sweden		Germany		
	City E	**City V**	**City L**	**City G**	**Bank**
Leader Workshop I/II	9/10	7/7	4/6	2/3	2/2
Lecture I	ca. 150	ca. 70	ca. 45	ca. 30	22
Team-Workshop I	10/10	7/7	6/6	3/3	2/2
Lecture II	ca. 100	ca. 50	ca. 50	ca. 25	19
Leader Workshop III	9/10	6/7	6/6	3/3	2/2
Diary Writing	5/10	4/7	-*	-*	-*
Observation	10/10	7/7	6/6	3/3	2/2
Coaching	5/10 (2-3 sessions)	3/7 (1-3 sessions)	4/6 (3 sessions)	3/3 (1-3 sessions)	2/2 (3 sessions)
Team Workshop II	10/10	7/7	6/6	3/3	2/2

* diary writing was anonymous in Germany

5.3 Objectives and aims of the intervention

5.3.1 Effect goals

Against the background described above, it seemed important to develop an intervention based on leadership as a relationship, where the outcome of the intervention largely depends on the social exchange between the two parties. First step and preparation for the intervention is a pre-test questionnaire aiming to screen relevant aspects of the relationship between leaders and team members.
The intervention aims at changing leaders' behaviour into a more rewarding and health supporting form and will demonstrate whether leadership behaviour can be improved by training on-the-job and whether this potential improvement in leaders' behaviour is positively reflected in the employees' psychological wellbeing and

health. In addition, we are interested in identifying the mechanisms behind any improvement in employees' wellbeing and health.

5.3.2 Intervention (process) goals

A first step in the development of the intervention modules was to clarify specific goals for individuals, groups and organizations participating in the intervention. These more detailed goals should be matched with relevant content which makes it possible to achieve the goals. The process can be evaluated, as well as the expected effects for leaders. We formulated goals for the intervention which relate to leaders, the team, individual followers and the whole organization.

In line with our ideas in the application, other researchers have confirmed that programs with training and coaching had better results than training only (SPENCE, CAVANAGH & GRANT, 2008). The goals for the intervention for the participating leaders should include clear areas for improvements. One suggestion could be to use four main areas for *the individual leaders* (HART, CONKLIN & ALLEN, 2008). The areas are listed below together with the planned methods used to reach each goal. Each methods will then be described in more detail in following sections. A summary of goals, planned activities and content and evaluation criteria of the process goals is shown below in table 5.3.

5.3.3 Organizational-level goals

On the organizational level the goals set up were even more limited since we did not expect that our intervention would have any large impact on this level.

Increase insights about the relationship between leadership and health: This should be obtained by involving not only leaders and their subordinates but also the upper management in lectures, and by providing information about the project, etc.

5.3.4 Group-level goals

The following goals were planned on the team level. Since the main target group for the intervention was the leaders, we had slightly lower ambitions on the team level:

Improved working methods: This should be obtained through group discussions about goals and methods for work and workshops resulting in practical changes made by participants in areas such as cooperation, routines, allocation of work.

Changes in the view of work: This should be obtained by increasing knowledge about the relationship between work and stress in lectures, workshops, and practical implications of the intervention (e.g. improved cooperation, psychological climate).

5.3.5 Goals for leaders

Personal growth: This includes the areas self-reflection, self-efficacy in relation to health promotion and leadership. Methods plan to reach this goal were: leaders should write diaries for self-reflection, participate in workshops with other leaders in the intervention group, and get individual coaching.

Conceptual understanding: Leaders should gain new knowledge about leadership as a social process and its effects on health and wellbeing of leaders and their subordinates. This should be obtained by means of lectures and leader workshops on topics such as leadership theory and health, transformational leadership, dialogue and perspective taking, psychological contracts as a theory about the employment relationship and how to use it as part of individualized consideration, decision making and participative leadership, empowerment, and leadership in teams.

Feedback on relevant leadership behaviour: All participating leaders will get feedback on their leadership in feedback reports from T1 questionnaire, including a range of leadership scales and team climate measures. Furthermore, they will also get feedback from the observations of team communication and finally in individual coaching.

Skill-building: Leaders should develop key leadership skills related to the goals. This should be obtained by means of workshops on relevant areas including training such as communication and dialogue competence, perspective taking, and work task analyses (ARIA-model).

5.3.6 Goals for followers

Through a better teamclimate, and a more positive interaction between the leader and followers in the team, the intervention aimed to reduce stressors, to increase ressources (as task characteristics) and thus finally to have a positive impact on health and wellbeing of followers.

Tab. 5.3 Goals, and contents of the intervention on different levels

	Goals	Content	Method/process	Evaluation
Organization	1. Increase insights about the relationship between leadership and health	Leadership and health	Open lectures about health promoting leadership	Questionnaire
Group level	1. Improved working methods 2. Changed its view of work	Team climate, reduce stress and increase cooperation, communication Psychosocial work environment, leadership and health	Lectures, workshops (ARIA, dialogue method, perspective taking, observations of team climate) Skill building	Process
Individual leaders	1. Personal growth 2. Conceptual understanding 3. Feedback on leadership behaviour 4. Skill building	Team climate, reduce stress and increase cooperation, communication, Psychosocial work environment, leadership and health	Self-reflection, coaching Lectures 3. From the group, by questionnaires, group discussions with other leaders, diary , coaching Workshops ARIA, dialogue method, the hats	Process
Individual followers	1. Perceived support from leaders 2. Improve task characteristics	Team climate, reduce stress and increase cooperation, communication, Psychosocial work environment, leadership and health	Participates in workshops	Questionnaire

The table also refers to different levels of learning (assimilation, accommodation, meta-learning) taken from “Evaluation as learning – A study of social worker education in Leningrad County” by KARLSSON VESTMAN (2004).

The following modules have been developed:

- Lectures
- Team Workshops
- Leader Workshops

- Observation
- Diary Writing
- Coaching

In the following, we describe in detail these modules. Figure 5.1 on the next page provides an overview of the time schedules in Sweden and Germany for the different modules. A time schedule was part of our original application. The process has been discussed in detail during all our project meetings, starting in Tampere 2010. Some minor modifications in the scheduling of activities have been made mostly because of necessary adjustments to location and number of leaders and teams involved. The most intense discussions however have concerned the content of the activities in order to manage to make the intervention as similar as possible in both countries. Nevertheless, some differences in the order of modules occurred between Sweden and Germany, as time constraints, and needs of participating organizations, and teams had to be taken into account. Further, some slight differences occurred in conducting the intervention, both between teams and between Germany and Sweden. This was intended, as we promised the teams tailored interventions. Some deviations between the procedures in Germany and Sweden can also be explained with certain methods being culture-specific.

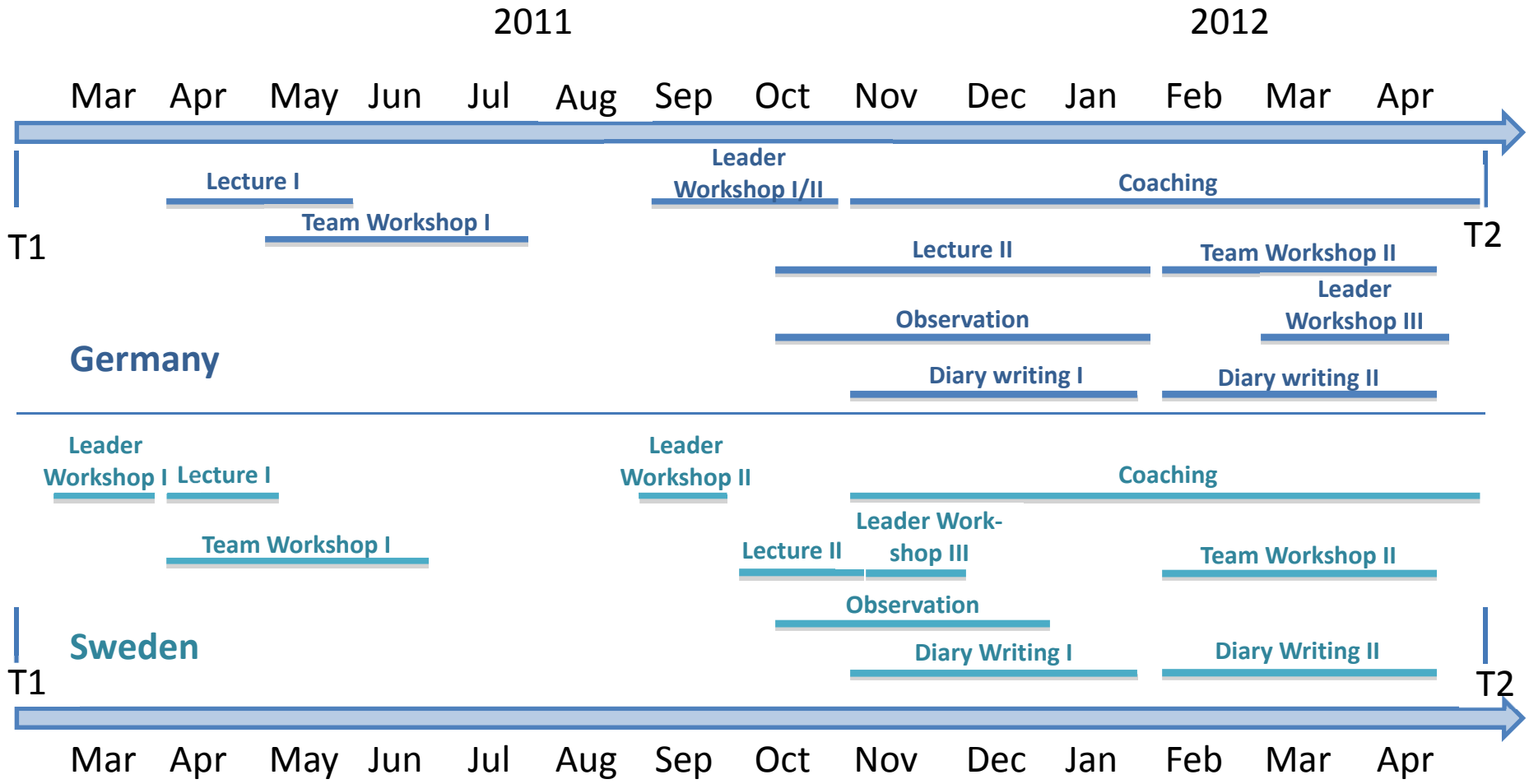


Fig. 5.1 Gantt chart for the intervention in Germany, and Sweden

5.4 Modules of the ReSuLead Intervention

During the intervention two lectures were offered to the leaders and their followers (the focus leader's supervisors were also invited to attend). Both lectures were of an interactive nature: topics were discussed drawing on the background of the intervention groups and two exercises illustrated the importance of leadership for the cooperation in the team (first lecture) and the benefits of team work (second lecture).

5.4.1 Lecture I

The first lecture provided a general overview of work and health with a focus on stress and leader behaviour, but also the importance of the role of employees' active participation and influence to achieve positive results. The WHO's definition of health was presented as well as factors that contribute to health (e.g., societal factors, leadership climate, support, individual health habits, age and genetic factors). The common causes of absence due to illness were presented (e.g. physical causes such as repetitive motion disorder, but also psychosocial factors such as stress) as well as statistics on causes of sick leave and work-related health problems for men and women during a recent decade. A definition of stress was provided (a reaction to having demands one cannot meet) as well as causes (e.g., too few resources, not enough personnel, too much to do with too little time, etc.). A number of conclusions from research on health promotion and stress prevention were covered (e.g., stress management training for employees is good, but does not address the root causes, leader development is the factor that seems to be most important for preventing stress and reducing sick leave, etc.). Reasons why the leaders' role in the stress process is important were illustrated (e.g., leaders' ability to influence demands and resources). Short-, middle, and long-term consequences of leadership and health were presented concerning aspects such as satisfaction, fairness, emotional wellbeing and physical health. The importance of achieving a balance between demands and resources was presented as well as the meaning of health-promoting workplaces on organizational, leadership, group and individual levels were discussed. Finally, an overview of the intervention and the project's goals was provided with a focus on the importance of the employees´ role as well as the leaders' role for achieving a positive result.

5.4.2 Lecture II

The theme of the second lecture was "cooperation in groups" and presented information on motivation gains and losses, making attributions about one's own and others' behavior, and concrete suggestions about how employees can contribute to effective leadership. The focus was on getting employees to reflect on how their own behavior affects the climate at work and those around them. The section on motivation losses concerned social loafing (the tendency to reduce effort when working collectively or coactively as opposed to working alone). A brief description of research on social loafing and some of the factors that have been shown to reduce it (e.g., identifiability of individual effort, task importance, and dispensability of effort and group cohesion) were presented. The discussion of motivation gains focused on social compensation (the tendency to expend more effort when working on important collective tasks than one would alone, in order to compensate for coworkers who are expected to perform poorly). A brief description of research on social compensation

was presented. The audience was then asked to reflect on the positive and negative aspects of social loafing, and what they could do at work to reduce its negative consequences. The section on attribution focused on the actor-observer difference in attribution (that people tend to explain others' behavior in terms of internal characteristics (e.g., he was late to the meeting because of the type of person he is), but their own behavior to aspects of the situation (e.g., I was late to the meeting because I received an important phone call). The audience was then given suggestions to apply this knowledge in their work such as thinking more about how other people's behavior is affected by situational factors, consequences of making inaccurate attributions of others' behavior (e.g., thinking someone is less capable because they failed in a difficult situation or giving someone more responsibility than they can handle because they were successful in a situation that was advantageous for them), how this relates to conflicts (e.g., blaming others for their negative behavior while excusing one's own transgressions as caused by circumstances), and to think about how their behavior is a situational factor for those around them (e.g., if they criticize someone that person may respond defensively and they would inaccurately assume the person is argumentative. Finally, YUKL's (2006) 10 ways workers can contribute to effective leadership were covered (e.g., clarify expectations, take the initiative to handle problems, encourage the leader to give accurate feedback, give the leader support in implementing necessary changes, etc.).

5.4.3 Leader workshops

Since we regard leadership as an interaction between team members and the leader, our intervention focuses both on leaders and on the whole team. This approach has been demonstrated to enhance the effectiveness of leadership interventions (DAY, 2001). Therefore, the ReSuLead programme includes both leader and team workshops.

Overall aim. The overall purpose of the leader workshops was to present theory about health promotion, and to give leaders the opportunity to exchange their experiences with peers. One important aim for both the leaders and their teams was to activate and stimulate them to take responsibility for their own health and wellbeing at work.

Theoretical background. An important antecedent of being motivated, and recognising the ability to take responsibility for health and wellbeing is self-efficacy, the belief in one's ability to succeed in a specific situation (BANDURA, 1997). Leaders (as well as employees, see section 3.4 on team workshops) need to believe that their engagement can in fact make a difference. According to BANDURA (1977), self-efficacy is the belief in one's ability to successfully fulfill a task. Individuals high in self-efficacy are more positive about being able to reach certain goals (ABELE & CANDOVA, 2007). Self-efficacy is assumed to be related to decision making, persistence, and efforts of individuals (CHEN, GODDARD & CASPER, 2004). There is indeed broad evidence that self-efficacy is related to both motivational as well as performance outcomes, documented in meta-analyses (JUDGE & BONO, 2001; SADRI & ROBERTSON, 1993; STAJKOVIC & LUTHANS, 1998). An important aim for the leader workshops is to work with goal setting. Individuals with high self-efficacy set up more ambitious goals than individuals with low self-efficacy, and they also expend more effort to achieve the goals.

We focused on four main areas for the individual leaders (HART, CONKLIN & ALLEN, 2008): personal growth, conceptual understanding, feedback on relevant leadership behaviour and skill building. Self-efficacy can be enhanced by a number of factors including adequate training, a supportive environment, successful role models, and by credibly expressing confidence that a specific goal can be attained (LOCKE & LATHAM, 2002). Previous research has demonstrated that self-efficacy is related to enhanced wellbeing (BANDURA, 2004) hereby supporting the idea that higher self-efficacy may be an important path to better health and wellbeing.

5.4.4 Leader Workshop 1

Aim. The main aim of the first leader workshop was to introduce the intervention, presenting and discussing the rationale and theoretical background, and to obtain information about the leaders' expectations and possible areas that they would like to improve in their role as leaders. It was also an opportunity to present subsequent modules, like diary writing, observations and reflections, coaching and the workshops with team members.

Theoretical background. The first leader workshop focused on leadership behavior, leadership styles, and work characteristics which have been demonstrated to relate to improved wellbeing of followers. Among these were leadership styles like relationship-oriented leadership and transformational leadership (NIELSEN, RANDALL, YARKER & BRENNER, 2008). Moreover, we also introduced health-promoting work characteristics like autonomy (KARASEK, 1979), role clarity (NIELSEN, RANDALL, YARKER & BRENNER, 2008), feedback (SPARR & SONNENTAG, 2008), meaningful work (ARNOLD, TURNER, BARLING, KELLOWAY & MCKEE, 2007), and social support (NIELSEN & DANIELS, 2012). We also addressed the potentially negative impact of destructive ways of leadership (EINARSEN, AASLAND & SKOGSTAD, 2007)

Procedure. The first leader workshop lasted for three hours with a short break for coffee. All leaders involved in the intervention participated. In Sweden we had two workshops, one in each municipality with 9 participants in Eskilstuna and 7 in Västerås. The members of the project group (Hansen, Isaksson & Loeb) have been trainers in all activities in Sweden mostly in pairs but sometimes like in the first leader workshop the three of us have participated. Mostly, we have taken turns to act as trainers and the other one has taken notes. Literature and reports and other material has been provided for the leaders or if this has not been possible, references and information about how to find relevant literature.

In Germany the content of the first two leader workshops was done in one session. Two leaders participated in municipality G, four in municipality L and the two deputy leaders in the participating bank. All workshops were done by the same trainers (Stempel & Holstad).

First, a trainer welcomed the leaders, presented the agenda and explained the purpose of the workshop supporting the implementation of health-promoting leadership in organizations. All leaders presented themselves, their field of work and their number of team members.

Second, the leaders in Sweden filled in the T1 questionnaire (30 minutes). In Germany the questionnaires were filled in a separate meeting for the entire teams prior to the first team workshops.

Third, a trainer made a presentation of possible expected goals on the different levels; the individual team members, the leaders, the team and the organization (see Tab. 4.6). This was followed by the leaders sharing their own expectations about the ReSuLead project.

Fourth, a trainer made a presentation about communication in groups including a discussion about possible gender differences. Furthermore a continuous method for dialogue during the project for both the leader and the team workshops was presented (based on WILHELMSON & DÖÖS, 2005). The dialogue method was presented as a tool to facilitate selection of goals and planning for health promoting work in the team involving all employees during the time span of the intervention (leaders and team members). Among the goals that were discussed and suggested by leaders were to improve communication, support and cooperation, general health promotion, trust and fairness, work load and other job characteristics, etc.

In Germany one topic that has been discussed in municipality G. was for instance the difficulty to give appropriate feedback to the employees. Even though feedback was identified as an important leadership tool, leaders reported not only a shortage of time resources but also discussed the impact of individual feedback on team dynamics.

The trainer set up the following communication rules based on the dialogue method:

- Everyone has a right to express his or her view
- Every suggestion is an important contribution
- Do not interrupt the person who is speaking; listen to what they have to say
- If you usually speak a lot – give others a chance to speak
- If you usually don't speak much – tell others what you think

Fifth, a trainer made a presentation of different theories on leadership and health, for example, communication and obstacles for dialogue, work characteristics, men's and women's practiced roles, early and current leadership theories, and leader and employee health.

Sixth, reflections and discussion on how the leaders perceive themselves as leaders followed starting from the following examples of leadership orientations: Task, relationship, change, democratic, as well as transformational and charismatic leader behaviour. The leaders then reflected on and discussed the question "What do you need to improve?" Depending on the situation of the teams, the leaders identified areas where they already performed well (resource activation) but also areas which could be improved. For example, several leaders from the municipalities in G. and L. reported that they became aware of how important it is to clarify the roles for their

employees and they expressed the intention to consider this in their future work as leaders.

Leaders in Sweden discussed the overwhelming work load that they have as leaders and the need for coping strategies. This was discussed also as the result of a mismatch between organizational need for administrative tasks and management and their own wishes to devote more time to leading the teams.

Seventh, a trainer presented upcoming modules: team workshops, lecture, diary writing, observation, and coaching. In Germany a booklet for diary writing and a flyer with background information on the coaches was handed out.

The workshop was concluded with information about the questionnaire study, and in Germany an evaluation of the workshop. Finally, a few relevant literature references were provided about the topics discussed. In Germany the participants were provided with a journal article about transformational leadership.

Materials. The questionnaires for t1 have been handed out in the Swedish teams. Moderation materials have been used to visualize suggestions and to stimulate group work. Power-point presentations which contained the theoretical background discussed were also given as paper copies for the leaders.

5.4.5 Leader Workshop 2

Aim. The second leader workshop was conceptualized as a follow-up to the first leader workshop. Leaders were given the opportunity to exchange experiences they had with the project thus far. In Sweden this workshop also included an evaluation of the first workshops with the teams.

Theoretical background. We aimed to strengthen leaders´ self-efficacy because of its relevance for mental health and role in the attainment of health-relevant goals. According to LOCKE and LATHAM (2002), feedback is a crucial factor for goal attainment as it is important to know your progress in relation to a specific goal. This is needed in order to make adjustments regarding goals or action plans. This may for example involve the changing of goals which were not realistic or the altering of strategies which were not successful.

Procedure. First, a trainer welcomed the participants, presented the agenda and explained the communication rules (see section on leader workshop I) and the purpose of the workshop supporting the implementation of health-promoting leadership in organizations.
Second, leaders exchanged their experiences on how team workshop I went and reflected and evaluated what progress had been made since the first workshop. In Germany most teams reported some progress regarding at least one of the goals. For instance, one team from municipality G. already introduced an information meeting which takes place once a week in order to facilitate the information flow in the team. There was a clear variation among the leaders regarding how the action plans had been used. One extreme was the leader who had had almost no time for further discussion or work with the action plan. Reasons were high turnover in the team and recruiting of employees together with a high work load. The other and perhaps the

most positive example was a leader who took the action plan as a starting point to include in the annual planning for occupational health in the work place.

Third, planning of the future activities was discussed. These included observations, diary writing, coaching, lectures, and the third leader workshop.

Fourth, a brief summary and evaluation of the workshop was made.

The duration of the workshop was about two hours and again separate meetings were arranged in Eskilstuna and Västerås with 10 participants in Eskilstuna and 7 in Västerås. This workshop was done together with the first leader workshop in Germany.

Materials. Moderation cards were used to stimulate the exchange of experiences among the leaders, using green cards for things that work well and yellow cards for issues that could be improved. Power-point presentations were prepared to give information about the theoretical aspects of the workshop. In Germany this included a video from the well-known series “the office” to illustrate and discuss destructive leadership.

5.4.6 Leader Workshop 3

Aim. The aim of the third workshop was to present a method to describe and evaluate the content of work and obstacles and opportunities from an objective perspective. The purpose was also to give the leaders the possibility to test this method in an exercise. As in the second workshop, we aimed to offer the leaders a chance to exchange experiences. Moreover, the trainers provided information on the upcoming activities in the project.

Theoretical background. Work content analysis method (ARIA) is based on an action regulation theoretical approach and focuses on studying how opportunities and barriers in the organization interact with individual autonomy. The starting point is that humans influence and are influenced by their environment through their goals and actions (ARONSSON & BERGLIND, 1990; FRESE & ZAPF, 1994; LEITNER ET AL., 1987; VOLPERT, 1983; WALDENSTRÖM, 2009).

The general aim with ARIA is to obtain an independent measure, both from the individual´s frame of reference and from emotions that generally colour perceptions of working conditions. Unlike other instruments in the same tradition (FRESE & ZAPF, 1994, KOMPIER, 2003), ARIA is dependent on the individual as the assessment is related to the individual´s knowledge and experience. One does not study work itself regardless of who does it, but work related to a particular person´s ability. The mental requirements of a job are dependent partly on the complexity of the tasks, and partly on the employee´s knowledge and experience. The same work can mean different mental demands for different individuals.

The query method used in ARIA helps you to make a specific and neutral description of the work situation and does not focus on emotions and feelings. Moreover it takes individual experience, knowledge and skills into account. Using ARIA you can get an overview of an individual´s working conditions, which can be used to supplement the

individual´s subjective experiences. To do this a special interview technique is designed to make concrete descriptions of working conditions and their consequences. ARIA consists of 10 different question areas: Work assignment, description of the workplace and the organization, work commitments and work tasks, goals, cognitive/mental demands and opportunities, influence, barriers, quantitative demands, social interaction, and changes. It can be used for example to map working conditions where expectations are unclear, where the situation is perceived as unreasonable, or where employees are not feeling well.

Procedure. First, a trainer welcomed the leaders, presented the agenda and explained the communication rules (same as in leader workshop I and II) and the purpose of the workshop.

Second, there was a follow up on how the health promoting work was going where all the leaders were given the opportunity to report on their situation or exchange ideas, concerns or questions with their peers. Giving feedback and establishing effective communication structures where among the most frequently stressed contents. For example, the leaders from day-care centres discussed what the best way to arrange the work schedule during school holiday together with their employees in order to give everyone a voice. Again there was a variation among leaders which seemed to depend on the work load and general situation of the team. A tendency that could be observed was that the relatively small teams with stable team members seemed to have an easier situation when it comes to discussions and work with actions and goals agreed upon in the workshop. The leader workshops were also an opportunity to exchange of ideas between leaders working in the same areas such as day care or schools.

Third, a trainer gave the background and theory about ARIA and a review of the ARIA-form was made.

Fourth, the leaders made an exercise to carry out a part of ARIA by interviewing each other.

Fifth, there was a reassembly with reflections of the method and discussion of it´s possible usability.

Sixth, a trainer made a review and reminded of upcoming activities and finally the workshop was evaluated, orally in Sweden and using a simple questionnaire form in Germany.

The duration of this workshop was three hours both in Germany and in Sweden. The number of participants in municipality E was 9 and in municipality V 6. In the German sample, three leaders participated in municipality G, six in municipality L and two in the participating bank. In Germany the third leader workshop additionally included an input and a discussion about a topic relevant for the respective teams. In municipality G and the bank it has been the topic “error management” whereas in municipality L “conflict management” was covered.

Materials. Power-point presentations were prepared to give information about the theoretical aspects of the workshop. A worksheet for ARIA was prepared which have been used by the participating leaders during the workshop.

5.4.7 Team workshop I

Aim. The aim of the first team workshop was to activate the team and to stimulate them to take responsibility for their own health. We gave feedback about the team’s evaluation of working conditions, leadership, and wellbeing relative to the evaluations of other teams based on the T1-questionnaire. We focused especially on the strengths and weaknesses, which had become evident in the questionnaire and encouraged the selection of one to five team-specific goals which were chosen together by all team members based on the results from the survey. We emphasised that the goals should be concrete and attainable by the team. Thus, realistic goals were chosen with respect to the team members’ needs in order to promote their wellbeing.

Theoretical background. As noted above, we regard leadership as an interaction between team members and the leader, and so our intervention focuses not only on leaders but on the whole team. This approach has been demonstrated to enhance the effectiveness of leadership interventions (DAY, 2001). Therefore, the ReSuLead programme includes both leader and team workshops.

The main aim of the team workshop was to stimulate team members to take responsibility for their health. Many employees have the impression that they lack the power to change their working conditions for the better disregarding their potential impact on important factors at work. Though there may be some health-relevant factors which are difficult to affect (shift work, workload, time pressure) there may be other factors which are more easy to influence (team climate, fairness issues, recognition). Regarding the former type, unions could act on behalf of employees whereas the latter group are more easily handled by the teams in the work place. The activation of employees can be seen as a means to promote their own wellbeing, and a prerequisite to shaping a healthy work environment.

Just as for the leaders’ workshops, fostering the self-efficacy of team members is seen as an important step to reach joint goals. Regarding the precise implementation of the goals which were set by each team in the first team workshop, we built on goal-setting theory (LOCKE & LATHAM, 2002). All goals were defined taking the SMART criteria into account in order to facilitate implementation.

Thus goals should be:

- **S**pecific
- **M**easurable
- **A**ttainable and ambitious
- **R**elevant and realistic
- **T**ime framed

All goals were defined and substantiated using action plans *(*DE BONO*,* 1992*)*. This is a means to break down an abstract goal into precise actions which facilitates implementation. The action plan also identifies responsibilities and deadlines. Moreover, obstacles and strategies to overcome these obstacles are identified. Figure 5.2 presents the scheme of the action plan that was used in the team workshops.

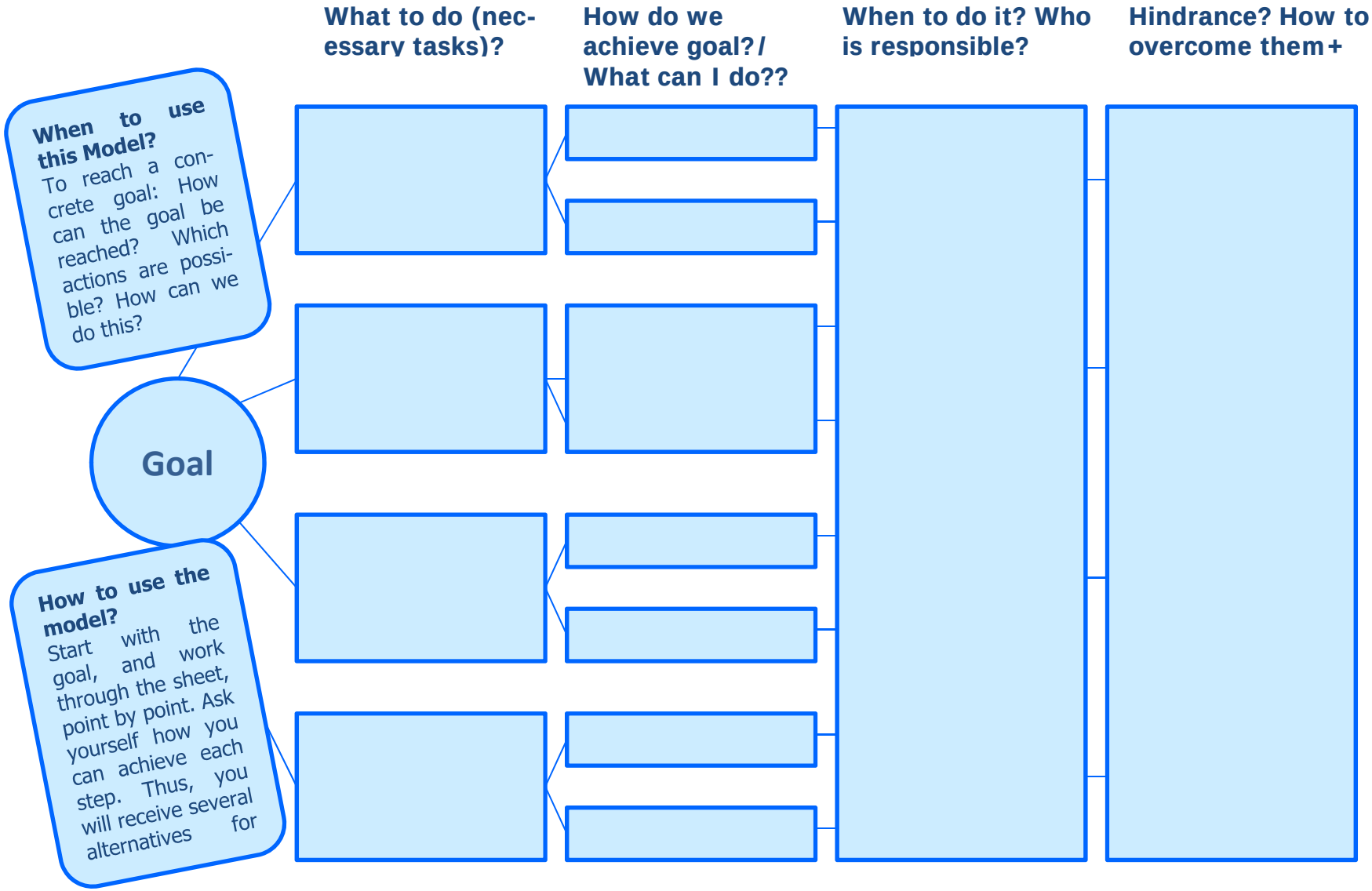


Fig. 5.2 Action plan as used in the team workshop

Procedure. In Germany the participation rate varied for the individual teams. Leaders chose dates for the workshop which promised the highest likelihood of presence for their team members. Nevertheless, in some teams single team members were missing due to sickness, other training programs or private vacation. First, a trainer presented the agenda and explained the purpose of the workshop supporting the implementation of health-promoting leadership in organizations. He/She emphasised the team members' responsibility for the effect of the training hereby explicitly underlining their active role in the program.

Second, the results from the questionnaire were presented, relating the teams' results to the responses of participants from similar occupations and the total sample. Deviances were discussed and the team reflected on possible causes. The trainer moderated the discussion and assisted with special knowledge. If the specific team had expressed expectations in advance, the trainer pointed out connections between the expectations and the team's status quo.

Next, the following communication rules were explained (WILHELMSON & DÖÖS, 2005*)*:

- Everyone can freely express her/his opinion
- Every contribution is important
- Do not interrupt – listen to your colleagues
- If you contribute a lot, give your colleagues a chance to contribute
- If you do not say much, tell your colleagues what you think

The communication rules were important to guarantee that all team members had the opportunity to contribute to the workshop and all team members consequently could identify with the results and be committed to them.

Third, small groups of participants brainstormed on potential topics concerning their work which may relate to wellbeing and health. Participants were asked to derive goals from these topics which comply with the SMART criteria (see above). Suggestions were for example: The improvement of task distributions by making these unambiguous, fair and transparent in order to facilitate controlling and feedback, the establishment of an open, honest, and direct communication, Teambuilding, Optimizing of team meetings in order to improve efficiency, or the formulation of clear rules for the team. These suggestions from the single groups were presented to the whole team. We observed that most suggestions were mentioned by several of subgroups so it can be concluded that there seemed to be a shared understanding of actual problems in the teams. After the ideas of all subgroups had been presented, the team decided upon the most important suggestions. Each team member was given a number of votes (typically three) which should be allocated to three different goals. Special attention was paid to the team's ability to influence these goals. Only goals which were attainable by the team were judged to be suitable for the intervention. One to five goals were selected. The number of goals was mainly contingent on team size. Popular goals were: Improvement of team-intern communication (chosen by more than 50 % of the teams), improvement of cooperation (chosen by more than one third of the teams), clear and fair definition of tasks and responsibilities (chosen by more than one third of the teams), decrease sources of stress (for example deadline-pressure, about one third of the teams), optimize flow of information, provide social support to colleagues.

After a short break, one to five groups (one for each goal) were assembled, which worked together on an action plan breaking the goals down into precise tasks which were allocated to team members and leaders. In some teams several groups worked on the same goals. A deadline was noted for each goal and additionally possible obstacles were anticipated and ways to overcome these were considered.

In Germany afterwards an action training was implemented consisting of a role play on perspective taking. An actual critical incident which required perspective taking was chosen from the groups daily work. The participants worked in dyads or triads (with an observer) and noted down their definition of and their expectations towards the respective role. After five minutes enacting the incident the participants exchanged roles. Subsequently, feelings, thoughts and lessons from the perspective taking have been discussed.

Finally, the action plans were given to the leader as a documentation of the outcome of the discussions. Follow up and continuation of the actions decided upon was planned to be made during regular team meetings. As documentation for research and evaluation purposes, copies of the action plans were also made for the research team.

The workshop was concluded by addressing open questions and experiences with the workshop. Feedback was mostly positive acknowledging the importance of the topic health-promotion in the workplace and of the selected goals. However, some teams complained about the additional time which would be absorbed by the program. Furthermore, the upcoming parts of the intervention were described briefly. Finally, the German participants completed a short questionnaire to evaluate the workshop. In Sweden the leaders completed a questionnaire evaluating the workshop at a later date.

The total duration of the first team workshops was three hours. In Germany, the workshops were done by one of six trainers (Saupe, Scheel, Rigotti, Stempel, Mohr, and Holstad) which were assisted by a colleague or a student.

Materials. Flip chart papers (or powerpoint presentations) have been used to outline the different stages of the workshop including for instance communication rules, the SMART principles and the next steps in the ReSuLead project. The results from t1 for the individual teams have been given to the participants as handouts.

Expectations of the participants towards the project have been collected beforehand and were clustered and structured during the workshop. The group work within the team was facilitated by moderation cards in different colours and other.

Pictures taken during the workshop have been integrated in a protocol which has been send to the respective teams after the workshop.

5.4.8 Team Workshop II

Aim. The second team workshop is conceptualised as a follow-up of the first team workshop with a focus on team work. First, team members reflected on the attainment of the goals set in the first workshop as part of the action plans. The aim now was to assist the teams in the follow up of the goals set up and to recognize the goals already achieved. Furthermore, if the goals were not achieved, the teams helped to identify possible obstacles and to give suggestions to improve goal implementation. Some goals were no longer relevant because of changed conditions.

The main focus was then shifted to team processes and teamwork, in line with the second lecture and the observation. Based on the problems identified during the observation and recognized by team members the workshop continued with additional aims regarding team work. The same model for the action plan was used to set up further goals and actions by the team members. Second, we aimed at furthering social and emotional support from the colleagues as an important resource in the workplace.

Theoretical background. The theoretical background regarding workshop I does also apply to the second workshop. We aimed to strengthen participants' self-efficacy which is relevant for mental health and may also facilitate the attainment of health-relevant goals. Moreover, the second workshop had a special focus on effective and cooperative teamwork. The team members decided upon additional goals which aimed at improving teamwork. Social support by team and supervisor has frequently been demonstrated to have health-promoting effects (COHEN & WILLS, 1985; MOYLE, 1998). The job demands-resources (JD-R) model suggests that social support is a powerful job resource, which may buffer adverse effects of stressful working conditions on employees' mental and physical health (BAKKER & DEMEROUTI, 2007; DEMEROUTI, BAKKER, NACHREINER & SCHAUFELI, 2001). Consequently, the workshop aimed at activating resources, particularly social support, in the participants' work environment.

Procedure: As in the team workshop I the participation rate varied across the teams for the same reasons. Additionally, some changes occurred concerning the composition of the teams. Hence, some teams got new team members and/or some participants left the team. Changes and reasons for the changes in the teams have been included in the t2 questionnaire.

First, a trainer welcomed the participants, presented the agenda and explained the communication rules (see team workshop I). Then a short summary followed of what has been done in the project so far and what remains to place the workshop in the larger context of the intervention.

Second, the trainer asked about the goals from the first workshop: Have the goals been reached?

- If yes: How was this achieved? What was helpful (resources)? How can the results be sustained for the future?

- If not: Is it still a relevant goal for the team? What may have been the problems and obstacles? Were the goals appropriate? How can the plan be improved?

After a short break a short game was played to illustrate the advantage of group work producing more information than an individual. The participants had to estimate the number of squares hidden on a sheet presented to them. First they had 90 seconds to work individually and the solution of each team member was noted down on an axis. In a second (or depending on the team size: third; 70 seconds) round the participants were allowed to work in teams. The solution of the teamwork was discussed in relation to the individual results, noting that in teams more people reach the right solution.

Afterwards all team members had been asked to reflect on their team meetings with respect to the following areas; ‘distribution of tasks’, ‘team climate’, ‘role clarity’, and ‘goals and decisions’ based on self-observation with the observation tool. As a follow up of the observation, participants were now asked to indicate topics from these areas. In Germany the participants indicated topics which they considered ‘good’ (by writing the topic on a green card) or ‘needs to be improved’ (by writing the topic on yellow card). The cards were presented and the author was asked to say in a few words what is meant by the topic and why this is important. Multiple nominations were grouped together. When all ideas had been presented, the team members were provided with three tags by which they were asked to elect the area they considered to be most important (the mixture of green and yellow cards can be a heuristic for which area may be most relevant to work with). In Sweden participants first completed a questionnaire individually in which they rated items from the areas ‘team climate’, ‘goals and decisions’ and ‘role clarity’, using the following scale: 1 = not at all satisfied, it must be improved, 2 = satisfactory, but it should be improved and 3 = satisfied with how it is, no need to improve it. This was followed by discussions in small groups which led to completing a copy of the questionnaire together on which the groups tried to agree on each rating and to indicate the degree of consensus. At this point the group selected the area they agreed was most important to improve.

To activate the participants and to strengthen the team climate the participants were asked to give each colleague some positive feedback (large teams were split into subgroups). The trainer emphasised that the feedback should be honest, addressed directly to the colleague, and not meaningless. Moreover, participants should not repeat the things their colleagues already had mentioned. After the exercise on positive feedback impressions, thoughts and feelings during the exercise were discussed and the importance of social support and positive social exchange in the workplace were highlighted.

Then, an action plan was developed, or several if it was a large team, by the team regarding the selected area of teamwork. In Germany all team members noted the three aspects of the selected area of teamwork which they considered the most important on moderation cards. Then they grouped together in pairs and again selected the most important aspects from their ideas. The procedure continued until the total group agreed upon three aspects to focus on. These aspects were then broken down into specific tasks with clear deadlines and responsibilities using the action plan. In Sweden the teams worked with the action plans using the same procedure as in the first workshop.

Concluding, the trainer addressed open questions and thanked the team for their engagement. In Germany the outlook of the next steps in the project was presented in the end, but this was done in the beginning of the workshop in Sweden. The workshop in both countries ended with the participants completing a short questionnaire to evaluate the workshop.

Total duration of the work shop again was three hours. Documents by team members in terms of actions plans were kept by the leader and copies were made for the researchers. Many participants highlighted the exercise on positive feedback as very good and important for their team climate.

Materials. Flip chart papers (or powerpoint presentations) have been used to outline the different stages of the workshop including for instance the respective goals of the teams from workshop I for the follow up, the ReSuLead project overview and take home messages from the workshop.

Additionally the work sheets from the observations have been used as a basis for the discussion process. The group work within the team was facilitated by moderation cards in different colours and other materials from the moderation case.

For the action plan an A1 size poster has been printed to fill in and visualize the goals developed in the teams.

Pictures taken during the workshop have been integrated in a protocol which has been send to the respective teams after the workshop.

5.4.9 Diary writing

Aim. The purpose of leaders writing a diary during the project was to provide opportunities to reflect on deeper thoughts and feelings connected to their leadership position and to increase leadership skills by building up confidence (*self-efficacy*) in the leadership ability.

Theoretical background. Previous studies have shown that diary writing leads to improvement in outcomes ranging from better mood to improved physical health and overall wellbeing (KING, 2001; LEPORE & SMYTH, 2002; SLATCHER & PENNEBAKER, 2006, BURTON & KING, 2004). FITZGERALD and SCHUTTE (2009) extended these findings in an intervention study that demonstrated that writing can have benefits on leader's functioning.

Procedure: Leaders in the intervention group had the opportunity to voluntarily write a diary at two separate periods during the project. In Sweden 10 of 17 leaders chose to write in the first period, but no one in the second. One of the explanations was that it collided with other activities during that exact time which created an additional heavy workload for them.

In Germany 4 of 11 leaders wrote in both the first and the second period and additionally 3 wrote only in the second. Leaders who chose to write a diary filled in a post-writing questionnaire about their feelings on writing. In Sweden all leaders (both writers and non-writers) were invited to fill in a follow-up questionnaire with three scales

about *transformational leadership*, *social self-efficacy* and *emotional self-efficacy* approximately three weeks later, and 15 (of 17) did so. In general the leaders were very positive about the diary as an intervention tool. Even though they reported a lack of time for this task during their everyday hassles, many leaders stressed the advantage of reflecting on their leadership behaviors during the leader workshops and the coaching.

The following instructions were given for the first diary period (these instructions were similar for the second period):

- Keep a journal for three consecutive days. What you write in the journal need not be seen by anyone but you. The researchers will not ask you for the journal. Focus as much as possible on writing about situations that may be related to goals and action plans formulated during workshops in the project.
- You can freely choose three consecutive days any time before the end of January 2012. During February to April 2012 we will have a second diary period.
- Please keep a log of how much time you spend writing per day.
- When the third day of writing has passed please fill in the questionnaire called "POST WRITING QUERIES" and send it to us using the postage paid envelope.
- After three weeks you will receive a questionnaire called "FOLLOW-UP QUERIES" that we ask you to fill in and send to us.

1) Start out by writing about your deepest thoughts and feelings related to your leadership during the day; or an important workday in the recent past. This will enable you to explore whether or not analysing your thoughts and feelings can build your confidence in your leadership ability.
2) Relate the examples of leadership success that you write about to future events. What can you learn from your successes and how can you put that into practice in the future?
3) In addition to describing examples of your own leadership behaviour, it may be useful for you to write about examples of behaviour of another leader whom you admire.
4) Think about times when you have been praised for your leadership and write about what was said and how that made you feel.
5) Reflect on how you were feeling physically and emotionally when you have been performing at your best as a leader.

Below are a number of examples of the sorts of things that you may wish to write about.

- Times when you have inspired your team to work with you towards the goals that your team set up during for example workshops in the project.
- Times that you may have felt that you have been successful in sharing your vision for the business with your team.

- Times when you have successfully delegated new responsibilities to your team and thereby encouraging their own development in areas which they jointly identified during the workshops.
- Times when you have successfully supported one or more team members throughout the process of achieving a goal that was set up, for example during the workshop.
- Times when you have given positive feedback to team members which has provided encouragement and increased their confidence.
- Times when you have shared information with the team or involved the team in decision-making and it has resulted in increased trust, empowerment, respect, communication or cooperation among the team.
- Times when you have thought laterally or 'outside the box' to successfully solve a problem at work.
- Times when you have really led by example and been a good role model for your team.

Please write for at least 20 minutes for 3 consecutive days. Take notes in a log of when and for how long you write. Once the three days of writing have passed, complete the questionnaire called "POST-WRITING QUERIES".

Materials. In Germany the participants received a booklet they could use as diary. The questionnaires along with stamped envelopes were given to the participants before the respective writing period. In Sweden the participants received the instructions and post writing queries by post along with addressed and stamped envelopes and the same procedure was used for the follow-up questionnaires. The participants were given one reminder via e-mail.

Reflections. In the post writing queries the German leaders stated that they expressed their deepest thoughts and feelings in their writing to a slightly higher degree compared to the Swedish leaders. But on the other hand the Swedish leaders stated that the writing was valuable and meaningful for them to a greater deal than the German leaders who stated that it only was somewhat valuable and meaningful.

5.4.10 Awareness of team processes: Observation

Aim. Observations of team meetings in our intervention aimed at the following goals: First, we wanted to get an impression of the interaction between the leader and the team members, but also between the team members in the respective intervention team. The observation took place "on the job" in order to get an impression of the actual work setting and to minimize additional strain.

Second, we intended to stimulate reflection on the topic team work in the intervention group. The idea was to give a small set of criteria that are important for the success, but also wellbeing in teams. For this purpose an easily manageable and structured work sheet "working together in teams" was provided covering the topics team climate, division of tasks, goal achievement, decision making, and clarity of roles. The usage and the focus of the work sheet were exemplified by the feedback on what the researchers observed in the team session.

Third, we wanted to enhance the team-tailored focus of the intervention. The observation is especially useful to regard specific issues that occur in the single intervention teams. The individual nature of the interactional processes in the team, as well as particular reflections of single team members could be addressed.

Fourth, we aimed at empowering the participants to use the feedback they got and the work sheets independently (and voluntarily) over a longer time span. In this way we wanted to enhance and implement the individual reflection processes and the discussions about the topic in the teams. The autonomous usage of the work sheet tool and positive feedback about “what already works well in the team” is aimed at enhancing self-efficacy fostering the team cohesion.

Fifth, sustainability of the effects was targeted by asking the participants to continue observing and reflecting on the interactions until the next team workshop. In the second team workshop the individual observations and reflections were picked up again and the participants had the chance to discuss the issues.

Theoretical background. In general, an intentional, attentive and selective way of perception can be described as observation. Following AMELANG and SCHMIDT-ATZERT (2006) observation is used as a method to gain diagnostically relevant data. Here, two approaches are distinguished: the structured observation as a systematic, intentional, planned and controlled process or the more or less casual unstructured observation.

The observation in our intervention can be categorized as a structured observation in a naturalistic setting. Because our aim was to empower the participants to reflect on processes concerning their own wellbeing and the interaction in the team, rather than collecting data for scientific analysis we did not choose a completely standardized procedure. In fact, we aligned the structure of the observations to our objectives. We decided to attend a common team meeting in our intervention groups. Because the time spans, the topics discussed and the structure of the meetings vary within and between the participating teams in Sweden and Germany we selected four categories (team climate, division of tasks, goal achievement & decision making and clarity of roles) that are important for health and wellbeing in working teams (KUOPPALA ET AL., 2008; VAN DEN BROECK ET AL., 2008). DAY (2001) underlined the importance of including the whole team in training programs instead of only focusing on leaders. Therefore the four categories of observation have been applied to the whole team instead of only focusing on leader-subordinate interactions. This way the two-way reciprocal nature of the leader-subordinate construct is taken into account (VAN DIERENDONCK, 2004). The presumed variety of observable behaviour in our intervention teams advocated an open answer format. Therefore, the four observation categories are described by central questions outlining the main aspects of each construct. Further, the behaviours were expected to occur in different degrees in the teams and we chose therefore not to count single behaviours, but rather to describe the facets by using showcase behaviours.

As detailed feedback is seen to be an important factor in behavioural changes (PARSONS, 1974) we summarised our observations and gave feedback subsequent to the meeting. A goal targeted in training programs is to enhance the self-awareness and to stimulate processes of reflection (LUTHANS, AVEY & PATERA, 2008; SCHEIN & BENNIS, 1965). Therefore, implementing self- observation as a tool to foster self-awareness and self-reflection processes aims at ensuring long-term effects on the participants' wellbeing.

Procedure. The observations took place in all intervention teams in Sweden and Germany between mid of October 2011 and mid of March 2012. It's important to note that the researchers participated in common team meetings giving just 15 min or less of feedback at the end. The duration of the meetings varied across the teams ranging from 30 min to 2 hours. Each observation was conducted by a researcher and an assistant (Germany) or by two researchers (Sweden) who were briefed on the content and the aim of the observation.

The researchers usually were only introduced briefly by the team leader stating that in the course of the ReSuLead project the researchers "take part in our team meeting". During the team meeting the researchers took notes regarding the areas of observation on the prepared work sheet. It was not indented to "fill in" all categories on the work sheet because not all aspects were expected to occur in all team meetings. In fact, the researchers were instructed to focus on behaviours and interactions that are typical for the respective team considering positive and improvable aspects.

After the team meeting was finished the researchers summarised and gave feedback on what they observed in Germany. In Sweden, brief verbal feedback was provided at the meeting, and written feedback was sent to the leader after the meeting. For this purpose they provided the work sheets for the participants to outline the structure and to give an idea about the areas of interest. The team specific observations made by the researcher also served as an example to introduce the work sheet as an individual tool. The participants were invited to use the structured work sheet to reflect on and be aware of team processes. The researchers made clear that the tool should not be used to identify areas that could be used as a basis for improvements for the way the team members are working together. It was highlighted that especially positive observations and interactions are worth noting. The response to this task varied between individuals but generally most if not all leaders had reminded their team about the task before the second workshop asking them to bring their observations to the work shop. The researchers also announced that observations, reflections, concerns or questions regarding the tool will be given space in the next team workshop. Following the feedback and the introduction of the work sheet tool the participants were invited to add observations, make remarks or ask questions. In Sweden the observers met after the meeting and discussed their observations and sent a written summary to the leaders. In summary, results of the observation were different in each team and feedback was tailor made for each leader in order to give constructive feedback on communication and leader's behaviour.

Results. Overall, the observed team meetings were evaluated positively. We found meetings to be good structured, most using minutes to keep track on decisions. If not, we suggested doing so. The leader or her/his deputy moderated the meeting in a mostly effective but also caring way. In some teams important contributions or special events like birthdays were valued in the beginning of the meeting.

Most team members contributed to the meetings by saying their opinion regarding topics. We had the impression of an open climate in which team members can openly express their ideas. Decisions were taken together in the team, everyone had the possibility to say their opinion. However, we also observed that final decisions were taken by the leader. But in this case followers were asked about their opinion before taking the decision.

Team climate was judged to be good in most teams. The handling of information seemed to be open, though this is difficult to judge from a single meeting. Participants reported at least that problems were discussed openly.

Division of tasks seemed mostly to be guided by interest and competences. It is hard to tell, if team members perceived task distribution to be fair. However, if asked, team members indicated that task distribution was fair.

Role clarity is hard to observe. We therefore asked followers if they knew what was expected from them and if anything was still not clear to them after the meetings. There were no major comments on this question. Those participants, who returned the forms to us, mostly indicated that unclear issues were discussed within the team.

In general, the reactions to the observation have been positive. Concerns about the artificiality of the observation of a single team meeting could be diminished by clarifying the purpose and introducing the work sheet as a tool. Many participants stated that it is “interesting to get an external opinion” and that they consider the topic “working together in teams” to be an important issue in their daily routine.

<u>Work sheet for the researcher (O1)</u>

The four areas of interest are highlighted with a red arrow and are written in bold:

- Team climate
- Division of tasks
- Goal achievement and decision making
- Clarity of roles

For each of the four observation topics questions are phrased to cover the main facets of the construct. Additionally, for each question catchwords are given to facilitate the observation process by providing examples.

At the end of the work sheet there is some space to record additional observations that are considered to be important for the respective team.

Work sheet for the participants (O2)

At the beginning of the worksheet for the participants a short introduction is given. The purpose is to underline the importance of the topic (teamwork) and to give instructions about the usage. They are told that there will be an opportunity to discuss the reflections at the next team workshop.

The structure of the worksheet for the participants is similar to the worksheet for the researchers. The four main areas of interest are highlighted followed by the main questions covering the topic. We chose not to provide the catchwords to avoid too much directivity. The open answer format offers the opportunity to reflect on a wide range of events.

5.4.11 Coaching

Aim. Our project has a strong focus on the leader and leadership behaviour and by offering coaching we hoped to address the following issues concerning the leader.

First, we wanted to exculpate the leaders. The great attention on the role of the leader might induce stress or feelings of overload. The coaching aims at turning away negative consequences by providing intensive support and a secure setting to talk about potential problems and conflicts.

Second, we intended to stimulate the leaders' reflection processes and self-awareness. The leaders have the opportunity to reflect upon their leadership style and discuss issues that arise from their leader role. This goal is accompanied by the diary method for leaders which can but does not have to be subject in the coaching.

Third, we wanted to provide a setting where issues arising from the ReSuLead project can be discussed and the leaders have the chance to talk about ideas, progress and changes concerning the intervention.

Theoretical background. There are many different definitions of coaching and different theoretical approaches. According to the international coaching federation, "coaching is partnering with clients in a thought-provoking and creative process that inspires them to maximize their personal and professional potential" (ICF, 2010). The stimulation of self-reflection may be an important path through which coaching has an effect on clients. But coaching may also be a method which helps clients to achieve their professional goals.

Eight different coaches were involved in the ReSuLead intervention each having an individual coaching style. Nevertheless, all coaches were trained by coaching-expert Prof. Siegfried Greif who advocates a broad coaching approach including both ideas from solution-oriented and systemic coaching. Moreover, Prof. Greif's coaching concept builds on the psychology of motivation and personality, on goal setting theory, behavioural modification, and self-regulation and self-development (GREIF, 2010).

Though the different coaches were free to choose an individual approach, all coaching processes in the project share the following procedure: First, the coach explores the situation to get an understanding of the problem and an overview of the people involved and their feelings and motives from the client's perspective. Second, the

coach asks what may have caused the current situation exploring the background of the problem. Third, the client defines goals he/she wants to reach. The coach examines these goals focusing on the SMART criteria. Fourth, the coach tries to find out about the client's resources (social support, skills, strengths, experiences) and tries to activate these. Finally, client and coach reflect upon possible actions which may be appropriate to meet the problem. Which solutions have been tried earlier? Why didn't these work? The coach supports the client's attempts to solve the problem, for example by the use of telephone shadowing.

Procedure. During the acquisition for the intervention teams coaching for the leaders has already been announced as being a part of the ReSuLead intervention program. In June of 2011 the appointed coaches for the Swedish and the German team received training by a coaching expert who also provides supervision for the coaching process in the intervention.

The actual coaching started after the first leader- workshop where the coaching as well as the diary method had been introduced as optional modules of the intervention process. The objectives as well as the formal framework (3 coaching sessions of about 1.5 to 2.5 hours) were explained. In Germany all leaders had the opportunity to select a coach from a flyer which gave brief information about the coaches available. In Sweden, based on practical considerations (one of the coaches knew some of the leaders from other contexts, geographical considerations, etc.) a preliminary list with suggested coaches for each leader was shown to the leaders who were given the opportunity to accept the coach or request another if they didn't approve of the suggestion. Because the coaching was offered on demand, the team leaders were invited to contact the respective coach. Appointments for the coaching sessions were scheduled individually. In Germany, 9 of the 11 leaders took the opportunity to get a coaching.

The coaching itself is driven by the themes of the coachee's choosing following the standards of non-directivity for coaching. Thus far the reactions of the participating leaders towards the coaching have been very positive.

Materials. The usage of coaching materials such as index cards, protocols or evaluation sheets has been organized individually by the respective coach.

5.4.12 Challenges during the intervention

In both Germany and Sweden the following challenges have been faced:

Organizational difficulties. We had problems to contact some of the participating teams in municipality L due to the lack of Internet access and reduced phone reachability. Because of heavy workload and lack of time within the teams it was hard to find dates for workshops or lectures. Some interventions modules had to be rescheduled several times.

Parallelization. Due to the organizational difficulties mentioned above and external factors like different holiday schedules, the parallel execution of some intervention modules in Sweden and Germany was hard to time. One solution found for instance for the leader workshop II and III was to combine both in Germany.

Commitment. In periods with occurring restructuring processes and/or workload and time pressure the commitment to the project reduced in some teams/individuals. Flexibility concerning the time schedules, affirmation and social support were needed to prevent some teams from dropping out.

Although we strived for similarity between countries we soon discovered that local adjustments had to be made to participating organizations both in Germany and in Sweden. These differences will be described and further discussed as part of the evaluation of the intervention.

6 Results

6.1 Longitudinal relationships

The longitudinal relationships of the main study variables were examined in a sample consisting of those employee participants, who had not participated in the intervention. Thus, so called control groups formed the longitudinal employee sample (maximum n = 861) used in these analyses. We excluded the intervention groups (in Germany and Sweden) as the intervention can change the relationships of the study variables. For example, it is possible that some of the participants benefit more from the intervention, which has effects on the rank-order stability of the study variables. This means that due to the intervention not only mean level changes are probable but also changes are likely in the rank-order stability of the study variables. The international employee data set (including Finland, Germany and Sweden) covering T1, T2 and T3 was used in the analyses. The analyses were performed using the data set combined across the three countries. The amount of tested relationships was so large that we did not see it reasonable to test country differences in this phase of the analysis.

We examined both normal and reversed causality between the study variables in order to make conclusions about the direction of the relationships within varying time lags. Thus, we were able to test the relationships at approximately 15 months' (T1–T2),
8 months' (T2–T3) and 22 months' (T1–T3) time lags. This can be seen as an advantage as we do not theoretically know the time frame under which the relationships may occur. The lagged normal and reversed relationships of the study variables were examined using stepwise regression analysis for two main reasons. First, the amount of the variables and their relationships examined was considerably large. Second, our predictors (e.g. leadership constructs) were highly correlated with each other. Therefore we considered it reasonable to investigate which variables are the best predictors for each dependent variable and able to explain unique variance in the particular outcome variable. These best predictors were sought on the basis of statistical criteria using stepwise regression analysis.

Overall, we aimed to give answers to the following four research questions:

1. Does leadership behaviour predict job characteristics across time? Do job characteristics predict leadership behaviour across time?
2. Does leadership behaviour predict wellbeing across time? Does wellbeing predict leadership behaviour across time?
3. Does leadership behaviour predict wellbeing across time beyond job characteristics?
4. Do job characteristics mediate the effects of leadership behaviour on employee wellbeing?

6.1.1 Lagged relationships between leadership behaviour and job characteristics

The model guiding the analyses between leadership behaviour and job characteristics, and showing the study variables used in the analyses, is shown in figure 6.1. We proceeded with testing the relationships shown in the figure with numbers 1-4.

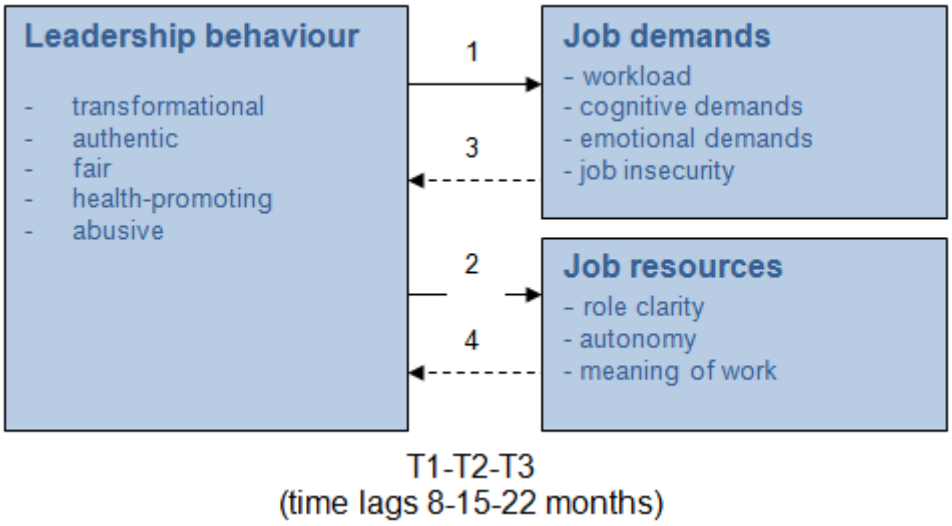


Fig. 6.1 The model used in examining the longitudinal relationship between leadership behaviour and job characteristics. Normal causation is shown by solid lines and reversed causation by dotted lines. The numbers (1-4) refer to the order of the tested relationships.

6.1.2 Does leadership behaviour predict job characteristics across time? Testing normal causality

We started by exploring in the first model (M1) the statistically best predictors of each job characteristic at T2 sought from leadership behaviours at T1 (see figure 6.1 arrows 1-2) using stepwise linear regression. After that, each baseline job characteristic at T1 was controlled for in the second model (M2) to see whether leadership behaviour explained the change in job characteristics between T1 and T2. Only significant predictors from the first model (M1) were entered as predictors in the second model (M2), in addition to the baseline level of each job characteristic. Predictors which did not correlate with the dependent variable were removed only from those models where the beta-coefficient turned out to be significant and in an unexpected direction. We repeated this procedure in examining the relationships between T2 and T3 and T1 and T3. All examined normal causality relationships across varying time lags are shown in tables 6.1-6.6, separately for job demands and job resources.

Tab. 6.1 Leadership behaviour at T1 predicting job demands at T2 (time lag 15 months)

	Workload T2		Cognitive demands T2		Emotional demands T2		Job insecurity T2	
Predictors at T1	M1 β	M2 β	M1 β	M2 B	M1 β	M2 β	M1 β	M2 β
Transformational leadership	.06	-	.05	-	.11**	.04	-	-
Authentic leadership	.04	-	-.01	-	.03	-	.13*	.07
Fair leadership	-.05	-	-.00	-	.02	-	-.08	-
Health-promoting leadership	.02	-	.22***	.06*	.00	-	-.35***	-.09**
Abusive leadership	.11**	.01	.11**	.02	.13***	-.03	-.02	-
Outcome at T1	-	.70***	-	.71***	-	.71***	-	.62***
R^2	.01**	.50***	.04***	.52***	.02***	.51***	.07***	.42***

Note. Transformational leadership was not included as a predictor in the job insecurity model, as it did not correlate with job insecurity (r = -.08). Contrary to the positive beta coefficient (marked in red) in the multiple regression model, authentic leadership had a negative zero-order correlation with job insecurity (r = -.13).

Tab. 6.2 Leadership behaviour at T2 predicting job demands at T3 (time lag 8 months)

	Workload T3		Cognitive demands T3		Emotional demands T3		Job insecurity T3	
Predictors at T2	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	.05	-	.05	-	.04	-	-.03	-
Authentic leadership	.07	-	.16***	.03	.09*	.01	.29***	.10*
Fair leadership	-.00	-	-.01	-	-.09	-	.00	-
Health-promoting leadership	-.03	-	.08	-	-.03	-	-.51***	-.16**
Abusive leadership	.10**	-.01	.11**	-	.17***	.01	-.02	-
Outcome at T2	-	.76***	-	.77***	-	.79***	-	.67***
R^2	.01**	.58***	.02***	.59***	.03***	.62***	.12***	.51***

Note. Contrary to the positive beta coefficient (marked in red) in the multiple regression model, authentic leadership had a negative zero-order correlation with job insecurity (r = -.10).

Tab. 6.3 Leadership behaviour at T1 predicting job demands at T3 (time lag 22 months)

	Workload T3		Cognitive demands T3		Emotional demands T3		Job insecurity T3	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	-	-	.06	-	.12**	.03	.09	-
Authentic leadership	-	-	.03	-	.02	-	.18***	.13***
Fair leadership	-	-	.02	-	.02	-	-.09	-
Health-promoting leadership	-	-	.17***	.02	.05	-	-.39***	-.20***
Abusive leadership	-	-	.10**	.00	.17**	.02	-.03	-
Outcome at T1	-	.71***	-	.69***	-	.70***	-	.58***
R^2	-	.50	.03***	.48***	.03***	.49***	.08***	.39***

Note. None of the leadership constructs correlated with workload (correlation with transformational .03, authentic .04, fair -.06, health-promoting -.07, abusive .10). Contrary to the positive beta coefficient (marked in red) in the multiple regression model, authentic leadership had a negative zero-order correlation with job insecurity (r = -.12).

Tab. 6.4 Leadership behaviour at T1 predicting job resources at T2 (time lag 15 months)

	Role clarity T2		Autonomy T2		Meaning of work T2	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	.29***	.12***	-.21***	-.08*	.05	-
Authentic leadership	.09	-	-.08	-	.05	-
Fair leadership	-.04	-	-.06	-	-.01	-
Health-promoting leadership	-.01	-	.55***	.19***	.42***	.09***
Abusive leadership	-	-	.06	-	.03	-
Outcome at T1	-	.64***	-	.56***	-	.65***
R^2	.09***	.47***	.19***	.42***	.15***	.48***

Note. Abusive leadership was not included as a predictor in the role clarity model, as it did not correlate with role clarity (r = -.04). Contrary to the negative beta coefficient (marked in red) in the multiple regression model, transformational leadership had a positive zero-order correlation with job autonomy (r = .17).

Tab. 6.5 Leadership behaviour at T2 predicting job resources at T3 (time lag 8 months)

	Role clarity T3		Autonomy T3		Meaning of work T3	
Predictors at T2	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	.29***	.04	-.17**	-.02	.02	-
Authentic leadership	.08		-.09	-	.03	-
Fair leadership	-.05	-	-.16**	-.09***	-.08	-
Health-promoting leadership	.09	-	.66***	.14***	.43***	.04
Abusive leadership	-	-	-	-	-	-
Outcome at T2	-	.71***	-	.66***	-	.74***
R^2	.09***	.50***	.23***	.53***	.18***	.54***

Note. Abusive leadership was not included as a predictor in the models as it did not correlate with role clarity, autonomy or meaning of work (r = -.06, -.05 and -.06, respectively). Contrary to the negative beta coefficient (marked in red) in the autonomy model, transformational leadership had a positive zero-order correlation with job autonomy (r = .21) and so did fair leadership (r = .16).

Tab. 6.6 Leadership behaviour at T1 predicting job resources at T3 (time lag 22 months)

	Role clarity T3		Autonomy T3		Meaning of work T3	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	.20***	.11***	-.23**	-.11**	.05	-
Authentic leadership	.02	-	-.11	-	.03	-
Fair leadership	-.03	-	-.11*	-.09*	-.01	-
Health-promoting leadership	.06	-	.60***	.26***	.38***	.09**
Abusive leadership	.06	-	-	-	-	-
Outcome at T1	-	.64***	-	.53***	-	.63***
R^2	.07***	.46***	.19***	.39***	.15***	.45***

Note. Abusive leadership as a predictor was removed from the models for autonomy and meaning of work, as it did not correlate with autonomy or meaning of work (-.04 and -.09, respectively).Contrary to the negative beta coefficient (marked in red) in the job autonomy model, transformational leadership had a positive zero-order correlation with job autonomy (r = .12) and so did fair leadership (r =.16).

From these tables 6.1-6.6 we can see that the proportion of the variance in job demands explained by leadership behaviour was small (range 1-12 %). Job insecurity seemed to be best and workload least explained by leadership behaviour. The explanation rates were slightly higher for job resources (range 7-23 %), of which job autonomy seemed to have the highest and role clarity the lowest explanation rate. When each baseline measure was controlled for the explanation rates rose to 39-62 % for job demands and to 39-54 % for job resources. It seemed that perceived job insecurity was slightly less stable across time (β = .58-.67) than the other job demands (β = .68-.79) which may partly explain why it was the best explained job demand. The same concerned to some extent also job autonomy (β = .56-.66) compared to other job resources (β = .62-.74). There was a tendency that the rank-order stability of job demands as well as job resources decreased along with the lengthening of the time lag between the measurements.

A more detailed examination revealed the following significant relationships for job demands. Of the leadership behaviours examined, only health-promoting leadership predicted one job demand, that is, job insecurity across different time lags (from 8 months to 22 months) when the baseline level of job insecurity was controlled for. Thus, it seemed that health-promoting leadership had the power to explain the change (a decrease) in job insecurity over time. Of the other leadership behaviours, abusive leadership was significantly and positively related to workload and cognitive and emotional demands across all time intervals examined, but when the baseline levels of these job demands were controlled for, the relations were not any more significant. Therefore, it seemed that abusive leadership did not explain changes in these job demands across time.

When looking at job resources, again health-promoting leadership seemed to be the most important of the leadership behaviours. It explained both job autonomy and meaning of work when their baseline levels were controlled for. Health-promoting leadership predicted an increase in job autonomy across all time intervals examined, and it seemed to explain an increase in perceived meaningfulness of one's job on the long-term, that is across 15 and 22 months. In addition, transformational leadership had the unique power to explain an increase in role clarity across 15 and 22 months, when baseline role clarity was taken into account.

Of the examined leadership behaviours, authentic leadership and fair leadership behaviour did not belong to the best predictors in relation to employees' job demands and resources. However, it is good to keep in mind that all the leadership behaviours were in the analyses at the same time (M1-model), that is, their unique significance was compared with each other and the best predictors were selected on the basis of this comparison. Thus, it is possible when each leadership behaviour is examined separately, that also those having non-significant role when examined together with other leadership behaviours may turn out to be significant predictors.

6.1.3 Do job characteristics predict leadership behaviour across time? Testing reversed causality

We continued by testing reversed causality (see figure 6.1, arrows 3-4), as it is possible that the way an employee perceives his or her job characteristics may have effects on the way s/he sees her/his leader's behaviour. If s/he has a positive (negative) view of her/his job, s/he may evaluate also her/his leader's behaviour positively (negatively). The results of these analyses are shown in tables 6.7-6.12.

From tables 6.7-6.12 we can see that there were also significant longitudinal relationships between leadership behaviour and job characteristics in a reversed direction. Job demands explained 2-13 % and job resources 0-35 % of the variance in leadership behaviours. These rates were approximately at the same level as those for the normal causality (i.e., leadership behaviour explaining job characteristics). Leadership behaviour seemed to become slightly less stable when the time lag between the measurements grew. In general, the beta coefficients varied between .39 (abusive leadership T1-T3, across 22 months) and .74 (authentic leadership T2–T3, across 8 months).

The following significant relationships were detected between job demands and leadership behaviour: First, perceived job insecurity predicted a change (a decrease) in authentic, fair and health-promoting leadership across 8 months. Thus those employees having high job insecurity at T2 evaluated their supervisors at T3 as less authentic, fair and health-promoting when these leader behaviours at T2 were controlled for. This same decrease was seen at 15 months' (T1–T2) and 22 months' (T1–T3) time interval for the relationship between job insecurity and health-promoting leadership. Second, high emotional demands at work were linked to an increase in perceived abusive leadership behaviour on the long-term, across 15 months' (T1–T2) and 22 months' (T1–T3) time lag. Finally, cognitive demands predicted transformational, authentic and health-promoting leadership behaviour across 8 months (T2–T3) after controlling for the baseline leadership behaviours. Thus those employees having high cognitive demands at work at T2 evaluated that there occurred an increase in their supervisors' transformational, authentic and health-promoting leadership behaviours at T3. The only job demand which did not have longitudinal effects on leadership behaviour seemed to be workload.

Job resources predicted leadership behaviour as follows: First, role clarity explained an increase in transformational leadership across 8, 15 and 22 months' time lag. In addition, role clarity predicted an increase in authentic and fair leadership at 7 (T2–T3) and 21 (T1–T3) months' time lag. Second, meaning of work was linked to an increase in transformational (T2–T3, T1–T3), authentic (T2–T3, T1–T3), fair (T1–T2, T2–T3,) and health-promoting (T1–T2, T2–T3, T1–T3) leadership. Third, job autonomy seemed to increase transformational leadership across 8 months (T2–T3) and health promoting leadership across 7 (T2–T3), 14 (T1–T2) and 21 (T1–T3) months.

Tab. 6.7 Job demands at T1 predicting leadership behaviour at T2 (time lag 15 months)

	Transformational T2		Authentic T2		Fair T2		Health-promoting T2		Abusive T2	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Workload	-.02	-	-.01	-	-.03	-	-.02	-	.07	-
Cognitive demands	.10**	-.01	.10*	-.01	.02	-	.08*	-.02	-.07	-
Emotional demands	-.01	-	-.03	-	-.04	-	-.04	-	.13***	.07*
Job insecurity	-.10**	-.01	-.07*	.01	-.12***	-.02	-.24***	-.07*	.06	-
Outcome at T1	-	.63***	-	.63***	-	.52***	-	.63***	-	.40**
R^2	.02***	.40***	.02**	.40***	.02***	.27***	.06***	.40***	.02***	.17***

Tab. 6.8 Job demands at T2 predicting leadership behaviour at T3 (time lag 8 months)

	Transformational T3		Authentic T3		Fair T3		Health-promoting T3		Abusive T3	
Predictors at T2	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Workload	-.03	-	.02	-	-.03	-	-.03	-	.06	-
Cognitive demands	.13***	.06*	.13***	.05*	.06	-	.18***	.05*	-.05	-
Emotional demands	-.01	-	-.02	-	-.03	-	-.09**	.01	.14***	.05
Job insecurity	-.14***	-.04	-.14***	-.05*	-.17***	-.13**	-.32***	-.13***	.07	-
Outcome at T2	-	.73***	-	74***	-	.58***	-	.68***	-	.55***
R^2	.04***	.55***	.04***	.57***	.03***	.37***	.13***	.55***	.02***	.31***

Tab. 6.9 Job demands at T1 predicting leadership behaviour at T3 (time lag 22 months)

	Transformational T3		Authentic T3		Fair T3		Health-promoting T3		Abusive T3	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Workload	-.01	-	.04	-	-.01	-	.00	-	.03	-
Cognitive demands	.12***	.03	.09*	.01	.02	-	.05	-	-.05	-
Emotional demands	.01	-	-.01	-	-.03	-	-.00	-	.15***	.10***
Job insecurity	-.11***	-.03	-.12**	.03	-.14***	-.04	-.27***	-.12***	.06	-
Outcome at T1	-	.60***	-	.59***	-	.51***	-	.57***	-	.39***
R^2	.03***	.36***	.02***	.35***	.02***	.26***	.07***	.37***	.02***	.17***

Tab. 6.10 Job resources at T1 predicting leadership behaviour at T2 (time lag 15 months)

	Transformational T2		Authentic T2		Fair T2		Health-promoting T2		Abusive T2	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Role clarity	.15***	.06*	.12**	.05	.03	-	.06	-	-	-
Job autonomy	.09*	.04	.13**	.06	.09*	.02	.28***	.06*	-	-
Meaning of work	.21***	.04	.19***	.03	.19***	.08*	.26***	.07*	-	-
Outcome at T1	-	.62***	-	.63***	-	.49***	-	.58***	-	.41***
R^2	.11***	.41***	.10***	.40***	.06***	.27***	.20***	.42***	-	.17***

Note. No variables entered into the equation in the multiple regression model for abusive leadership, as job resources did not correlate with abusive leadership (r = -.04 for all of them).

Tab. 6.11 Job resources at T2 predicting leadership behaviour at T3 (time lag 8 months)

	Transforma-tional T3		Authentic T3		Fair T3		Health-promoting T3		Abusive T3	
Predic-tors at T2	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Role clarity	.27***	.10***	.20***	.06*	.18***	.12***	.12***	.04	-.03	-
Job au-tonomy	.14***	.06*	.15***	.04	.09*	.03	.36***	.12**	-.07	-
Meaning of work	.22***	.06*	.24***	.08**	.19***	.09**	.28***	.12***	-.16***	-.08**
Outcome at T2	-	.66***	-	.70***	-	.54***	-	.60***	-	.54***
R^2	.23***	.57***	.20***	.58***	.12***	.38***	.35***	.57***	.02***	.39***

Tab. 6.12 Job resources at T1 predicting leadership behaviour at T3 (time lag 22 months)

	Transforma-tional T3		Authentic T3		Fair T3		Health-promoting T3		Abusive T3	
Predic-tors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Role clarity	.20***	.12***	.15***	.08*	.08*	.10**	.09**	.05	-.01	-
Job au-tonomy	.09*	.04	.11***	.04	.06	-	.29***	.09**	-.02	-
Meaning of work	.23***	.08*	.23***	.08*	.21***	.07	.23***	.11**	-.10**	-.03
Outcome at T1	-	.54***	-	.54***	-	.50***	-	.52***	-	.40***
R^2	.15***	.38***	.14***	.37***	.07***	.28***	.21***	.39***	.01**	.16***

6.1.4 Summary of regular and reversed causality effects between leadership behaviour and job characteristics

When comparing the effects of regular and reversed causality, it seemed that there were more reversed causality effects between leadership and job demands than regular causality effects.

- Workload had neither an effect on leadership behaviour, nor leadership behaviour had an effect on workload.
- Cognitive demands at work had a role in increasing transformational, authentic and health-promoting leadership at 8 months' time interval, but not vice versa.
- Emotional demands at work seemed to have an increasing effect on abusive leadership across 15 and 22 months, but not vice versa.
- Job insecurity and health-promoting leadership seemed to be in a reciprocal relationship as health-promoting leadership behaviour decreased job insecurity (across 8, 15 and 22 months) and job insecurity decreased health-promoting leadership (across 7, 15 and 22 months). In addition, job insecurity decreased authentic and fair leadership across 8 months.

The relationships of leadership behaviour and job resources also seemed to follow more often reversed causality than normal causality. Also reciprocal relationships were found.

- Role clarity was increased by transformational leadership (across 15 and 22 months), and role clarity increased transformational leadership (across 8, 15 and 22 months); thus there existed reciprocal relationships. In addition, role clarity increased authentic and fair leadership (across 8 and 22 months).
- Health-promoting leadership increased meaning of work (across 15 and 22 months), and meaning of work increased health promoting-leadership (across 8, 15 and 22 months), showing reciprocal relationships. Besides, meaning of work increased transformational and authentic leadership (across 8 and 22 months) and fair leadership (across 8 and 15 months).
- Health-promoting leadership increased job autonomy (across 8, 15 and 22 months), and job autonomy increased health-promoting leadership across the same time lags (showing thus a reciprocal relationship). Furthermore, job autonomy was linked to an increase of transformational leadership across 8 months.

However, it is again good to remember that all these analyses concern the best predictors. Thus, the picture might be somewhat different when every relationship between each leadership behaviour and each job characteristic would be tested separately.

6.1.5 Lagged relationships between leadership behaviour and wellbeing

The model showing the study variables used in the analyses searching for longitudinal relationships between leadership behaviour and wellbeing indicators is shown in figure 6.2. We proceeded with testing the relationships first for normal causality and then for reversed causality (shown by numbers 1-2 in the figure).

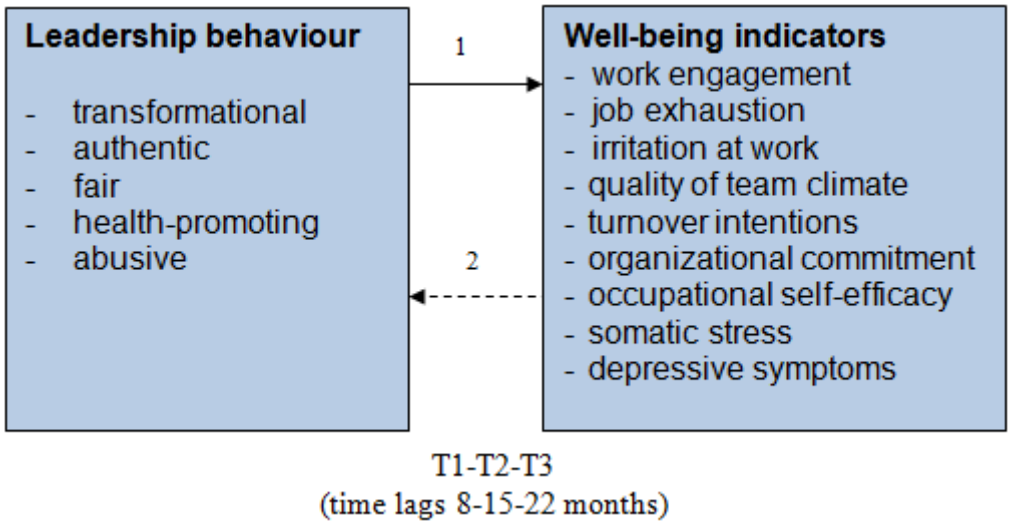


Fig. 6.2 The model used in examining the longitudinal relationships between leadership behaviour and employee wellbeing. Normal causation is shown by a solid line and reversed causation by a dotted line. The numbers (1-2) refer to the order of the tested relationships.

6.1.6 Does leadership behaviour predict wellbeing across time? Testing normal causality

The statistically best predictors (sought from leadership behaviour, arrow 1 in figure 6.1) of each wellbeing outcome are shown in tables 6.13-6.21.

From these tables we can see that the proportion of the variance in employee wellbeing explained by leadership behaviour varied between 2 and 25 %. Work engagement (16-25 %) seemed to be best and irritation at work (2-7 %) and somatic stress (3-4 %) least explained by leadership behaviour. When each baseline measure was controlled for the explanation rates rose to 30-73 %, being lowest for depression across T1–T3 and highest for work engagement across T2–T3. There was a tendency that the rank-order stability of employee wellbeing indicators decreased along with the lengthening of the time lag between the measurements.

The most striking finding was that health-promoting leadership had the most significant longitudinal effects on the various indicators of employee wellbeing when the baseline measure of wellbeing was controlled for. Besides this, only transformational leadership was significantly related to an improvement of team climate across 15 months (T1–T2). Thus the other leadership behaviours did not seem to have any unique role in explaining the change in employee wellbeing between the measurements when health-promoting leadership was taken into account. This however does not mean that the other leadership behaviours are totally insignificant in relation to longitudinal changes in employee wellbeing. When examined alone, they may have a significant role, but when examined together with health-promoting leadership they do not seem to have any unique contribution to the explanation.

A more detailed examination revealed the following significant relationships for health-promoting leadership. First, health-promoting leadership predicted a change in organizational commitment (an increase) and depressive symptoms (a decrease) across 8, 15 and 22 months' time lags. Second, health-promoting leadership was linked to improvements in team climate and occupational self-efficacy across 7 (T2–T3) and 21 (T1–T3) months. Third, work engagement was increased and somatic stress decreased across 15 months by health-promoting leadership. Finally, health-promoting leadership seemed to reduce job exhaustion on the long-term (T1–T3).

The only wellbeing indicators of which changes across time were not explained by leadership behaviour were irritation at work and turnover intentions. Health-promoting leadership predicted irritation at work across 8-22 time lags, but when the baseline measure was controlled for the effect disappeared. Of the leadership behaviours, fair leadership was most systematically (negatively) linked to turnover intentions (i.e. at 8 and 22 months' time interval), but it did not explain any change in turnover intentions across time.

Tab. 6.13 Leadership behaviour at T1 predicting wellbeing at T2 (time lag 15 months)

	Work engagement T2		Job exhaustion T2		Irritation at work T2	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	-.05	-	.08	-	.08	-
Authentic leadership	-.03	-	.10	-	.03	-
Fair leadership	-.07	-	-.04	-	-.04	-
Health-promoting leadership	.45***	.07**	-.24***	-.04	-.14***	.01
Abusive leadership	-	-	.04	-	.06	-
Outcome at T1	-	.74***	-	.63***	-	.72***
R^2	.20***	.60***	.06***	.40***	.02***	.51***

Note. Abusive leadership as a predictor was removed from the work engagement model, as it did not correlate with work engagement (r = -.09).

Tab. 6.14 Leadership behaviour at T1 predicting wellbeing at T2 (time lag 15 months)

	Good team climate T2		Turnover intentions T2		Organizational commitment T2	
Predictors at T1	M1 B	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	.28***	.11***	-.05	-	.04	-
Authentic leadership	.11	-	-.14**	-.05	.06	-
Fair leadership	.07	-	-.09	-	.08	-
Health-promoting leadership	.15**	.04	-.14**	-.04	.33***	.17***
Abusive leadership	.05	-	-.03	-	-.01	-
Outcome at T1	-	.59***	-	.66***	-	.51***
R^2	.16***	.42***	.07***	.44***	.11***	.34***

Tab. 6.15 Leadership behaviour at T1 predicting wellbeing at T2 (time lag 15 months)

	Occupational self-efficacy T2		Somatic stress T2		Depressive symptoms T2	
Predictors at T1	M1 B	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	-	-	.05	-	.08	-
Authentic leadership	-.20***	-.03	.08	-	.06	-
Fair leadership	-.02	-	-.06	-	-.05	-
Health-promoting leadership	.42***	.05	-.11**	-.08**	-.23***	-.08**
Abusive leadership	-	-	.12**	.01	.06	-
Outcome at T1	-	.67***	-	.65***	-	.60***
R^2	.09***	.44***	.04***	.44***	.05***	.39***

Note. Transformational and abusive leadership were not used as predictors for self-efficacy, as they did not correlate with self-efficacy (r = .07 and -.08, respectively). Contrary to the beta coefficient (marked in red) in the multiple regression model, authentic leadership had a positive zero-order correlation with self-efficacy (r = .12).

Tab. 6.16 Leadership behaviour at T2 predicting wellbeing at T3 (time lag 8 months)

	Work engagement T3		Job exhaustion T3		Irritation at work T3	
Predictors at T2	M1 B	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	.01	-	-.03	-	.05	-
Authentic leadership	-.00	-	.23***	-.04	.22***	.01
Fair leadership	-.10*	-.03	-.15**	-.05	-.10*	.00
Health-promoting leadership	.56***	.02	-.34***	-.04	-.30***	-.02
Abusive leadership	-	-	.08*	.04	.08*	.01
Outcome at T2	-	.85***	-	.72***	-	.81***
R^2	.25***	.73***	.12***	.51***	.07***	.65***

Note. Abusive leadership as a predictor was removed from the work engagement model, as it did not correlate with work engagement (r = -.04). Contrary to the beta coefficient (marked in red) in the multiple regression model, fair leadership had a positive zero-order correlation with work engagement (r = .27). Regarding the exhaustion and irritation models, authentic leadership had a negative zero-order correlation with exhaustion (r = -.17) and irritation (r = -.10).

Tab. 6.17 Leadership behaviour at T2 predicting wellbeing at T3 (time lag 8 months)

	Good team climate T3		Turnover intentions T3		Organizational commitment T3	
Predictors at T2	M1 B	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	.18***	-.02	-.16**	.00	.06	.08*
Authentic leadership	.09	-	.12	-	.12*	.03
Fair leadership	.02	-	-.12**	.02	.01	-.02
Health-promoting leadership	.30***	.09**	-.08		.28***	.09*
Abusive leadership	.08*	.03	.03	-	-	-
Outcome at T2	-	.66***	-	.76***	-	.59***
R^2	.18***	.49***	.06***	.57***	.14***	.44***

Note. Contrary to the beta coefficient (marked in red) in the multiple regression model, abusive leadership had a negative zero-order correlation with team climate (r = -.12). Abusive leadership as a predictor was removed from the organizational commitment model, as it did not correlate with organizational commitment (r = -.07).

Tab. 6.18 Leadership behaviour at T2 predicting wellbeing at T3 (time lag 8 months)

	Occupational self-efficacy T3		Somatic stress T3		Depressive symptoms T3	
Predictors at T2	M 1 β	M 2 β	M 1 β	M 2 β	M 1 β	M 2 β
Transformational leadership	-.19***	-.06	-	-	.02	-
Authentic leadership	-.02	-	-	-	.16**	.03
Fair leadership	-.07	-	-.04	.00	-.05	-
Health-promoting leadership	.44***	.06*	-.16***	.01	-.44***	-.09**
Abusive leadership	-	-	.06	.01	.02	-
Outcome at T2	-	.71***	-	.70***	-	.64***
R^2	.11***	.53***	.03***	.49***	.11***	.46***

Note. Abusive leadership as a predictor was removed from the self-efficacy model, as it did not correlate with self-efficacy (r = -.02). Contrary to the beta coefficient (marked in red) in the multiple regression model, transformational leadership had a positive zero-order correlation with self-efficacy (r = .13). Transformational and authentic leadership were not used as predictors for somatic stress, as they did not correlate with somatic stress (r = .07 and -.06, respectively). Contrary to the beta coefficient (marked in red) in the multiple regression model, authentic leadership had a negative zero-order correlation with depressive symptoms (r = -.17).

Tab. 6.19 Leadership behaviour at T1 predicting wellbeing at T3 (time lag 22 months)

	Work engagement T3		Job exhaustion T3		Irritation at work T3	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	-.04	-	.06	-	-	-
Authentic leadership	-.06	-	.10	-	-	-
Fair leadership	-.06	-	-.06	-	-.04	-
Health-promoting leadership	.40***	.02	-.26***	-.07*	-.11**	-.00
Abusive leadership	-	-	.06	-	.08*	.02
Outcome at T1	-	.76***	-	.59***	-	.69***
R^2	.16***	.57***	.07***	.38***	.03***	.47***

Note. Abusive leadership as a predictor was removed from the work engagement model, as it did not correlate with work engagement (r = -.07). Transformational and authentic leadership were not used as predictors for irritation, as they did not correlate with irritation (r = -.05 and -.08, respectively).

Tab. 6.20 Leadership behaviour at T1 predicting wellbeing at T3 (time lag 22 months)

	Good team climate T3		Turnover intentions T3		Organizational commitment T3	
Predictors at T1	M1 B	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	.11	-	-.12**	.02	.05	-
Authentic leadership	.21***	.02	-.01	-	.05	-
Fair leadership	.06	-	-.10*	.01	.01	-
Health-promoting leadership	.15**	.07*	-.05	-	.29***	.13***
Abusive leadership	.01	-	.05	-	.03	-
Outcome at T1	-	.57***	-	.61***	-	.50***
R^2	.11***	.36***	.04***	.37***	.09***	.31***

Tab. 6.21 Leadership behaviour at T1 predicting wellbeing at T3 (time lag 22 months)

	Occupational self-efficacy T3		Somatic stress T3		Depressive symptoms T3	
Predictors at T1	M1 B	M2 β	M1 β	M2 β	M1 β	M2 β
Transformational leadership	-	-	.06	-	.08	-
Authentic leadership	-.16**	-.11**	.07	-	.08	-
Fair leadership	.03	-	-.10**	-.03	-.08	-
Health-promoting leadership	.38***	.16**	-.04	-	-.24***	-.11***
Abusive leadership	-	-	.09*	-.00	.03	-
Outcome at T1	-	.55***	-	.62***	-	.51***
R^2	.08***	.34***	.03***	.39***	.06***	.30***

Note. Transformational and abusive leadership were not used as predictors for self-efficacy, as they did not correlate with self-efficacy (r = .09 and -.04, respectively). Contrary to the beta coefficient (marked in red) in the multiple regression model, authentic leadership had a positive zero-order correlation with self-efficacy (r = .13).

6.1.7 Does leadership behaviour predict wellbeing beyond job characteristics?

Job characteristics such as workload and control over one's own work tasks are well-known factors affecting employee wellbeing. After ascertaining that leadership predicts change in employee wellbeing over time, we wanted to ensure whether leadership still predicts employee wellbeing when job characteristics have been taken into account. This seems especially important with respect to health-promoting leadership, a construct that seems to come close to job characteristics like autonomy.

We set out to find out whether the best leadership behaviour predictors of employee wellbeing would still hold after adjusting the model for job characteristics. With respect to each wellbeing construct, the best leadership predictors were identified in the previous stepwise analyses on all the three time lags of the study. All the leadership behaviours which in the stepwise analyses significantly explained unique variance in later wellbeing when controlling for the baseline level of the wellbeing, were adjusted for the effect of job characteristics. The analysis was conducted using hierarchical regression analysis. The baseline level of the selected wellbeing construct was entered to the model first. In the second block of variables, job demands (workload, cognitive demands, emotional demands, job insecurity) or job resources (role clarity, autonomy, meaning of work) were introduced to the model. The selected leadership behaviour was entered in the third block. This procedure enabled us to see the change in the explanation rate when job characteristics were entered and, after that, when leadership behaviour was entered into the equation. In the following, we refer to this change in the explanation rate when reporting explanation rates for each block of variables. Job demands and job resources were examined in separate models. The analysis was first conducted on models in which job characteristics were taken from the same measurement point as the other predictors, which are leadership behaviour and baseline level of the wellbeing outcome. After that, new models were analyzed in which job characteristics were taken from the same measurement point as the wellbeing outcome.

The previous stepwise regression analyses showed that the best leadership predictors for employee wellbeing among the leadership behaviours examined in our study were in almost every case health-promoting leadership and transformational leadership. The only exception to this was authentic leadership at T1 which seemed to predict an increase in occupational self-efficacy at T3. However, when scrutinizing the self-efficacy model it was found out that without the other predictors authentic leadership did not predict change in occupational self-efficacy (there occurred a suppression effect). Thus, only health-promoting leadership and transformational leadership were examined in the models adjusted for job characteristics. Investigating job characteristics from two measurement points yielded to 30 models for job resources and 30 models for job demands.

The results of the adjustments for job characteristics in the leadership-employee wellbeing relationship are reported next. Generally leadership effects were more attenuated by adding job resources to the model than by adding job demands. As could be expected, job characteristics measured at the same time with the wellbeing outcome attenuated the leadership effects more than job characteristics measured at

baseline with leadership behaviour. The models in which job characteristics were taken from baseline are reported first.

Job characteristics taken from baseline. Taking job demands into account, both health-promoting and transformational leadership still predicted significantly all of the examined wellbeing outcomes, except for the relationship between health-promoting leadership at T1 and self-efficacy at T3. For example, irrespective of job demands, health-promoting leadership predicted increasing organizational commitment across all of the three time lags (T1–T2: β = .174, p = .000; T2–T3: β = .139, p = .000); T1–T3: β = .136, p = .000). Instead, after adjustment for job resources, the amount of significant leadership predictors decreased clearly. Taking job resources into account, health-promoting leadership still predicted increasing organizational commitment across all of the three time lags (T1–T2: β = .118, p = .001; T2–T3: β = .082, p = .017); T1–T3: β = .091, p = .010), and decreasing exhaustion from T1 to T3 (β = -.074, p = .031). Furthermore, transformational leadership predicted an improvement in team climate from T1 to T2 (β = .077, p = .014), and an increase in organizational commitment from T2 to T3 (β = .074, p = .015). Meaning of work was found to be an important job resource predicting organizational commitment and team climate besides leadership behaviours.

As previously shown in the stepwise analysis of leadership only, the longitudinal relationships between leadership and employee wellbeing are rather weak in magnitude. With regard to the explanation rates, baseline level of each wellbeing construct makes the largest contribution in all the models. Baseline wellbeing explains from 29 % (depression T1–T3) to 60 % (work engagement T1–T2) of the variance in prospective wellbeing, while job resources contribute from 0.2% to 2.8 %, and finally the proportion of leadership behaviours is only 0.4-0.9 %. Hence, the explanation rate of leadership behaviour is less than 1 % in all those cases in which leadership remained significant when baseline level of wellbeing and job resources were introduced to the model. After baseline level of wellbeing, job demands contribute from 0.2 % to 2.0 % and after that, leadership behaviours explain from 0.4 % to 2.5 %.

Job characteristics taken from the same time point as the wellbeing outcome. When job characteristics were taken from the same time point as the wellbeing outcome, the amount of significant leadership predictors decreased considerably. Controlling for job demands, transformational leadership still predicted an improvement in team climate (β = .10, p = .001) and health-promoting leadership still predicted an increase in organizational commitment (β = .137, p = .000) from T1 to T2. From T2 to T3, transformational leadership predicted an increase in commitment (β = .121, p = .000) and health-promoting leadership predicted an improvement in team climate (β = .072, p = .012). Additionally from T2 to T3, health-promoting leadership predicted decreasing depressive symptoms (β = -.059, p = .029). In the lengthiest time lag, from T1 to T3, health-promoting leadership still predicted an increase in commitment (β = .107, p = .001) and a decrease in depressive symptoms (β = -.076, p = .010). Job demands explain .02-4.2 % of concurrent wellbeing, after which leadership behaviours measured at earlier time point explain 0.4-1.6 %. When job resources measured at the same time point as the wellbeing outcome were controlled for, there were only two significant relationships left. Health-promoting leadership predicted an increase in commitment from T1 to T2 (β = .072, p = .022), and transformational leadership predicted an increase in commitment from T2 to T3 (β = .069, p = .012). In these two

models of commitment, the concurrent job resources explain 8.6 % and 7.3 %, respectively, and leadership 0.4 % in both cases.

6.1.8 Does wellbeing predict leadership behaviour across time? Testing reversed causality

As it is possible that employees' wellbeing can have effects on the way leadership behaviour is evaluated or how employees are treated, we looked at the reversed causality. In these analyses the best predictors of leadership behaviour were sought from the wellbeing indicators shown in figure 6.2 (see arrow 2). The results of these analyses are shown in tables 6.22-6.24.

From tables 6.22-6.24 we can see that there were also significant relationships between leadership behaviour and wellbeing in a reversed direction. Wellbeing indicators explained 6-39 % of the variance in leadership behaviours. These rates were higher than in those models testing the normal causality (i.e., leadership behaviour explaining wellbeing). The lowest explanation rate was for abusive leadership (T1–T2 and T1–T3) and the highest for health-promoting leadership (T2–T3).

The following significant relationships were detected between wellbeing indicators and leadership behaviour: First, work engagement predicted an increase in transformational, authentic, fair and health-promoting leadership across 8-22 months. Thus those employees having high work engagement evaluated their supervisors later on as more transformational, authentic, fair and health-promoting when these leader behaviours at baseline were controlled for. Second, in a similar vein good team climate was linked to an increase in transformational, authentic, fair and health-promoting leadership and a decrease in abusive leadership across 8 and 22 months. Across 15 months good team climate increased transformational and health-promoting leadership and reduced abusive leadership. Third, job exhaustion predicted an increase in abusive leadership across 8 and 22 months' time interval and a decrease in health-promoting leadership across 8 months. Finally, there seemed to be some single relationships (appearing only once) between wellbeing and leadership behaviour: a) high irritation at work decreased fair leadership across 8 months, b) high turnover intentions decreased fair leadership across 15 months, and c) high depressive symptoms decreased health-promoting leadership across 22 months.

Of the wellbeing indicators, occupational self-efficacy, organizational commitment and somatic stress seemed to have no longitudinal effects on leadership behaviour. However, again it is worth noticing that the best predictors were sought from all the wellbeing indicators examined, which correlated with each other. Thus, when each wellbeing indicator would be examined separately in relation to each leadership behaviour there might be more significant links observed.

6.1.9 Summary of normal and reversed causality effects between leadership behaviour and wellbeing

When comparing the effects of normal and reversed causality, it seemed that there were more reversed causation than normal causation effects between leadership behaviour and wellbeing indicators.

- Work engagement was increased across 15 months by health-promoting leadership and it predicted an increase in transformational, authentic, fair and health-promoting leadership across 8-22 months. Thus there was a reciprocal relationship between work engagement and health-promoting leadership.
- Health-promoting leadership seemed to decrease job exhaustion on the long-term across 22 months, and job exhaustion predicted a decrease in health-promoting leadership across 8 months and an increase in abusive leadership across 8 and 22 months' time interval.
- Health-promoting leadership was linked to improving occupational self-efficacy across 8 and 22 months, but there were no effects obtained in the reversed direction.
- Turnover intentions seemed to reduce fair leadership behaviour across 15 months, but not vice versa.
- Health-promoting leadership predicted an increase in organizational commitment across 8, 15 and 22 months, but it had no longitudinal effects on leadership behaviour; thus showing moderate support for normal causality.
- Transformational leadership was related to an improvement in team climate across 15 months and good team climate was linked to an increase in transformational leadership across 8-22 months. Also health-promoting leadership was linked to an improvement in team climate across 8 and 22 months and vice versa. In addition, good team climate was linked to an increase in fair leadership across 8 and 22 months and a decrease in abusive leadership, health promoting leadership and transformational leadership across 8, 15 and 22 months; thus showing moderate support for reversed causality.
- Health-promoting leadership reduced somatic stress across 15 months but somatic stress had no longitudinal effects on leadership behaviour.
- Health-promoting leadership predicted a decrease in depressive symptoms across 8, 15 and 22 months and depressive symptoms reduced health-promoting leadership across 22 months.

Again it is worth remembering that all these analyses concern the best predictors. Thus, when every relationship between each leadership behaviour and each wellbeing indicator would be tested separately, it might yield more significant relationships.

Tab. 6.22 Wellbeing at T1 predicting leadership behaviour at T2 (time lag 15 months)

	Transformational T2		Authentic T2		Fair T2		Health-promoting T2		Abusive T2	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Work engagement	.19***	.08**	.20***	.08**	.12**	.09**	.37***	.12***	-	-
Job exhaustion	.07	-	.05	-	.02	-	-.06	-	.09*	.04
Irritation at work	.03	-	.02	-	.03	-	-.04	-	.02	-
Self-efficacy	-.04	-	.00	-	-.03	-	.05	-	-	-
Turnover intentions	-.12***	-.01	-.08*	.02	-.14***	-.08*	-.03	-	.09*	.05
Org. Commitment	-.05	-	-.05	-	-.02	-	.02	-	-	-
Good team climate	.26***	.08*	.24***	.05	.18***	.05	.21***	.07*	-.16***	-.11**
Somatic stress	-	-	-	-	.03	-	.01	-	.03	-
Depression	.03	-	.03	-	-.09*	-.06	-.05	-	.03	-
Outcome at T1	-	.57***	-	.60***	-	.47***	-	.56***	-	.39***
R^2	.19***	.41***	.16***	.41***	.14***	.29***	.24***	.44***	.06***	.18***

Note. Somatic stress was not included as a predictor either in the transformational or authentic leadership model, as it did not correlate with transformational (r = -.04) or authentic leadership (r = -.03). Work engagement, occupational self-efficacy and organizational commitment were not included as predictors in the abusive leadership model, as they did not correlate with abusive leadership (r = -.03, r = -.05, and r = -.08, respectively).

Tab. 6.23 Wellbeing at T2 predicting leadership behaviour at T3 (time lag 8 months)

	Transformational T3		Authentic T3		Fair T3		Health-promoting T3		Abusive T3	
Predictors at T2	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Work engagement	.29***	.10***	.31***	.11***	.16***	.08*	.39***	.16***	.01	-
Job exhaustion	-.04	-	-.02	-	-.04	-	-.14***	-.06*	.19***	.08**
Irritation at work	-.00	-	-.01	-	-.13**	-.08**	.02	-	.05	-
Self-efficacy	-.08*	-.04	-.09*	-.03	-.05	-	.02	-	.04	-
Turnover intentions	-.07*	.01	-.03	-	-.05	-	.00	-	.04	-
Org. Commitment	.04	-	.08*	.02	.04	-	.04	-	-.02	-
Good team climate	.36***	.11***	.31***	.09***	.33***	.17***	.27***	.09**	-.14***	-.06*
Somatic stress	-.02	-	-.03	-	-.04	-	-.05	-	.03	-
Depression	-.01	-	-.03	-	-.03	-	-.05	-	-.01	-
Outcome at T2	-	.65***	.31***	.66***	-	.48***	-	.58***	-	.52***
R^2	.29***	.57***	.29***	.58***	.22***	.39***	.39***	.57***	.07***	.31***

Note. Contrary to the beta coefficient (marked in red) in the multiple regression model, self-efficacy had a positive zero-order correlation with transformational leadership (r = .16). Likewise, self-efficacy had a positive zero-order correlation with authentic leadership (r = .19).

Tab. 6.24 Wellbeing at T1 predicting leadership behaviour at T3 (time lag 22 months)

	Transformational T3		Authentic T3		Fair T3		Health-promoting T3		Abusive T3	
Predictors at T1	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β	M1 β	M2 β
Work engagement	.24***	.13***	.23***	.11***	.13***	.07*	.33***	.13***	-	-
Exhaustion	.02	-	.05	-	-.02	-	-.03	-	.12**	.08*
Irritation at work	.02	-	.04	-	-.03	-	.01	-	.03	-
Self-efficacy	-.08*	-.07*	-.04	-	-.03	-	-.01	-	-	-
Turnover intentions	-.08*	.02	-.07*	.02	-.11**	-.04	-.00	-	.10*	.05
Org. Commitment	-.01	-	-.01	-	.04	-	.04	-	.00	-
Good team climate	.30***	.13***	.28***	.12***	.30***	.19***	.22***	.09**	-.13***	-.08*
Somatic stress	-	-	.06	-	-.03	-	.03	-	.03	-
Depression	.01	-	.01	-	-.06	-	-.09*	-.07*	.04	-
Outcome at T1	-	.51***	-	.49***	-	.42***	-	.49***	-	.37***
R^2	.20***	.39***	.21***	.38***	.17***	.30***	.25***	.42***	.06***	.18***

Note. Somatic stress was not included as a predictor in the transformational leadership model, as it did not correlate with transformational leadership (r = -.04). Contrary to the beta coefficient (marked in red) in the multiple regression model, self-efficacy had a positive zero-order correlation with transformational leadership (r = .11). Work engagement and occupational self-efficacy were not included as predictors in the abusive leadership model, as they did not correlate with abusive leadership (r = -.06 and r = -.06, respectively).

6.1.10 Do job characteristics mediate the effects of leadership behaviour on employee wellbeing?

Five multiple mediator models were analyzed to test the hypothesis that job characteristics mediate the effects of leadership on employee wellbeing and health. This hypothesis has been presented, as leaders have been seen able to make changes in employees' working conditions, and this way affect employee wellbeing. The variables selected to the mediator analyses follow the causal order in terms of time, so that leadership behaviour (independent variable) was measured at T1, job characteristics (mediators) at T2, and wellbeing (dependent variable) at T3. Further criteria for the selection of the variables were as follows: First, we identified leadership variables

that predicted change in job characteristics between T1 and T2. Second, we identified job characteristics that predicted change in wellbeing between T2 and T3. Thus, preconditions were set to both a-paths (from leadership behaviour to potential mediators), and b-paths (from mediators to wellbeing outcomes). Finally combing information on these two regression paths, we aimed to form models including as many as possible mediators which fulfilled the mentioned criteria with respect to both a- and b-paths.

With this procedure, we ended up to five multiple mediator models. In the analyses we utilized the multiple mediation approach proposed by PREACHER and HAYES (2008) with bootstrapped estimates for the indirect effects. The five models were investigated with bootstrap estimates and 95 % confidence intervals for the indirect effects based on 1000 resamples. The specific indirect effect is significant if no zero occurs in the confidence interval. The advantage of multiple mediator models is that we are able to examine the unique effect of each mediator, that is, the effect of that mediator taken the other proposed mediators into account. It follows from this that if a variable is not a significant mediator in a multiple mediator model, it does not mean that this variables would not serve as a mediator at all in that given relationship. Instead, it means that the variable does not have a mediating effect controlling for the other proposed mediators in the model.

All the constructed models have health-promoting leadership as an independent variable. This leadership construct predicted change in several job characteristics while the other leadership behaviours were each related to only one or two of the job characteristics. Regression coefficients, point estimates and 95 % confidence intervals of all the multiple mediator models are provided in table 6.25.

The first model included health-promoting leadership at T1 as a predictor, work engagement at T3 as an outcome, and mediation was examined through job insecurity, role clarity, and meaning of work at T2. Health-promoting leadership at T1 predicted low job insecurity and high levels of meaning of work at T2, which in turn predicted high work engagement at T3. Indirect effect was found through meaning of work and job insecurity, but not through role clarity. The relationship from health-promoting leadership at T1 to work engagement at T3 remained significant in the model with the mediators (path c').

Tab. 6.25 Summary of the mediation analyses

	Regression co-efficient ***a path*** (leadership – job)	**Regression coef-ficient** ***b path*** (job–wellbeing)	**Specific indirect effect (ab)** (point estimate)	**95% confidence in-terval**	**Regression coefficient** ***Total effect c***
Model 1: **Work engagement**					.76***
Role clarity	.18***	-.04	-.01	-.04, .02	
Meaning	.41***	1.12***	.46	.37, .56	
Job insecurity	-.34***	-.15***	.05	.02, .09	
Model 2: **Commitment**					.31***
Role clarity	.19***	.03	.00	-.01, .02	
Autonomy	.47***	.02	.01	-.02, .04	
Meaning	.41***	.34***	.14	.10, .19	
Cognitive demands	.16***	.07	.01	-.00, .03	
Model 3: **Self-efficacy**					.30***
Autonomy	.46***	.10*	.04	.01, .09	
Meaning	.42***	.29***	.12	.08, .17	
Cognitive demands	.16***	.12**	.02	.00, .04	
Job insecurity	-.33***	-.18***	.06	.04, .09	
Model 4: **Team climate**					.28***
Role clarity	.17***	.24***	.04	.02, .07	
Meaning	.41***	.20***	.08	.05, .12	
Cognitive demands	.15***	.10**	.01	.00, .03	
Model 5: **Depressive symptoms**					-.27***
Autonomy	.47***	-.11**	-.05	-.10, -.02	
Meaning	.41***	-.22***	-.09	-.13, -.05	
Job insecurity	-.34***	.17***	-.06	-.09, -.03	

The second model consisted of health-promoting leadership at T1 as a predictor, organizational commitment at T3 as an outcome, and the proposed mediators were cognitive demands, role clarity, autonomy, and meaning of work at T2. The results revealed that only meaning of work mediated the effect of health-promoting leadership on organizational commitment. The relationship between health-promoting leadership and organizational commitment remained significant when the mediators were included in the model.

In the third model we examined whether the health-promoting leadership at T1 would increase occupational self-efficacy at T3 through decreasing job insecurity and increasing cognitive demands, autonomy, and meaning of work at T2. It turned out that all the four mediators made a unique contribution in the relationship between health-promoting leadership and self-efficacy (see figure 6.3). When the mediators were in the model, there was not anymore a direct relationship from health-promoting leadership to occupational self-efficacy.

The fourth model included health-promoting leadership at T1 in relation to good team climate at T3 with proposed mediators cognitive demands, role clarity, and meaning of work at T2. Significant indirect effects were found through all these three mediators.

Finally, in the fifth model we examined whether health-promoting leadership at T1 would decrease depressive symptoms at T3 through decreasing job insecurity and increasing autonomy and meaning of work at T2. Indirect effects through all these three mediators were found. The direct relationship from health-promoting leadership to depressive symptoms was not significant after introducing the mediators. Concerning all the models, the total indirect effect was significant in each of them.

In conclusion, the mediator analyses revealed that health-promoting leadership behaviours can have an effect on work-related wellbeing through job characteristics. As stated previously, job resources like meaning of work, autonomy and role clarity are more likely than job demands to be affected by leadership behaviour. Yet job insecurity and cognitive demands as job demands may also be affected by leadership. Surprisingly, health-promoting leadership seems to enhance cognitive demands which in turn have positive effects on wellbeing-related constructs like self-efficacy and team climate. Thus, at least in the current sample, cognitive demands seem to function like job resources. Furthermore, meaning of work was a significant mediator in all the five models independent of the outcome variable. Hence meaning of work has a lot to do with leadership while also showing unique predictive value in relation to wellbeing constructs. In relation to health-promoting leadership, meaning of work was found to be an important mediator for work engagement, organizational commitment, self-efficacy, team climate and (low-level) depressive symptoms. Meaning of work is especially a prominent factor in relation to organizational commitment, as the other proposed mediators role clarity, autonomy and cognitive demands were not significant when meaning of work was taken into account.

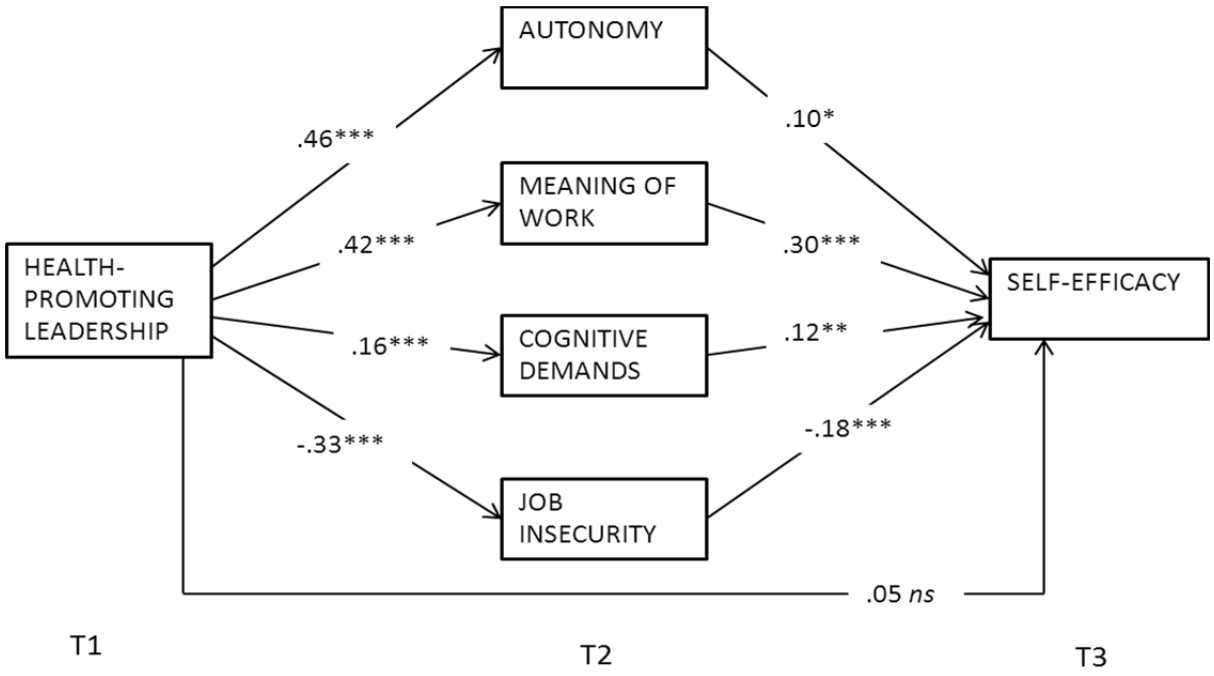


Fig. 6.3 Multiple mediation model on health-promoting leadership and occupational self-efficacy via job resources and demands

6.1.11 Discussion and conclusions

This study of longitudinal relationships between leadership, job characteristics and employee wellbeing had four main aims. First, we aimed to examine whether leadership behaviour can have an effect on job characteristics and, second, on the wellbeing of employees. The analyses were conducted on three different time-lags with several constructs on leadership, job characteristics and wellbeing. Analyses were performed to find out whether leadership predicts change in job characteristics and wellbeing of employees (normal causation), and whether job characteristics and wellbeing themselves predict change in leadership behaviour (reversed causation). In these analyses we identified the best predictors in both directions. In other words, among the set of leadership constructs, we determined the best predictors for job characteristics and wellbeing, and among job characteristics and wellbeing, respectively, the best predictors for leadership ratings. Third, we examined whether leadership behaviour predicts employee wellbeing beyond job characteristics conceptualized as job demands and job resources. Fourth, multiple mediator analyses were conducted to investigate, whether leadership can have an effect on employee wellbeing through job characteristics.

The results showed, first, that leadership predicts changes in wellbeing over time and wellbeing predicts changes in leadership over time. However, the relationships from leadership to wellbeing were rather weak in magnitude. It seems that wellbeing constructs explained a larger proportion of leadership behaviour than leadership behaviours explained in wellbeing. Regarding the amount of significant relationships when controlling for the baseline of the outcome variable, there were more reversed causality effects (from wellbeing to leadership) than normal causality effects (from leadership to wellbeing). This may be due to the high intercorrelations among the leader-

ship constructs. The highly correlated leadership constructs provide only few predictors which can explain unique variance in the wellbeing outcomes, while there are several independent predictors among the less correlated wellbeing constructs.

Leadership behaviours are generally and across time lags more related to the positive indications of wellbeing, like work engagement, good team climate and organizational commitment, than to indicators of ill-being, like exhaustion, irritation, somatic stress or turnover intentions. Health-promoting leadership emerged as the best predictor of employee wellbeing besides transformational leadership which also was an important leadership construct in this relation.

Second, concerning job characteristics, leadership predicts changes in job resources but not in job demands. Job insecurity as a job demand makes an exception in this respect. Hence it seems that leadership can have an enhancing effect on job resources. The same pattern on relationships between leadership and positive constructs was observed in terms of job characteristics and wellbeing. Compared to the other leadership behaviours, health-promoting leadership was somewhat better predicted by job characteristics, especially by job resources and in the shortest time lag, from T2 to T3, also by job demands.

Third, results concerning the role of job characteristics in the relationship of leadership and employee wellbeing indicate that leadership behaviour has more to do with job resources than job demands. This applies also to leadership's relation to employee wellbeing. The relationships between leadership and wellbeing were attenuated more by introducing job resources to the models than by introducing job demands. After adjustment for baseline wellbeing and job demands, leadership behaviour explained from 0.4 % to 2.5 % of later wellbeing. Adjusting the same models for job demands concurrent with wellbeing indicators, the proportion of leadership declined slightly to explain 0.4-1.6 %. Possibly, the leaders participating in our study were not in the kind of a position that they would have an influence on job demands like the workload of employees. Also, the job demands asked in our study seem to be embedded in the work itself. For example, the job may or may not include dealing with problems of other people depending on whether the job locates in social sector or on service branch. Similarly, the nature of the job determines whether there is a lot to process cognitively.

With regard to job resources, leadership behaviour still significantly predicts some of the wellbeing constructs over time when adjusted for job resources. However, the explanation rate of solely leadership behaviour in these cases is less than 1 % independent of whether job resources included in the model were concurrent with leadership behaviour or concurrent with wellbeing indicators. When job resources were concurrent with wellbeing, instead of the baseline measurement, there were only two significant leadership-wellbeing relationships left. Health-promoting leadership was related to increasing organizational commitment from T1 to T2, and transformational leadership was related to increasing organizational commitment from T2 to T3. In both cases, the only job resource staying significant was meaning of work.

Fourth, utilizing three measurement points, health-promoting leadership was examined in five multiple mediation models via job characteristics in relation to work engagement, organizational commitment, occupational self-efficacy, team climate and

depressive symptoms. Besides being an independent predictor for organizational commitment, meaning of work was also identified as an important mediator between health-promoting leadership and organizational commitment. Meaning of work stayed significant in all the mediator models in which it was included, whereas the significance of the other proposed mediators varied according to the wellbeing construct. In addition to enhancing organizational commitment through increasing the meaning of work, health-promoting leadership also increases work engagement through increasing meaning of work and decreasing job insecurity. Health-promoting leadership can also influence occupational self-efficacy through increasing cognitive demands, decreasing job insecurity, and increasing autonomy and meaning of work. Further on, good team climate can be promoted by increasing cognitive demands, role clarity and meaning of work. Finally, depressive symptoms can be reduced by decreasing job insecurity and increasing autonomy and meaning of work.

Generally, meaning of work seems to be an important job resource which leaders may be able to influence, while it also captures unique predicting power in relation to most of the wellbeing outcomes. The experience of doing meaningful work is likely to stem from a large variety of sources. Based on the results of this investigation, leadership behaviour – employees' perceptions of it – can been seen as one of those sources.

Finally, despite the longitudinal setting and relatively large sample of our study, a number of important limitations need to be considered. Two major limitations, both of which are not unique to our study but common to this type of research, can be discerned. First, the most prominent limitation concerns the fact that leadership behaviour in this study equals to employee perceptions of leadership behaviour. In other words, leadership behaviour is based on self-reports of individual employees. These self-reports may be relevant in their own right, and it can be claimed that it is anyway the subjective evaluation that matters. Yet, there are several possible confounding effects in self-reports. Hence it remains unknown, to which degree leadership is in the eyes of the beholder, and to which degree perceptions of leadership behaviour are shared among employees rating the same leader. This latter question will be part of future analyses of the data using multilevel frameworks. Further on, we are not aware to which degree a relationship between a leader and a subordinate should be viewed as dyadic relationships genuinely differing from one individual to another.

Research on perception of transformational leadership has shown that rater personality (e.g., BONO, HOOPER, & YOON, 2012) and rater affect towards the leader (liking) (BROWN & KEEPING, 2005) play a role in leadership ratings. Individuals high in extraversion, agreeableness, openness and conscientiousness report more transformational leadership behaviours than individuals low on these personality traits (BONO et al., 2012; FELFE & SCHYNS, 2010). With this regard, perception of transformational leadership may be positively biased. In contrast, the relationship between rater neuroticism and transformational leadership is found less consistently (BONO et al., 2012). These results led us to rethink the pattern found in our study. Leadership behaviour was more strongly related to job resources than job demands, and similarly, leadership behaviour was more related to positive aspects of wellbeing than to the negative side, ill-being. The possibility of the biasing effect of perception through positive lenses should be considered when making recommendations for leaders and organizations. As FELFE and SCHYNS (2010) caution, over-attributing transforma-

tional leadership may have negative consequences and lead leaders to be confronted with unrealistic expectations that they cannot fulfil.

The second main limitation concerns the issue of causality. Longitudinal research has the advantage of enabling prediction and examination of change, but especially in the context of self-reports, true relationships between causes and consequences cannot be proved. In fact, concerning psychological variables with respect to which the temporal order of the variables is unknown, it has been argued that the time of measurement should not be confused with the time of actual occurrence (KELLOWAY & FRANCIS, 2013). In addition, the third variable effects remain a competing explanation even in the case of longitudinal studies. Thus in this study it remains unknown to which degree leadership behaviours actually produce wellbeing or change in job characteristics, and what is the role of wellbeing or job characteristics in the perception of leadership. The results of this study lend support to both interpretations.

All the analyses on longitudinal relationships between study variables were conducted on the individual level, despite the fact that team members of the same team gave leadership ratings on the same leader, and also likely share similar levels in demands and resources. In the next chapter we will deal with this nested structure of the data, and present some findings based on multilevel-modelling.

6.2 Multilevel – Analyses

Organisations have a multi-level structure as followers are nested within teams and supervised by leaders of different hierarchical levels. This multi-level structure has important consequences for scientific research and makes the investigation of interesting effects possible. Followers from the same team share important characteristics such as tasks, team climate, autonomy, meaning of work, or workload. Moreover, they report to the same leader which may of course influence followers as well. Two types of research questions can be answered by means of the design of the ReSuLead study. First, the mean perception of leadership and work characteristics by all followers in a team (aggregated values) can be related to followers' wellbeing. This approach reveals if there is a kind of shared perception regarding leadership behaviour or work characteristics among team members which goes beyond individual perceptions of these variables. Second, it is possible to relate leaders' ratings of the leadership behaviour of their superiors to the ratings of their own leadership behaviour provided by their followers. This makes it possible to assess if trickle-down effects can be observed regarding leadership behaviour, work characteristics, work-related attitudes or wellbeing. Trickle-down effects would, for example, imply that leaders' leadership behaviour is influenced by the leadership behaviour they experience. Moreover, these effects can also be investigated for other variables than leadership, such as work characteristics and personal characteristics.

The first step into the analyses is to assess if there is variance on team-level for all variables. We computed intra-class-correlations (ICC) to answer this question (BLIESE, 2000). We found some variance on team-level for all variables. However, the amount of variance differed considerably (see table 6.26 for results). While only small amounts of variance on team-level were found for abusive supervision, about a

third of the total variance of transformational leadership was related to the team. It can be concluded, that transformational leadership seems to be a group phenomenon as followers are affected in a similar way. Contrary, abusive supervision seems to depend on the individual relationship between leader and follower to a higher degree.

6.2.1 Aggregated leadership ratings and follower wellbeing

In a sample of 2020 followers nested within 271 teams from Sweden, Finland, and Germany we found several significant team-level effects of aggregated leadership variables and work characteristics on followers' work engagement (BAKKER & DEMEROUTI, 2008) and emotional exhaustion, the core component of burnout (MASLACH, JACKSON, & LEITER, 1996). Results are displayed in table 6.26. Overall, we found team-level leadership ratings to explain additional variance in follower wellbeing beyond individual leadership perceptions. This result indicates that there might be some kind of shared perception of leadership behaviour in a team and that leadership ratings seem to be somewhat similar in teams though there seems to be a strong individual component as well. This individual component may of course also stem from different treatment of different followers by a leader and does not necessarily represent biased perceptions. Regarding work characteristics, we also found team-level effects of autonomy, meaning of work, and workload. The degree of autonomy employees have, the meaning they can see in their jobs, and the workload they experience obviously differ between teams.

Tab. 6.26 Relations between aggregated leadership ratings and followers' work engagement and job exhaustion

Independent Variable	ICC	Criterion	Coefficient
Transformational leader-	0.35	Work engagement	.19***
		Job exhaustion	-.08
Authentic leadership	0.29	Work engagement	.17***
		Job exhaustion	-.12*
Fair leadership	0.18	Work engagement	.08*
		Job exhaustion	-.19***
Abusive supervision	0.09	Work engagement	-.16***
		Job exhaustion	.22***
Autonomy	0.29	Work engagement	.15***
		Job exhaustion	-.18***
Meaning of Work	0.25	Work engagement	.25***
		Job exhaustion	-.18***
Workload	0.21	Work engagement	.03
		Job exhaustion	.28***
Work engagement	0.33		
Job exhaustion	0.17		

Note. N_1 = 2020 followers, N_2 = 271 teams, ICC = Inter-Class-Correlation, * p <.05, ** p <.01, *** p <.001.

6.2.2 Trickle-down effects

The analyses of trickle-down effects of leadership, work and personal characteristics are based on a German sample as the necessary data was collected in Germany only. The sample consists of 105 leaders and 750 followers. All followers were assigned to their leader. Controlling for the duration of the leadership relation, the analyses did not reveal any evidence of trickle-down effects of leadership behaviour (see table 6.27). It can be concluded that leaders seem not to adapt their leadership behaviour from their *actual* superior. However, it is possible that leaders take over leadership behaviour from other leaders than their direct supervisor. This makes sense as leaders may experience better role models in their organization or may have experienced more influential leaders in their career than their actual superior.

Tab. 6.27 Trickle-down effects of leadership behaviour on subordinate leaders

Independent Variable	Criterion	Data source criterion	*Coefficient*
Superiors' transformational leadership behaviour	Subordinate transformational leadership behaviour	Follower	.06
Superiors' authentic leadership	Subordinate authentic leadership behaviour	Follower	.10
Superiors' fair leadership	Subordinate fair leadership behaviour	Follower	-.02
Superiors' abusive supervision	Subordinate abusive supervision	Follower	-.01

Note. N_1 = 750 followers, N_2 = 105 leaders.

Regarding job resources we found weak evidence for trickle-down effects of autonomy whereas no such effects were found for meaning of work (see table 6.28). Thus, leaders who get a high degree of autonomy from their supervisor tend to provide more autonomy to their followers, too. We found a significant trickle-down effect for self-efficacy which can be considered a personal resource. If leaders' supervisors display high levels of self-efficacy, they tend to have high self-efficacy themselves. The same was confirmed for organizational trust. For job demands, we found leaders' emotional demands to relate positively to the emotional demands of their followers. This may of course be due to similar tasks and working conditions but may also indicate that leaders tend to pass emotional demands on to their subordinates. We also found a marginally significant effect for workload indicating that leaders with a high workload tend to assign a higher workload to their followers, too. Moreover, we found that exhausted leaders also tend to have a higher mean of emotional exhaustion in their teams.

Tab. 6.28 Trickle-down effects of leaders' work characteristics, attitudes, and wellbeing on followers' work characteristics, attitudes, and wellbeing

Independent Variable	Criterion	*Coefficient*
Autonomy of the leader	Autonomy of the follower	.12+
Meaning of Work of the leader	Meaning of Work of the follower	-.02
Workload of the leader	Workload of the follower	.13+
Emotional demands of the leader	Emotional demands of the follower	.23**
Commitment of the leader	Commitment of the follower	.02
Occupational self-efficacy of the leader	Occupational self-efficacy of the follower	.14**
Organisational trust of the leader	Organisational trust of the follower	.12*
Work engagement of the leader	Work engagement of the follower	.12+
Job exhaustion of the leader	Job exhaustion of the follower	.17*

Note. N_1 = 750 followers, N_2 = 105 leaders, + p <.1, * p <.05, ** p <.01.

6.2.3 Summary

Overall, it can be concluded that there is some evidence of team-level effects of shared perceptions of leadership and work characteristics on follower wellbeing. This supports the validity of self-ratings and indicates that differences in leadership ratings and evaluations of work characteristics are not only in the eye of the beholder. Moreover, we found evidence of trickle-down effects of work characteristics, attitudes, and wellbeing from higher organizational levels to subordinate positions. However, such effects could not be confirmed for leadership characteristics.

6.3 Evaluation of the ReSuLead Intervention

KIRKPATRICK and KIRKPATRICK (2006) distinguish four levels of evaluation for training programs: reaction, learning, behaviour and results. These levels are hierarchical, with reaction being the lowest level, requiring only little information from the participants, and results being the highest level requiring longitudinal data about the organization in question. The starting point for the design of each evaluation of an intervention has to be the identification of the aims of the interventions under research. In the following section we will shortly enumerate this goals, describe the design and then the main results.

In evaluation literature also a distinction is made between formative and summative evaluation (BIRON, 2012). Whereas the summative evaluation has a look on the desired gains in learning, behaviour or results, the formative evaluation is focused to evaluate how the intervention was done. Some authors make a further distinction between formative and process evaluation. Whereas formative evaluation yields at gathering information during the development and application of an intervention in order to adjust the program, the process evaluation aims at an understanding how the program achieved the results or why it failed, including information about external environmental conditions that may be of importance during the time of intervention. An important data base are reactions of participants, but also additional data sources. We start with the summative evaluation. The process evaluation is described in chapter 6.3.2.

6.3.1 Summative Evaluation

Using an intervention-, control group design including three points of measurement, we tested whether teams who joined our intervention attained the following goals of the intervention …

(1) report lower levels of stressors at work (workload, cognitive demands, emotional demands)
(2) perceive higher resources at work (roleclarity, autonomy, meaning of work)
(3) give higher ratings on positive leadership behavior (transformational-, authentic-, fair -, and health-promoting leadership)
(4) report better wellbeing, and health (i.e. higher workengagement, and self-efficacy, less job exhaustion, irritation, somatic stress and also less absence days, and sickness presence), as well as a better team climate,

… after the intervention as before in comparison with matched control teams from the same organizations. Measures were taken before the intervention program started (T1), about 15 months later after it has finished (T2), and again about 8 months later as follow up (T3).

In the following we will first describe the sample composition for the summative evaluation, provide some guidelines for the interpretation of statistical tests, and then present our results. At the end of the chapter, we will provide a brief conclusion.

Sample description

Prior to analyzing the data we checked whether participants had changed roles from team members to leaders over time or if there was a change of the leader. This was not the case for our intervention or control groups. In Germany 11 teams participated in the intervention, nine of these teams were employed by a city council, and two teams worked for a private bank. For all teams we specified matched control teams that were similar with respect to team size, gender ratio, and field they were working in. In Sweden 16 teams working for two different cities took part in the intervention. According to the named criteria it was only possible to find ten matched control teams. Before the intervention, overall N = 203 team members, and k = 16 leaders from the control groups filled in the questionnaire, and N = 341 team members, and k = 27 leaders from the intervention groups. Table 6.29 provides an overview of the sample composition across time points, and table 6.30 provides more detailed information on the participation across time in the single teams.

All analyses presented in this chapter refer to team members only.

Tab. 6.29 Overall Sample Size for Team Members, Leaders from Intervention - and matched control groups

	T1		T2		T3		T1-T2-T3	
	Cont.	Int.	Cont.	Int.	Cont.	Int.	Cont.	Int.
GERMANY								
N Team members	**87**	**107**	**61**	**96**	**57**	**75**	**51**	**60**
%Women	82%	87%	85%	83%	82%	80%	86%	90%
Age, M(SD)	41(11)	40(11)	41(11)	42(11)	41(10)	41(11)	40(10)	41(11)
N Leaders	**9**	**11**	**10**	**10**	**8**	**10**	**6**	**10**
%Women	100%	75%	80%	80%	100%	80%	100%	80%
Age, M(SD)	47(8)	45(11)	49(5)	45(11)	50(5)	45(11)	50(5)	45(11)
SWEDEN								
N Team members	**116**	**239**	**118**	**189**	**67**	**122**	**21**	**83**
%Women	77%	84%	80%	83%	87%	84%	81%	84%
Age, M(SD)	47(10)	44(11)	48(10)	45(11)	50(9)	45(11)	49(9)	45(11)
N Leaders	**7**	**16**	**7**	**15**	**7**	**14**	**3**	**14**
%Women	57%	69%	71%	67%	86%	64%	100%	64%
Age, M(SD)	58(8)	48(9)	61(1)	48(9)	61(2)	48(1)	61(1)	48(10)
TOTAL								
N Team members	**203**	**341**	**178**	**282**	**124**	**196**	**72**	**142**
%Women	79%	86%	82%	84%	85%	83%	85%	87%
Age, M(SD)	45(11)	43(11)	44(11)	44(11)	45(11)	44(11)	43(11)	43(11)
N Leaders	**16**	**27**	**17**	**25**	**15**	**24**	**9**	**24**
%Women	81%	71%	76%	72%	93%	71%	100%	71%
Age, M(SD)	52(10)	47(10)	53(7)	47(10)	55(7)	47(10)	54(7)	47(10)

Cont.= Control Group, Int.= Intervention group, Mean Age for all columns from T1

Tab. 6.30 Sample Size across Time in Intervention teams and matched control groups (including leaders)

			T1		T2		T3		T1-T2-T3	
Organization	**Cont.**	**Int.**	**Cont.**	**Int.**	**Cont.**	**Int.**	**Cont.**	**Int.**	**Cont.**	**Int.**
GERMANY										
City A	A35	A1	4	9	7	10	7	7	3	5
	A36	A2	7	10	10	10	9	8	6	8
	A37	A3	8	9	7	10	5	7	4	6
	A38	A4	5	14	4	14	2	8	1	7
	A39	A5	10	7	10	9	10	7	9	5
	A41	A7	12	5	13	5	9	5	6	4
City B	B11	B8	14	15	11	11	13	10	9	8
	B13	B9	8	9	6	8	6	7	5	7
	B12	B10	12	14	9	12	9	12	7	11
Bank	C10	C12	14	4	9	6	9	0	5	0
	C11	C13	9	11	7	10	4	10	4	7
Subtotal	**11**	**11**	**103**	**107**	**93**	**105**	**83**	**81**	**59**	**68**
SWEDEN										
City E	-	E1	-	15	-	13	-	14	-	10
	V12	E2	15	21	21	24	3	11	0	10
	V20	E3	13	19	20	11	14	5	6	3
	-	E4	-	16	-	13	-	11	-	8
	EK4	E5	12	23	5	7	7	14	2	4
	EK2	E6	20	12	0	10	8	8	0	6
	V18	E7	26	14	20	12	15	7	9	3
	-	E8	-	18	-	16	-	14	-	13
	-	E10	-	17	-	22	-	2	-	0
City V	VK2	V1	-	5	-	4	-	2	4	2
	VK4	V2	15	9	15	7	0	6	0	5
	-	V3	-	6	-	2	-	0	-	0
	-	V4	-	7	-	5	-	2	-	1
	V16	V5	2	15	20	17	12	11	0	6
	V15	V6	2	20	8	12	0	5	0	4
	V19	V7	6	14	5	14	4	10	0	8
Subtotal	**10**	**16**	**111**	**241**	**114**	**199**	**63**	**122**	**21**	**83**
Total	**21**	**27**	**214**	**348**	**207**	**304**	**146**	**203**	**80**	**151**

Cont.= Control Group, Int.= Intervention group

Attrition in the sample and dropout analyses

The matched longitudinal sample consisting of participants who answered all three surveys, consisted of N = 72 team members, and k = 9 leaders in the control group, and N = 142 team members, and 24 leaders in the intervention group. These figures equal a longitudinal rate of 35 % for control group team members, 42 % for intervention group team members, 56 % leaders from control group, and 89 % of leaders from the intervention group. The highest dropouts resulted in the Swedish control group, as only 18 % of first respondents answered in all three waves. It has to be mentioned, that the rates for the intervention group express the participation rates for the data collection. It does not express the participation rate for the intervention. Except one intervention group in Germany that cancelled participation in the very beginning (and thus is not part of the evaluation of the 11 teams), all intervention groups in both countries took part in the whole intervention, though the composition of the team varied for each module more or less, due to sickness absences, holiday absences or absences for other reasons

We ran a set of tests, to compare participants who dropped out of the sample from T1 to T3 with those who participated in all three waves. No significant differences were found for age or sex. Concerning the variables under study only two differences between these groups reached significance. Dropouts reported lower levels of fair leadership ($T(574, 1)=-2.42$, $p = .02$), and healthpromoting leadership ($T(577, 1)=-2.11$, $p = .04$).

Analyzing the data

As the German and Swedish samples differed not only concerning baseline differences, but also different patterns of results emerged while analyzing the data, we decided to present results separately for the German and Swedish samples. Due to relatively high dropouts over time, especially in the control groups, we run the distinct models with the maximum of available participants. We started with an overall model, a repeated measurement ANOVA including the factor time (3 time points), and group (2 categories: intervention vs. control teams). In all models we will concentrate on interaction effects between time and group, as these indicate different trajectories over time comparing intervention with control teams. We have to keep in mind, that the overall model has the lowest power, as only those respondents could be analyzed who answered at all three points in time.

Furthermore we ran a set of 2X2 (Two time points x two groups) rmANOVAS, comparing the mean responses between T1 and T2, T2 and T3, and finally between T1 and T3. All these analyses may be based on different samples which hampers the options to compare results of these different models. On the other hand, if we would have used only the matched longitudinal sample, we would have power restrictions throughout the analyses. For all variables under study, we will present figures depicting the trajectories separately for the intervention-, and control teams from Germany and Sweden. The mean values used to draw these figures are based on the maximum sample size per time point, and may thus not exactly match the means that are analyses in the rmANOVAS. In order not to overlook effects, we set the significance level at $p. < 10$.

We are well aware of the fact that repeated tests with the same sample may lead to an increased likelihood of detecting significant results. As we expected small effects of the intervention, an alpha correction (e.g. Bonferroni) seemed to be too conservative. Instead we additionally ran rmMANOVAS with bundles of variables, and compared results to the rmANOVAS on single indicators. Results of these analyses support the pattern of results we present in this chapter.

Different trajectories over time can be distinguished (see figure 6.4). As we do not assume that the intervention may produce negative effects, we only differ here between trajectories showing either growth or stability between T1, and T2. Furthermore we do not assume a decline from T2, and T3, when there was no immediate effect from T1 to T2. For the sake of simplicity we also do not present potential acceleration of effects. These prototypes of trajectories can help us to interpret our results. Therefore we will present the conditions that have to be met in the analyses in order to verify a certain effect. Despite of significant interaction effects, of course the pattern of results needs to be in the hypothesized direction.

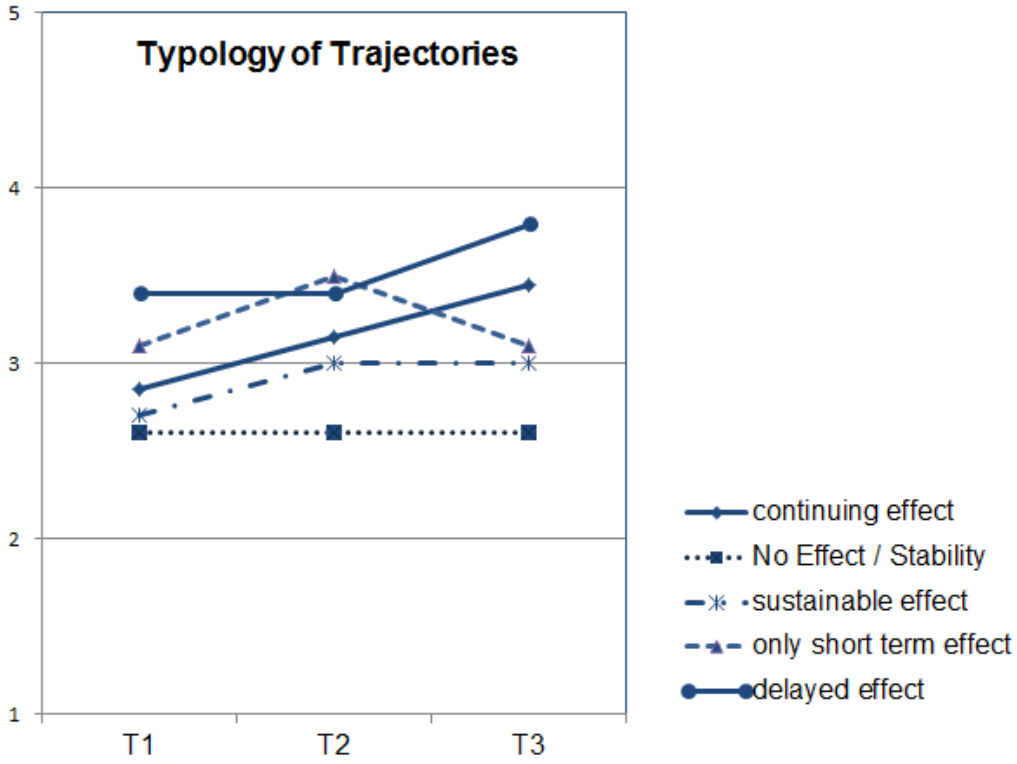


Fig. 6.4 Prototypical trajectories for the intervention group

We can differ between strong and weak evidence for these different trajectories. Table 6.31 gives an overview. All effects refer to significant time x group interactions, that is, across time changes in the criteria occur in the intervention teams, as compared to the control teams.

Tab. 6.31 Type of trajectories, and statistical criteria

Type of effect	Verbal description	Criteria - strong	Criteria - weak
Continuing effect	Changes continue to occur not only directly after the intervention, but also later	T1→ T2 T2→ T3 T1→ T3	T1 → T2 T2 → T3 OR T1 → T3
Sustainable effect	There is an immediate effect after the intervention, which can be sustained	T1 → T2 T1 → T3 Not T2 → T3	T1 → T2 Not T2 → T3
No effect / stability	There is no effect	No effects	-
Delayed effect	There is no immediate effect after the training, but changes occur at a later point in time	Not T1 → T2 T2 → T3 T1 → T3	Not T1 → T2 T2 → T3
Only short term effect	There is an effect immediately after the intervention, but this effect diminishes again at a later point in time	T1 → T2 (increase) T2 → T3 (decrease) Not T1 → T3	T1 → T2 Not T2 → T3 Not T1 → T3

Job stressors

Workload

Figure 6.5 provides an overview of results from rmANOVAS using workload as dependent variable.

Germany

For workload significant time effects were found in the overall model, as well as in the T1→T2, and T2→ T3 model indicating similar changes in the perceived level of workload in both the intervention, and control group. In all models the control group significantly differed from the intervention group, in perceiving less workload. None of the time x group interaction effects reached significance. We can conclude to have no evidence for an effect of the intervention on the level of workload.

With regard to our prototypical trajectory models we can state

"no effect" for workload

in the German sample.

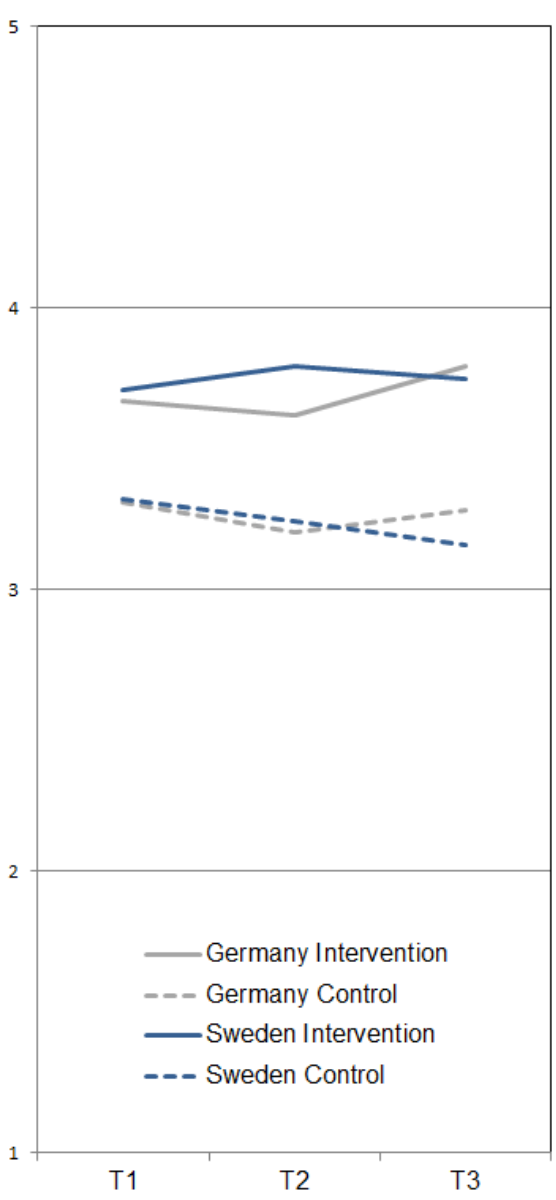
Sweden

In none of the models the factor time reached significance, indicating that there was no general trend in the perception of workload. As in the German sample in all models significant differences emerged between control, and intervention group, indicating higher levels of workload in the intervention, as compared to the control group. None of the time x group interactions reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for workload

in the Swedish sample.



Workload

GERMANY

Overall (T1-T2-T3): (N^{cont} = 51/N^{int} = 59)
Time: F = 3.43, p = .03, η2 = .03
Group: F = 18.77, p = .00, η2 = .15
TxG: F = 0.18, p = .84, η2 = .00
T1-T2: (N^{cont} = 61/N^{int} = 76)
Time: F = 4.14, p = .04, η2 = .03
Group: F = 21.85, p = .00, η2 = .14
TxG: F = 0.53 , p = .47 η2 = .00
T2-T3: (N^{cont} = 51/N^{int} = 71)
Time: F = 10.95, p = .00, η2 = .08
Group: F = 22.25, p = .00, η2 = .16
TxG: F = 0.36, p = .55, η2 = .00
T1-T3:(N^{cont} = 57/N^{int} = 62)
Time: F = 0.27, p = .60, η2 = .00
Group: F = 18.98, p = .00, η2 = .14
TxG: F = 0.06, p = .82, η2 = .00

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 21/N^{int} = 82)
Time: F = 0.12, p = .89, η2 = .00
Group: F = 53.78, p = .00, η2 = .35
TxG: F = 0.60, p = .55, η2 = .01
T1-T2: (N^{cont} = 42/N^{int} = 123)
Time: F = 2.34, p = .13, η2 = .01
Group: F = 67.64, p = .00, η2 = .29
TxG: F = 0.27, p = .61, η2 = .00
T2-T3: (N^{cont} = 48/N^{int} = 99)
Time: F = 0.05, p = .83, η2 = .00
Group: F = 45.68, p = .00, η2 = .24
TxG: F = 0.34, p = .56, η2 = .00
T1-T3: (N^{cont} = 39/N^{int} = 105)
Time: F = 1.33, p = .25, η2 = .01
Group: F = 30.16, p = .00, η2 = .18
TxG: F = 2.19, p = .14, η2 = .02

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.5 rmANOVAS and Means across time for intervention and control group for workload

Cognitive demands

Figure 6.6 provides an overview of results from rmANOVAS using cognitive demands as dependent variable.

Germany

For cognitive demands a marginal significant time effects were found in the T1→T2 model, indicating similar changes over time in the control, and intervention group. In all models the control group significantly differed from the intervention group, in perceiving less cognitive demands. None of the time x group interaction effects reached significance. We can conclude to have no evidence for an effect of the intervention on the level of cognitive demands.

With regard to our prototypical trajectory models we can state

"no effect" for cognitive demands

in the German sample.

Sweden

In none of the models the factor time reached significance, indicating that there was no general trend in the perception of cognitive demands. As in the German sample in all models significant differences emerged between control, and intervention group, indicating higher levels of cognitive demands in the intervention, as compared to the control group. In the overall model the time x group interaction was marginally significant, which was rather due to an increase of cognitive demands in the control group between T1, and T2.

With regard to our prototypical trajectory models we can state

"no effect" for cognitive demands

in the Swedish sample.

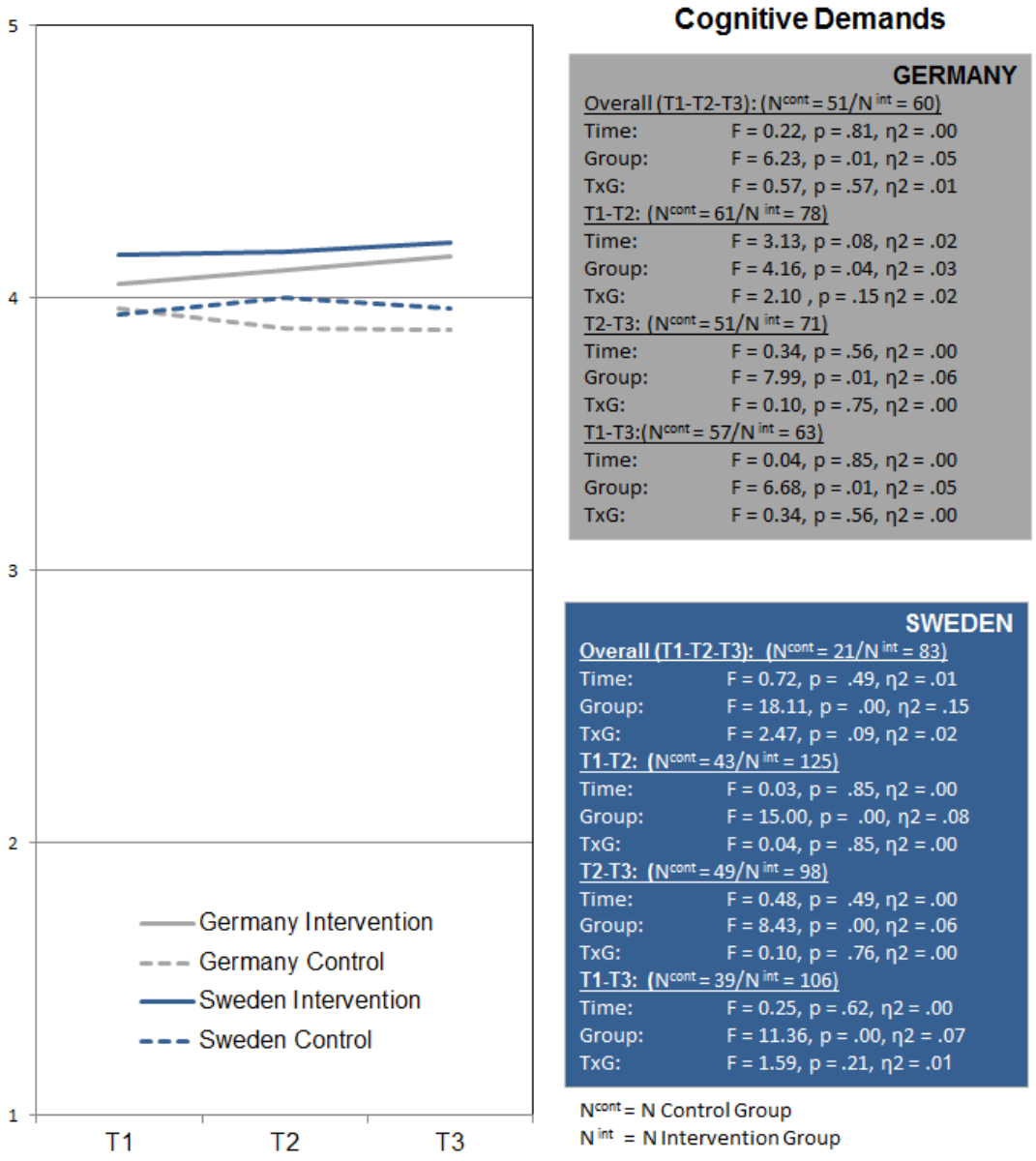


Fig. 6.6 rmANOVAS and Means across time for intervention and control group for cognitive demands

Emotional demands

Figure 6.7 provides an overview of results from rmANOVAS using emotional demands as dependent variable.

Germany

There were significant time effects in all but the T1 → T3 model, indicating similar changes over time in the control, and intervention group. In all models the control group significantly differed from the intervention group, in perceiving less emotional demands. There is a marginal significant time x group interaction effect in the overall model, and a significant effect in the T1→ T3 model. However, against expectations emotional demands increased in the intervention group – thus we would not speak of a training effect.

With regard to our prototypical trajectory models we can state

"no effect" for emotional demands

in the German sample.

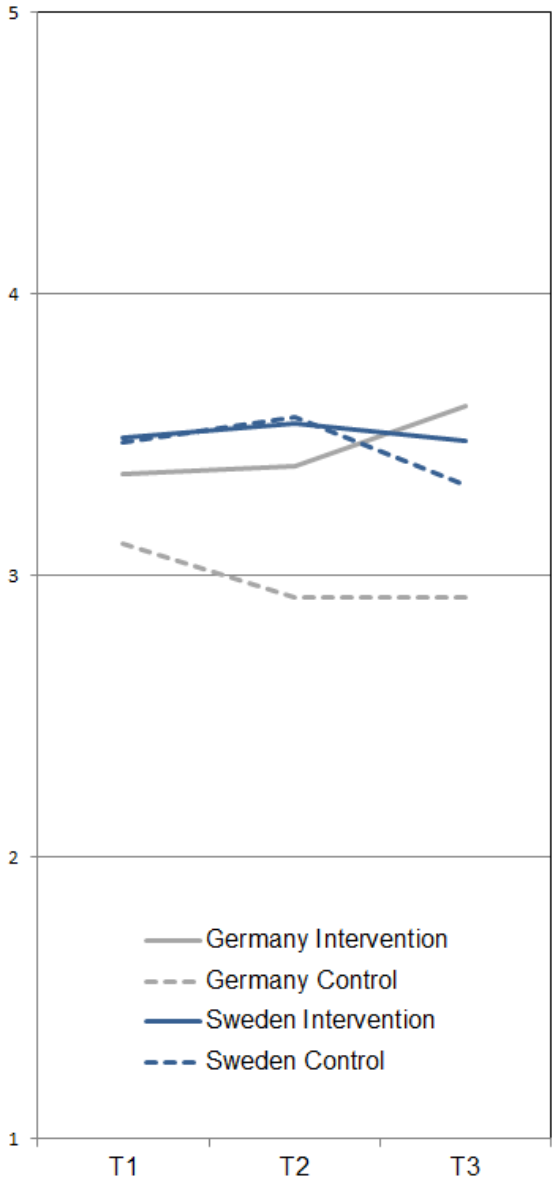
Sweden

The factor time reached significance only in the T2 →T3 model, indicating that there was a general trend in the perception of emotional demands. Unlike in the German sample a main effect of group could be found, but only in the overall model. None of the time x group interactions reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for emotional demands

in the Swedish sample.



Emotional Demands

GERMANY

Overall (T1-T2-T3): (N^{cont} = 51/N^{int} = 59)
Time: F = 4.01, p = .02, η2 = .04
Group: F = 10.61, p = .00, η2 = .09
TxG: F = 2.51, p = .08, η2 = .02
T1-T2: (N^{cont} = 60/N^{int} = 77)
Time: F = 7.96, p = .01, η2 = .06
Group: F = 8.37, p = .00, η2 = .06
TxG: F = 2.26 , p = .14 η2 = .02
T2-T3: (N^{cont} = 51/N^{int} = 70)
Time: F = 6.50, p = .01, η2 = .05
Group: F = 14.96, p = .00, η2 = .11
TxG: F = 0.58, p = .45, η2 = .01
T1-T3:(N^{cont} = 57/N^{int} = 62)
Time: F = 0.08, p = .77, η2 = .00
Group: F = 11.74, p = .00, η2 = .09
TxG: F = 4.26, p = .04, η2 = .04

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 21/N^{int} = 81)
Time: F = 1.64, p = .20, η2 = .02
Group: F = 3.77, p = .06, η2 = .04
TxG: F = 0.67, p = .51, η2 = .01
T1-T2: (N^{cont} = 43/N^{int} = 125)
Time: F = 0.84, p = .36, η2 = .01
Group: F = 0.25, p = .62, η2 = .00
TxG: F = 2.35, p = .13, η2 = .01
T2-T3: (N^{cont} = 49/N^{int} = 96)
Time: F = 4.21, p = .04, η2 = .03
Group: F = 0.84, p = .36, η2 = .01
TxG: F = 1.27, p = .26, η2 = .01
T1-T3: (N^{cont} = 39/N^{int} = 104)
Time: F = 0.75, p = .39, η2 = .01
Group: F = 1.06, p = .31, η2 = .01
TxG: F = 2.41, p = .12, η2 = .02

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.7 rmANOVAS and Means across time for intervention and control group for emotional demands

Job Resources

Roleclarity

Figure 6.8 provides an overview of results from rmANOVAS using roleclarity as dependent variable.

Germany

There were no significant time effects, indicating similar changes over time in the control, and intervention group. Also control-, and intervention group did not significantly differ in the perception of roleclarity. None of the time x group interaction effects reached significance. We can conclude to have no evidence for an effect of the intervention on the level of roleclarity.

With regard to our prototypical trajectory models we can state

"no effect" for role clarity

in the German sample.

Sweden

The factor time did not reach significance in one of the models, indicating similar changes across groups. A main effect for group was found in the T2 → T3 model indicating overall higher values in role clarity in the control, as compared to the intervention group. In the T1 → T2 model, the interaction of group and time was marginally significant. As neither changes from T2 to T3 nor from T1 to T3 (compared to the control group) reached significance, and by looking at the figure, we can see that this effect is due to an increase in role clarity in the control group.

With regard to our prototypical trajectory models we can state

"no effect" for role clarity

in the Swedish sample.

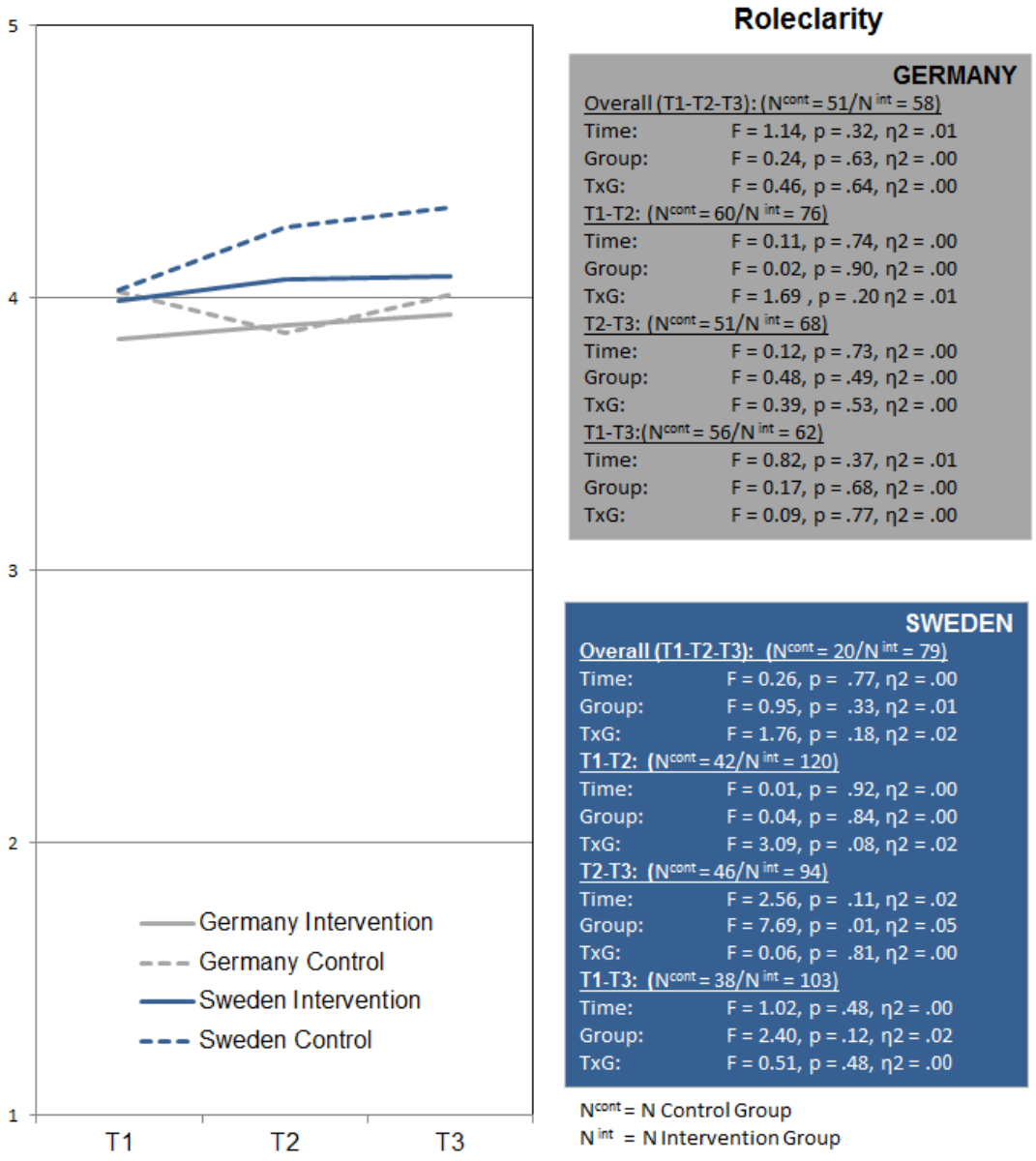


Fig. 6.8 rmANOVAS and Means across time for intervention and control group for roleclarity

Autonomy

Figure 6.9 provides an overview of results from rmANOVAS using autonomy as dependent variable.

Germany

There were significant time effects in all but the T1→T2 model, indicating similar changes over time in the control, and intervention group. Control-, and intervention group did not generally differ in their perception of autonomy at work. None of the time x group interaction effects reached significance. We can conclude to have no evidence for an effect of the intervention on the level of autonomy.

With regard to our prototypical trajectory models we can state

"no effect" for autonomy

in the German sample.

Sweden

The factor time reached significance only in the T2→T3, indicating similar changes across groups. No main effects for group were found indicating similar values in autonomy in both groups. In the T1 → T2 model, the interaction of group and time was significant. As neither changes from T2 to T3 nor from T1 to T3 (compared to the control group) reached significance, and by looking at the figure, we can see that this effect is due to an increase in autonomy in the control group between T1, and T2.

With regard to our prototypical trajectory models we can state

"no effect" for autonomy

in the Swedish sample.

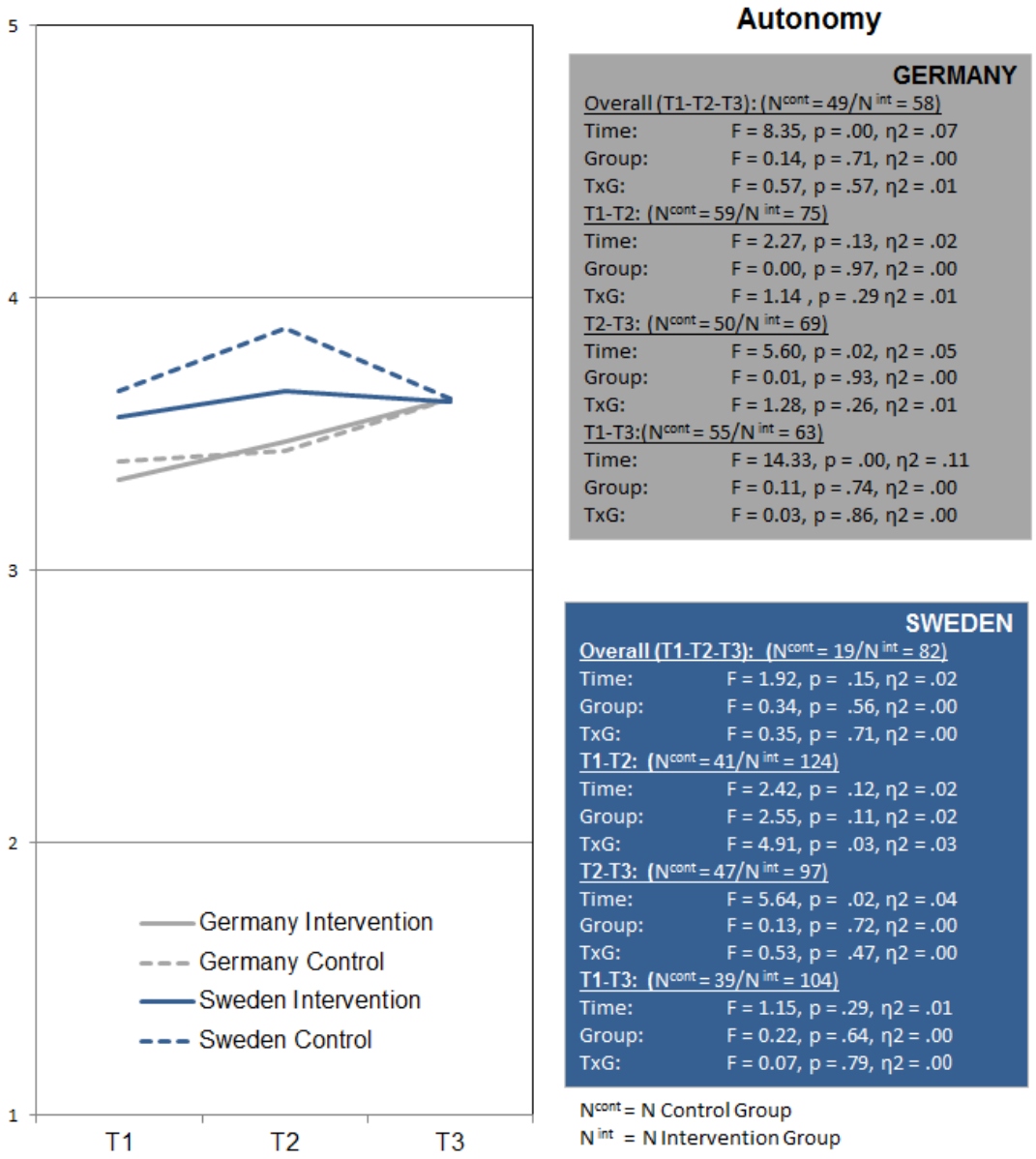


Fig. 6.9 rmANOVAS and Means across time for intervention and control group for autonomy

Meaning of work

Figure 6.10 provides an overview of results from rmANOVAS using meaning of work as dependent variable.

Germany

There were no significant main effects of time, indicating similar changes over time in the control, and intervention group. Control-, and intervention group did not generally differ in their perception of meaning at work. None of the time x group interaction effects reached significance. We can conclude to have no evidence for an effect of the intervention on the level of autonomy.

With regard to our prototypical trajectory models we can state

"no effect" for meaning of work

in the German sample.

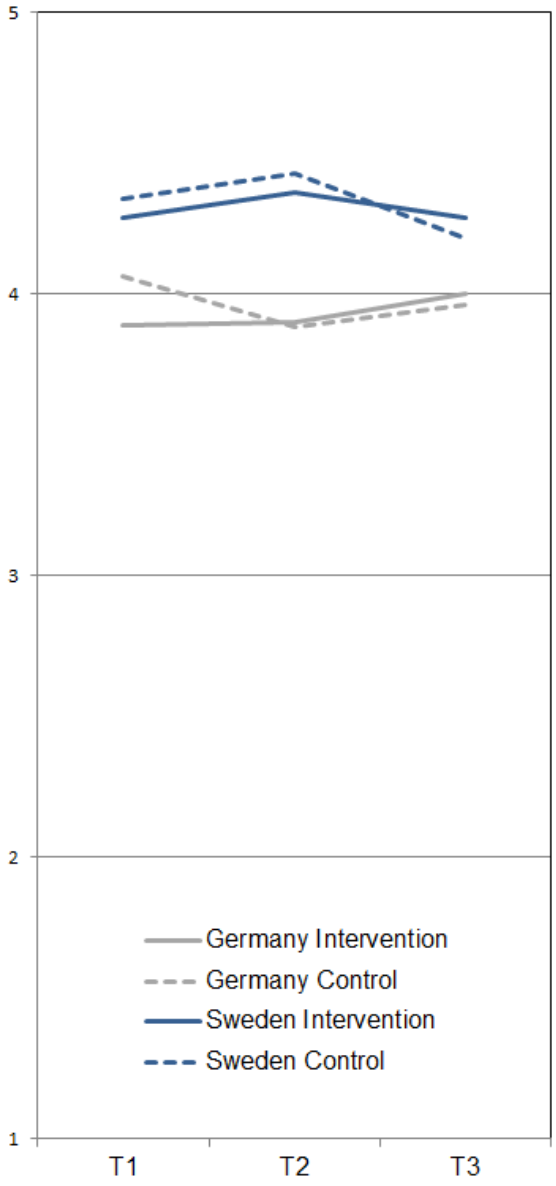
Sweden

The factor time reached significance only in the T2→T3, and the T1 → T3 models indicating similar changes across groups. No main effects for group were found indicating similar values in meaning of work in both groups. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for meaning of work

in the Swedish sample.



Meaning of Work

GERMANY

Overall (T1-T2-T3): (N^{cont} = 48/N^{int} = 58)
Time: F = 0.49, p = .62, η2 = .01
Group: F = 0.04, p = .84, η2 = .00
TxG: F = 1.39, p = .25, η2 = .01
T1-T2: (N^{cont} = 56/N^{int} = 75)
Time: F = 1.15, p = .29, η2 = .01
Group: F = 0.41, p = .52, η2 = .00
TxG: F = 1.82 , p = .18 η2 = .01
T2-T3: (N^{cont} = 49/N^{int} = 70)
Time: F = 0.33, p = .57, η2 = .00
Group: F = 0.02, p = .88, η2 = .00
TxG: F = 0.13, p = .72, η2 = .00
T1-T3:(N^{cont} = 56/N^{int} = 62)
Time: F = 0.53, p = .47, η2 = .01
Group: F = 0.00, p = .96, η2 = .00
TxG: F = 1.48, p = .23, η2 = .01

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 21/N^{int} = 79)
Time: F = 2.00, p = .14, η2 = .02
Group: F = 2.42, p = .12, η2 = .02
TxG: F = 0.53, p = .59, η2 = .01
T1-T2: (N^{cont} = 43/N^{int} = 122)
Time: F = 0.03, p = .87, η2 = .00
Group: F = 0.02, p = .88, η2 = .00
TxG: F = 0.37, p = .54, η2 = .00
T2-T3: (N^{cont} = 48/N^{int} = 96)
Time: F = 5.90, p = .02, η2 = .04
Group: F = 1.16, p = .28, η2 = .01
TxG: F = 0.37, p = .54, η2 = .00
T1-T3: (N^{cont} = 39/N^{int} = 103)
Time: F = 9.40, p = .00, η2 = .06
Group: F = 0.60, p = .44, η2 = .00
TxG: F = 0.48, p = .49, η2 = .00

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.10 rmANOVAS and Means across time for intervention and control group for meaning of work

Leadership

Transformational Leadership

Figure 6.11 provides an overview of results from rmANOVAS using transformational leadership as dependent variable.

Germany

There were significant main effects of time in the overall model, as well as in the T2 → T3 model, indicating similar changes over time in the control, and intervention group. Control-, and intervention group did not generally differ in their ratings of transformational leadership. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for transformational leadership

in the German sample.

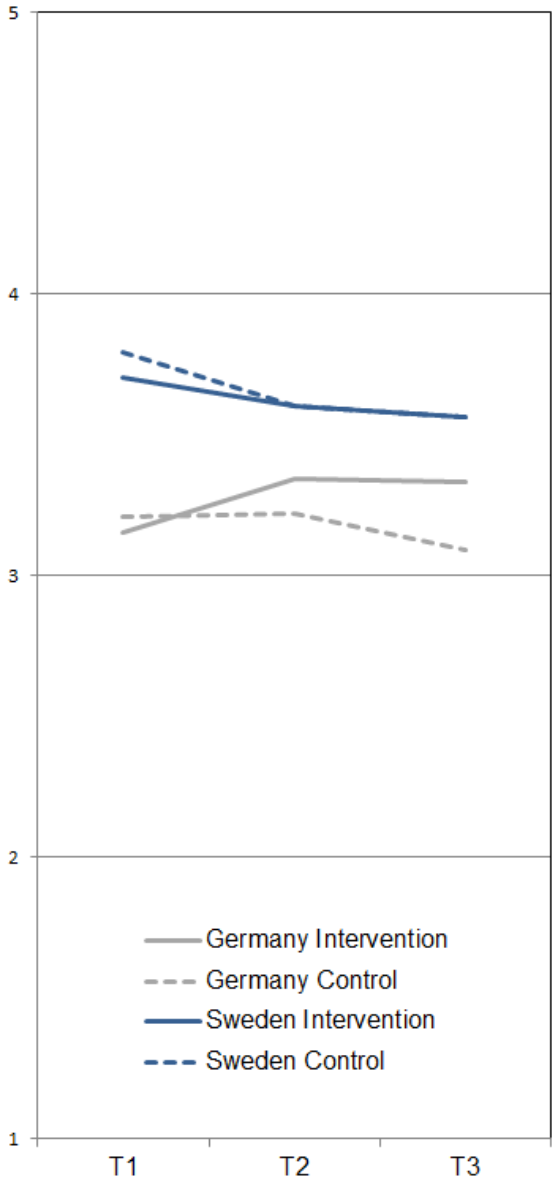
Sweden

The factor time reached significance in all models indicating similar changes across groups. No main effects for group were found indicating similar ratings of transformational leadership in both groups. There was a significant time x group interaction effect in the T1→ T2 model. But looking at the figure this effect can be attributed to a steeper decline in transformational leadership ratings in the control group, and thus does not indicate a training effect.

With regard to our prototypical trajectory models we can state

"no effect" for transformational leadership

in the Swedish sample.



Transformational Leadership

GERMANY

Overall (T1-T2-T3): (N^{cont} = 51/N^{int} = 57)
Time: F = 3.69, p = .03, η2 = .03
Group: F = 0.91, p = .34, η2 = .01
TxG: F = 1.01, p = .37, η2 = .01
T1-T2: (N^{cont} = 61/N^{int} = 74)
Time: F = 0.24, p = .63, η2 = .00
Group: F = 0.10, p = .76, η2 = .00
TxG: F = 0.68, p = .41, η2 = .01
T2-T3: (N^{cont} = 51/N^{int} = 69)
Time: F = 10.40, p = .00, η2 = .08
Group: F = 1.36, p = .25, η2 = .01
TxG: F = 0.46, p = .50, η2 = .00
T1-T3:(N^{cont} = 57/N^{int} = 61)
Time: F = 0.74, p = .39, η2 = .01
Group: F = 1.56, p = .21, η2 = .01
TxG: F = 1.38, p = .24, η2 = .01

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 21/N^{int} = 82)
Time: F = 2.42, p = .09, η2 = .02
Group: F = 0.19, p = .67, η2 = .00
TxG: F = 1.97, p = .14, η2 = .02
T1-T2: (N^{cont} = 42/N^{int} = 123)
Time: F = 6.82, p = .01, η2 = .04
Group: F = 2.56, p = .11, η2 = .02
TxG: F = 7.09, p = .01, η2 = .04
T2-T3: (N^{cont} = 49/N^{int} = 98)
Time: F = 8.51, p = .00, η2 = .06
Group: F = 1.27, p = .26, η2 = .01
TxG: F = 0.86, p = .36, η2 = .01
T1-T3: (N^{cont} = 38/N^{int} = 104)
Time: F = 12.15, p = .00, η2 = .08
Group: F = 0.28, p = .60, η2 = .00
TxG: F = 0.65, p = .42, η2 = .01

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.11 rmANOVAS and Means across time for intervention and control group for transformational leadership

Authentic Leadership

Figure 6.12 provides an overview of results from rmANOVAS using authentic leadership as dependent variable.

Germany

There were no significant main effects of time. Control-, and intervention group did not generally differ in their ratings of authentic leadership. In the T1→T2 model, the time x group interaction reached marginal significance. No significant changes occurred between T2 and T3. As the comparison of T1 and T3 also provided no significant interaction effect, we can claim a sustainable effect, based on weak evidence according to our scheme.

With regard to our prototypical trajectory models we can state

"sustainable effect" for authentic leadership (weak evidence)

in the German sample.

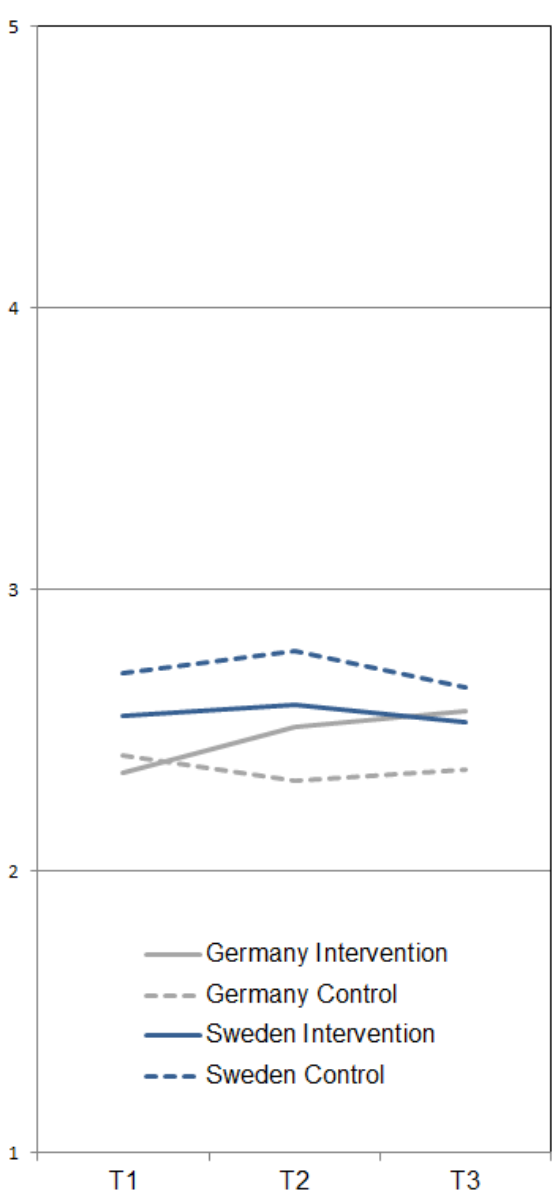
Sweden

The factor time reached significance in the models T2 → T3, and T1 → T3, indicating similar changes over time in both groups. No main effects for group were found indicating similar ratings of authentic leadership in both groups. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for authentic leadership

in the Swedish sample.



Authentic Leadership

GERMANY

Overall (T1-T2-T3): (N^{cont} = 51/N^{int} = 57)
Time: F = 0.36, p = .70, η2 = .00
Group: F = 1.67, p = .20, η2 = .02
TxG: F = 0.69, p = .41, η2 = .01
T1-T2: (N^{cont} = 61/N^{int} = 74)
Time: F = 0.50, p = .48, η2 = .00
Group: F = 0.30, p = .59, η2 = .00
TxG: F = 2.75, p = .10, η2 = .02
T2-T3: (N^{cont} = 51/N^{int} = 68)
Time: F = 1.27, p = .26, η2 = .01
Group: F = 2.23, p = .14, η2 = .02
TxG: F = 0.27, p = .61, η2 = .00
T1-T3: (N^{cont} = 56/N^{int} = 62)
Time: F = 0.25, p = .62, η2 = .00
Group: F = 2.36, p = .13, η2 = .02
TxG: F = 0.99, p = .32, η2 = .01

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 21/N^{int} = 79)
Time: F = 1.39, p = .25, η2 = .01
Group: F = 0.26, p = .61, η2 = .00
TxG: F = 0.18, p = .84, η2 = .00
T1-T2: (N^{cont} = 42/N^{int} = 123)
Time: F = 1.98, p = .16, η2 = .01
Group: F = 1.20, p = .28, η2 = .01
TxG: F = 1.23, p = .27, η2 = .01
T2-T3: (N^{cont} = 47/N^{int} = 93)
Time: F = 8.18, p = .01, η2 = .06
Group: F = 1.09, p = .30, η2 = .01
TxG: F = 0.97, p = .33, η2 = .01
T1-T3: (N^{cont} = 37/N^{int} = 100)
Time: F = 4.29, p = .04, η2 = .03
Group: F = 0.28, p = .60, η2 = .00
TxG: F = 0.02, p = .89, η2 = .00

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.12 rmANOVAS and Means aross time for intervention and control group for authentic leadership

Fair Leadership

Figure 6.13 provides an overview of results from rmANOVAS using fair leadership as dependent variable.

Germany

There were significant main effects of time in all but the T1 → T2 model. Control-, and intervention group did not generally differ in their ratings of fair leadership. The time x group interaction reached significance in the T1 → T2 model, and marginal significance in the T2 → T3 model. Looking at the figure, we can observe an increase in ratings of fair leadership between T1 and T2, and a slight decrease again between T2 and T3.

With regard to our prototypical trajectory models we can state

"short-term effect" for fair leadership

in the German sample.

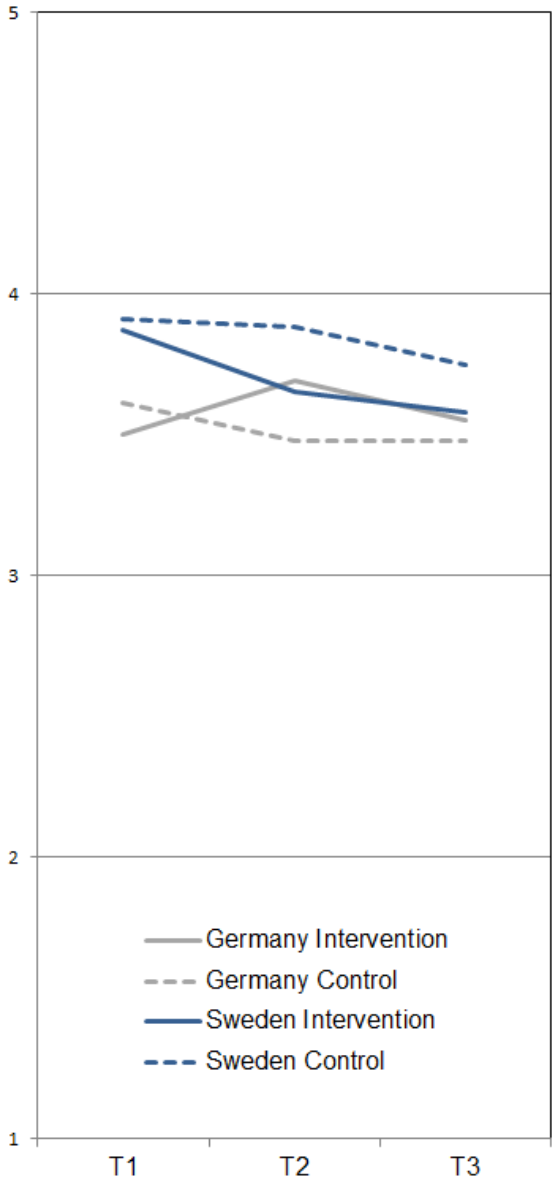
Sweden

The factor time reached significance in all models (marginal significant in the overall model), indicating similar changes over time in both groups. No main effects for group were found indicating similar ratings of fair leadership in both groups. The time x group interaction effect reached marginal significance in the T1 → T2 model, but as can be seen in the figure due to a decline in the level of fair leadership in the intervention group.

With regard to our prototypical trajectory models we can state

"no effect" for fair leadership

in the Swedish sample.



Fair Leadership

GERMANY

Overall (T1-T2-T3): (N^{cont} = 50/N^{int} = 57)
Time: F = 3.58, p = .03, η2 = .03
Group: F = 0.64, p = .43, η2 = .01
TxG: F = 1.57, p = .21, η2 = .02
T1-T2: (N^{cont} = 61/N^{int} = 74)
Time: F = 0.21, p = .65, η2 = .00
Group: F = 0.20, p = .65, η2 = .00
TxG: F = 3.92, p = .05, η2 = .03
T2-T3: (N^{cont} = 50/N^{int} = 68)
Time: F = 9.51, p = .00, η2 = .08
Group: F = 1.00, p = .32, η2 = .01
TxG: F = 3.07, p = .08, η2 = .03
T1-T3:(N^{cont} = 55/N^{int} = 62)
Time: F = 5.12, p = .03, η2 = .04
Group: F = 0.53, p = .47, η2 = .01
TxG: F = 0.04, p = .85, η2 = .00

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 21/N^{int} = 81)
Time: F = 2.52, p = .08, η2 = .03
Group: F = 0.68, p = .41, η2 = .01
TxG: F = 2.02, p = .14, η2 = .02
T1-T2: (N^{cont} = 41/N^{int} = 122)
Time: F = 14.86, p = .00, η2 = .08
Group: F = 0.07, p = .80, η2 = .00
TxG: F = 2.95, p = .09, η2 = .02
T2-T3: (N^{cont} = 48/N^{int} = 98)
Time: F = 4.51, p = .04, η2 = .03
Group: F = 0.77, p = .38, η2 = .01
TxG: F = 0.09, p = .76, η2 = .00
T1-T3: (N^{cont} = 38/N^{int} = 104)
Time: F = 17.79, p = .00, η2 = .12
Group: F = 0.79, p = .38, η2 = .01
TxG: F = 1.80, p = .18, η2 = .01

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.13 rmANOVAS and Means across time for intervention and control group for fair leadership

Healthpromoting Leadership

Figure 6.14 provides an overview of results from rmANOVAS using healthpromoting leadership as dependent variable.

Germany

There were no significant main effects of time. Control-, and intervention group did not generally differ in their ratings of healthpromoting leadership. The time x group interaction reached marginal significance in the T1 → T2 model. No significant changes occurred between T2 and T3. As the comparison of T1 and T3 also provided no significant interaction effect, we can claim a sustainable effect, based on weak evidence according to our scheme. Looking at the figure we can see, that this effect may party be attributed to a decline of rating between T1 and T2 in the control group.

With regard to our prototypical trajectory models we can state

"sustainable effect " for healthpromoting leadership (weak evidence)

in the German sample.

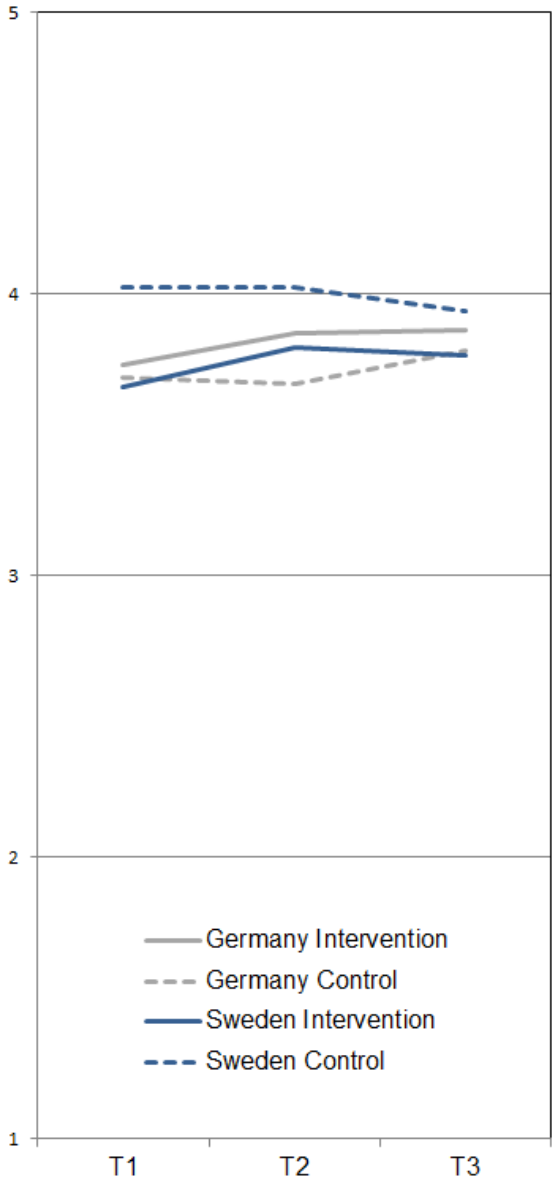
Sweden

There were no significant main effects of time. A main effects for group was found in the T1 → T2 model, indicating higher ratings of healthpromoting leadership in the control, as compared to the intervention group. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for healthpromoting leadership

in the Swedish sample.



Healthpromoting Leadership

GERMANY

Overall (T1-T2-T3): (N^{cont} = 51/N^{int} = 58)
Time: F = 1.52, p = .22, η2 = .01
Group: F = 2.52, p = .12, η2 = .02
TxG: F = 0.34, p = .71, η2 = .00
T1-T2: (N^{cont} = 61/N^{int} = 74)
Time: F = 0.58, p = .45, η2 = .00
Group: F = 1.39, p = .24, η2 = .01
TxG: F = 2.69, p = .10, η2 = .02
T2-T3: (N^{cont} = 51/N^{int} = 68)
Time: F = 0.63, p = .43, η2 = .01
Group: F = 1.78, p = .19, η2 = .02
TxG: F = 1.27, p = .26, η2 = .01
T1-T3: (N^{cont} = 56/N^{int} = 63)
Time: F = 0.20, p = .66, η2 = .00
Group: F = 2.18, p = .14, η2 = .02
TxG: F = 0.16, p = .69, η2 = .00

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 21/N^{int} = 83)
Time: F = 1.35, p = .26, η2 = .01
Group: F = 1.24, p = .27, η2 = .01
TxG: F = 0.15, p = .86, η2 = .00
T1-T2: (N^{cont} = 41/N^{int} = 123)
Time: F = 1.11, p = .29, η2 = .01
Group: F = 4-21, p = .04, η2 = .03
TxG: F = 1.04, p = .31, η2 = .01
T2-T3: (N^{cont} = 48/N^{int} = 98)
Time: F = 1.04, p = .31, η2 = .01
Group: F = 0.96, p = .33, η2 = .01
TxG: F = 1.90, p = .17, η2 = .01
T1-T3: (N^{cont} = 38/N^{int} = 106)
Time: F = 3.44, p = .07, η2 = .02
Group: F = 2.26, p = .14, η2 = .02
TxG: F = 0.78, p = .38, η2 = .01

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.14 rmANOVAS and Means across time for intervention and control group for healthpromoting leadership

Health, and Wellbeing

Irritation

Figure 6.15 provides an overview of results from rmANOVAS using irritation as dependent variable.

Germany

There was significant main effect of time in the T2 → T3 model indicating similar trajectories for both groups. Control-, and intervention group did generally differ in their ratings of irritation; the intervention group scored higher. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect " for irritation

in the German sample.

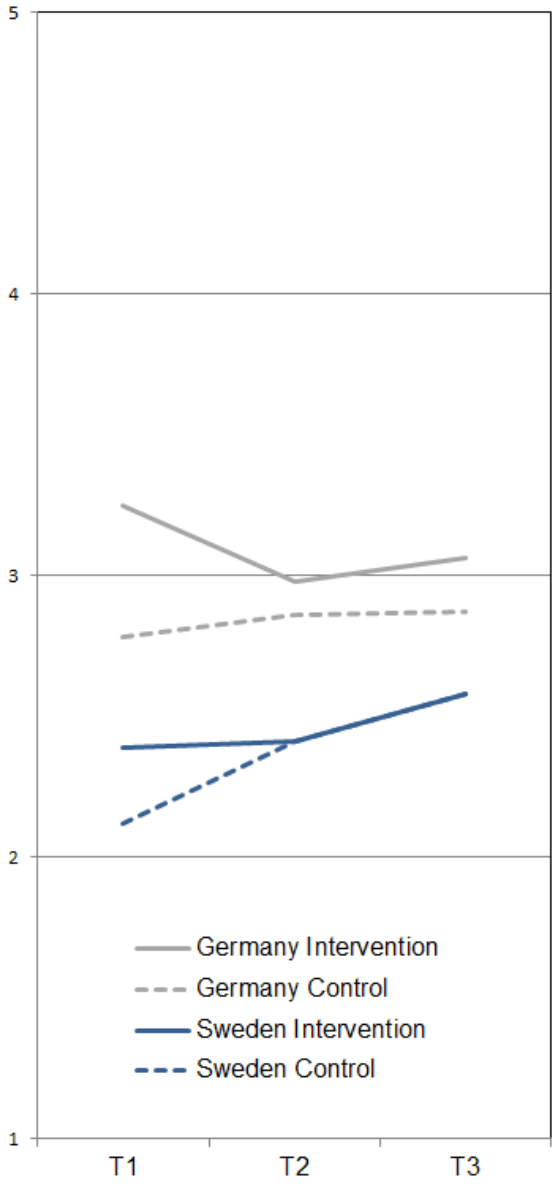
Sweden

There were significant main effects of time in the T2 →T3 and T1 → T3 (marginal) models indicating similar trajectories in both groups. Main effects for group were significant in all models (marginal for T2 → T3) indicating higher general levels of irritation in the intervention group. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for irritation

in the Swedish sample.



Irritation

GERMANY

Overall (T1-T2-T3): (N^{cont} = 51/N^{int} = 58)
Time: F = 1.44, p = .24, η2 = .01
Group: F = 1.36, p = .25, η2 = .01
TxG: F = 0.90, p = .41, η2 = .01
T1-T2: (N^{cont} = 61/N^{int} = 76)
Time: F = 0.26, p = .61, η2 = .00
Group: F = 3.56, p = .06, η2 = .03
TxG: F = 2.16, p = .14, η2 = .02
T2-T3: (N^{cont} = 51/N^{int} = 70)
Time: F = 3.94, p = .05, η2 = .03
Group: F = 0.52, p = .47, η2 = .00
TxG: F = 0.73, p = .39, η2 = .01
T1-T3:(N^{cont} = 56/N^{int} = 60)
Time: F = 1.71, p = .19, η2 = .02
Group: F = 2.03, p = .16, η2 = .02
TxG: F = 0.51, p = .48, η2 = .00

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 20/N^{int} = 81)
Time: F = 1.31, p = .27, η2 = .01
Group: F = 3.85, p = .05, η2 = .04
TxG: F = 0.47, p = .63, η2 = .01
T1-T2: (N^{cont} = 43/N^{int} = 125)
Time: F = 0.16, p = .69, η2 = .00
Group: F = 7.71, p = .01, η2 = .04
TxG: F = 1.38, p = .24, η2 = .01
T2-T3: (N^{cont} = 46/N^{int} = 96)
Time: F = 5.38, p = .02, η2 = .04
Group: F = 3.02, p = .08, η2 = .02
TxG: F = 0.61, p = .44, η2 = .00
T1-T3: (N^{cont} = 37/N^{int} = 104)
Time: F = 3.73, p = .06, η2 = .03
Group: F = 5.86, p = .02, η2 = .04
TxG: F = 0.02, p = .89, η2 = .00

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.15 rmANOVAS and Means across time for intervention and control group for irritation

Job Exhaustion

Figure 6.16 provides an overview of results from rmANOVAS using job exhaustion as dependent variable.

Germany

There were significant main effects of time in all but the T1 → T3 model (marginal significance in the T1 → T2 model) indicating similar trajectories for both groups. Control-, and intervention group did generally differ in their ratings of job exhaustion, the intervention group scored higher. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect " for job exhaustion

in the German sample.

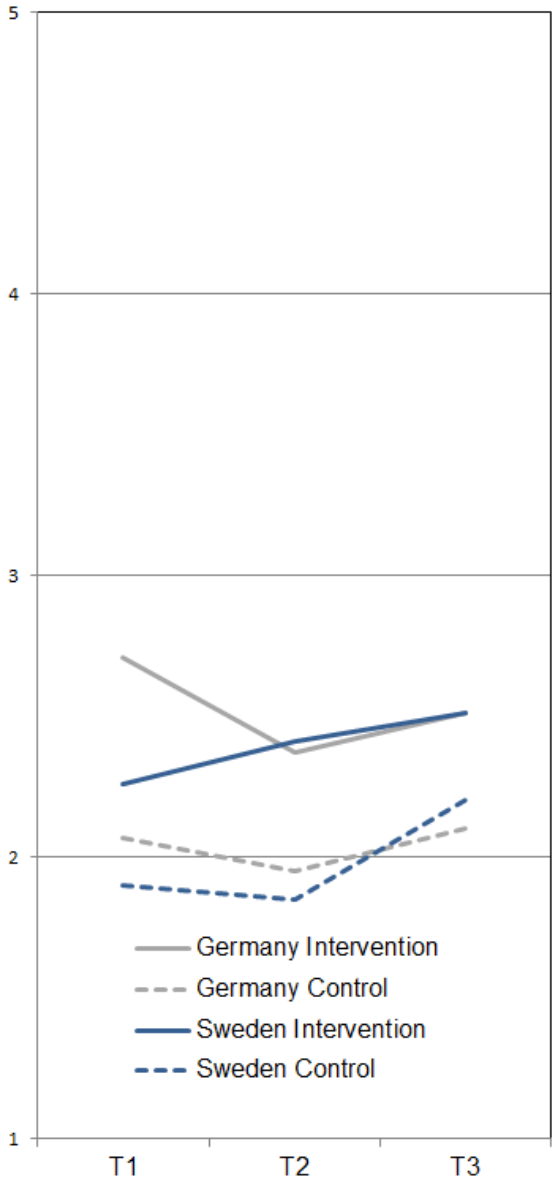
Sweden

There were significant main effects of time in the T2 →T3 (marginal) and T1 → T3 models indicating similar trajectories in both groups. Main effects for group were significant in the T1 → T2 model (marginal) and the T1 → T3 model indicating higher general levels of job exhaustion in the intervention group. The time x group interaction effect reached marginal significance in the T1 → T2 model. Looking at the figure this effect can be attributed to slightly increasing level in the intervention group and at the same time slightly decreasing level in the control group. We would therefore rate this pattern not as a training effect.

With regard to our prototypical trajectory models we can state

"no effect" for job exhaustion

in the Swedish sample.



Job Exhaustion

GERMANY

Overall (T1-T2-T3): (N^{cont} = 48/N^{int} = 58)
Time: F = 4.15, p = .02, η2 = .04
Group: F = 3.67, p = .06, η2 = .03
TxG: F = 0.57, p = .56, η2 = .01
T1-T2: (N^{cont} = 59/N^{int} = 76)
Time: F = 3.06, p = .08, η2 = .02
Group: F = 6.97, p = .01, η2 = .05
TxG: F = 0.59, p = .44, η2 = .00
T2-T3: (N^{cont} = 49/N^{int} = 69)
Time: F = 10.35, p = .00, η2 = .08
Group: F = 4.20, p = .04, η2 = .04
TxG: F = 0.13, p = .72, η2 = .00
T1-T3:(N^{cont} = 54/N^{int} = 62)
Time: F = 0.01, p = .92, η2 = .00
Group: F = 4.12, p = .05, η2 = .04
TxG: F = 1.09, p = .30, η2 = .01

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 20/N^{int} = 82)
Time: F = 0.43, p = .65, η2 = .00
Group: F = 1.31, p = .26, η2 = .01
TxG: F = 1.72, p = .18, η2 = .02
T1-T2: (N^{cont} = 40/N^{int} = 122)
Time: F = 2.19, p = .14, η2 = .01
Group: F = 3.68, p = .06, η2 = .02
TxG: F = 3.44, p = .07, η2 = .02
T2-T3: (N^{cont} = 45/N^{int} = 97)
Time: F = 3.62, p = .06, η2 = .03
Group: F = 0.41, p = .52, η2 = .00
TxG: F = 0.30, p = .59, η2 = .00
T1-T3: (N^{cont} = 38/N^{int} = 106)
Time: F = 9.59, p = .00, η2 = .06
Group: F = 3.89, p = .05, η2 = .03
TxG: F = 0.57, p = .45, η2 = .00

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.16 rmANOVAS and Means across time for intervention and control group for job exhaustion

Somatic Stress

Figure 6.17 provides an overview of results from rmANOVAS using somatic stress as dependent variable.

Germany

There were no significant main effects of time. Control-, and intervention group significantly differed in their ratings of somatic stress in the T1 → T2 model indicating more health problems among the intervention group participants. There were significant interaction effects of time and group in the overall model (marginal), the T2 → T3 model, and the T1 → T3 model. Looking at the figure, this pattern can be classified as a delayed effect.

With regard to our prototypical trajectory models we can state

"delayed effect" for somatic stress

in the German sample.

Sweden

There was significant main effects of time in the T2 → T3 model indicating similar trajectories for both groups. Main effects for group were found in the overall model, and the T1 → T2 model indicating more health problems in the intervention group. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for somatic stress

in the Swedish sample.

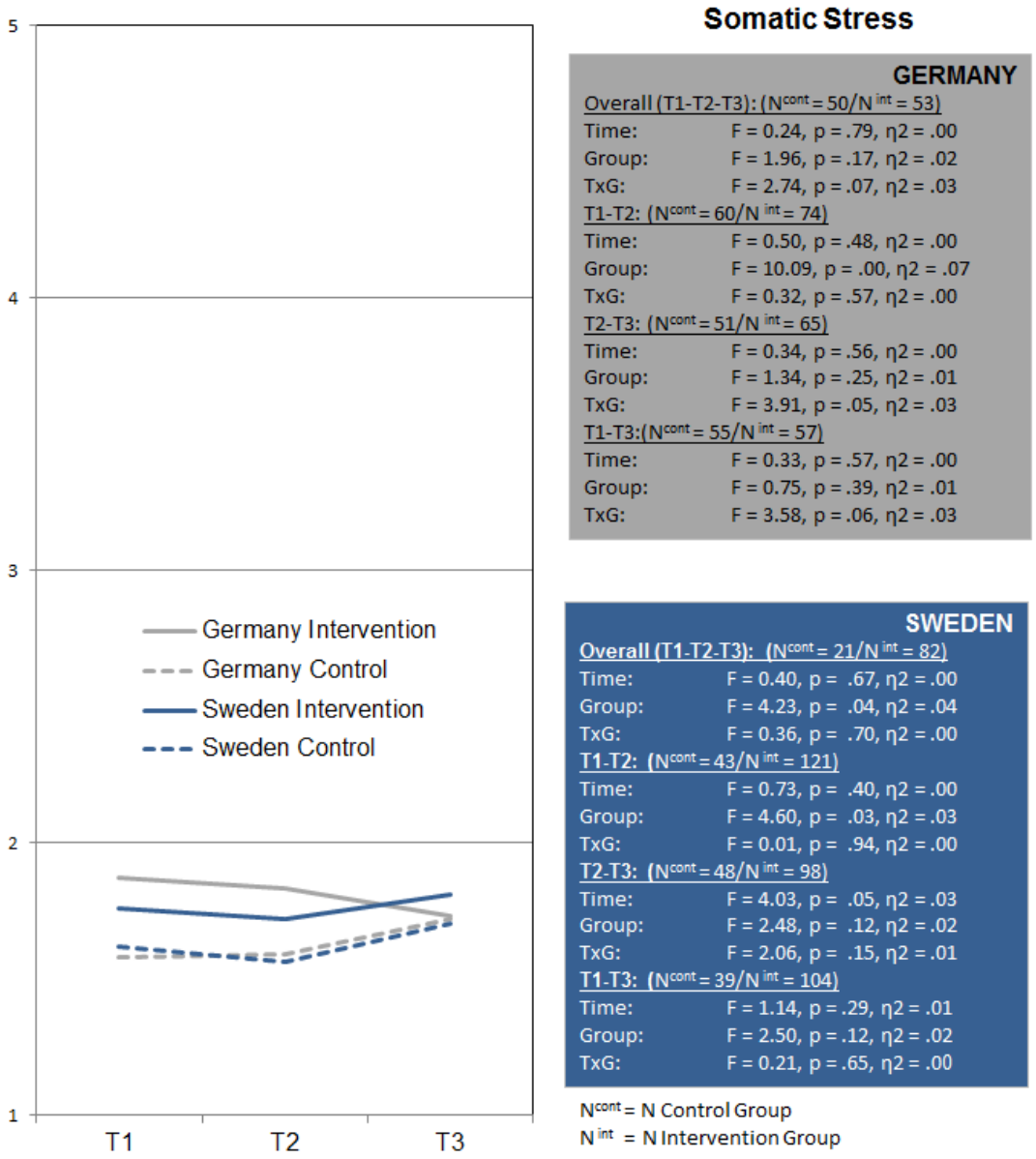


Fig. 6.17 rmANOVAS and Means across time for intervention and control group for somatic stress

Sickness absence

Sickness data was truncated for values > =30. There were single individuals reporting 30 or more sickness absence days, up to 90 days sick leave within six months. Albeit this might be possible, and not a mistake, it is more than unlikely that our intervention program has an impact on chronic or severe illness which causes such large sick leaves. Given the free range of sickness absence days within six months, and considering the relatively small samples, single values can impact the results. Hence, we need to interpret the following results with some caution.

Figure 6.18 provides an overview of results from rmANOVAS using sickness days as dependent variable.

Germany

There were significant main effects of time in the T2 →T3 (marginal) and T1 → T3 models indicating similar trajectories in both groups. Control-, and intervention group significantly differed in the mean level of sickness days in the overall model indicating more days of absence in the intervention group. There were significant interaction effects of time and group in the overall model (marginal), and the T1 → T2 model. A further decrease in sickness days did not get significant, because at the same time in the control group a similar decrease could be observed.

With regard to our prototypical trajectory models we can state

"sustainable effect" for sickness absence

in the German sample.

Sweden

There were no significant main effects of time. Main effects for group were found in the overall model (marginal), the T1 → T2 model, and the T2 → T3 model indicating more days of sickness leave in the intervention group. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for sickness absence

in the Swedish sample.

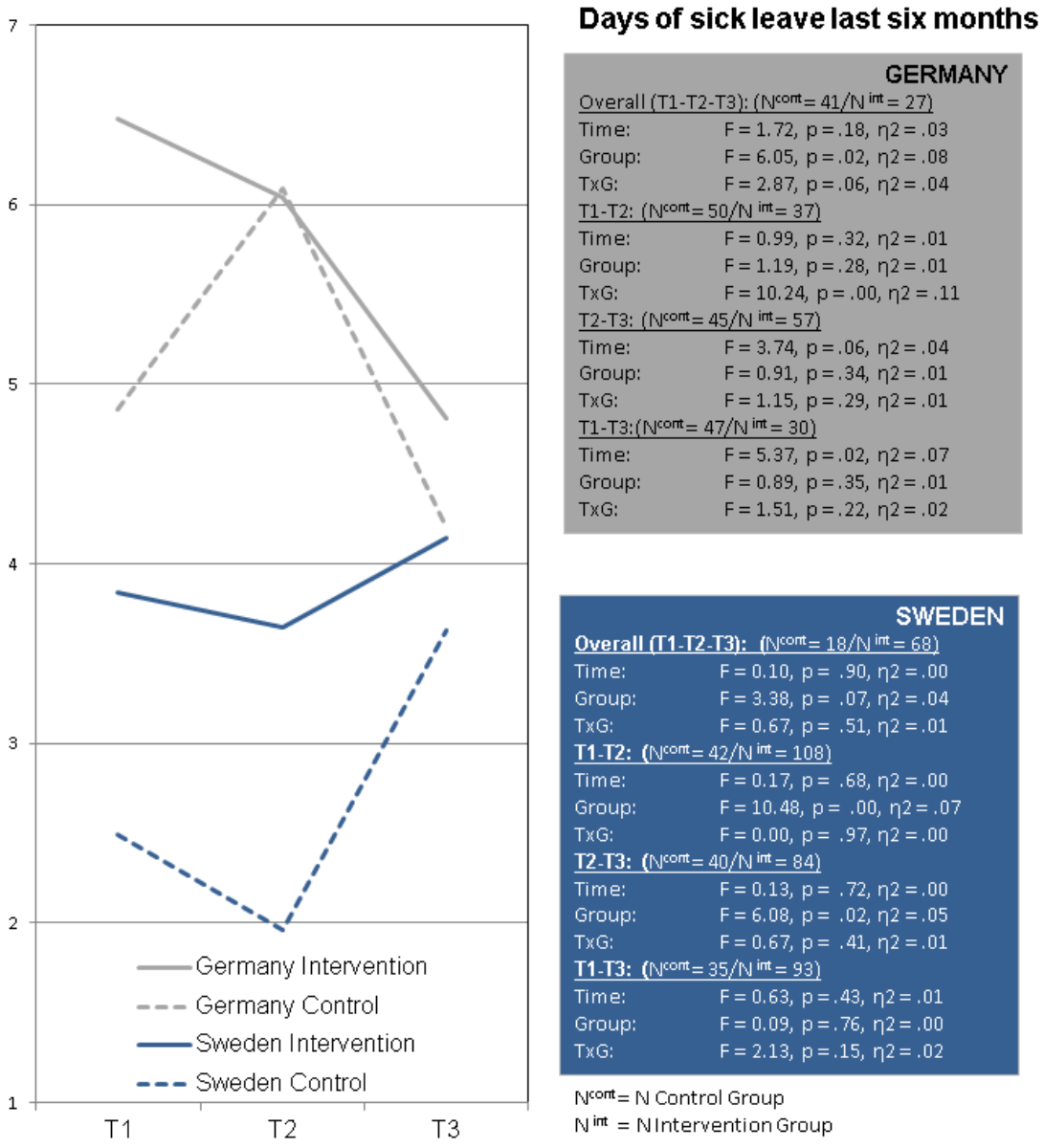


Fig. 6.18 rmANOVAS and Means across time for intervention and control group for sickness absence

Sickness presence

We asked our participants the following question referring to the last six months "...how often have you gone to work despite feeling that you really should have stayed away due to your state of health?" Answer options were (1) Never, (2) Once (3) 2-3 times (4) 4-5 times (5) more than 5 times.

Figure 6.19 provides an overview of results from rmANOVAS using sickness presence as dependent variable.

Germany

There were no significant main effects of time or group. There was a significant interaction effect of time and group in the T1 → T3 model. Considering the trajectory as depicted in the figure, we would classify this effect as sustainable.

With regard to our prototypical trajectory models we can state

"sustainable effect" for sickness presence

in the German sample.

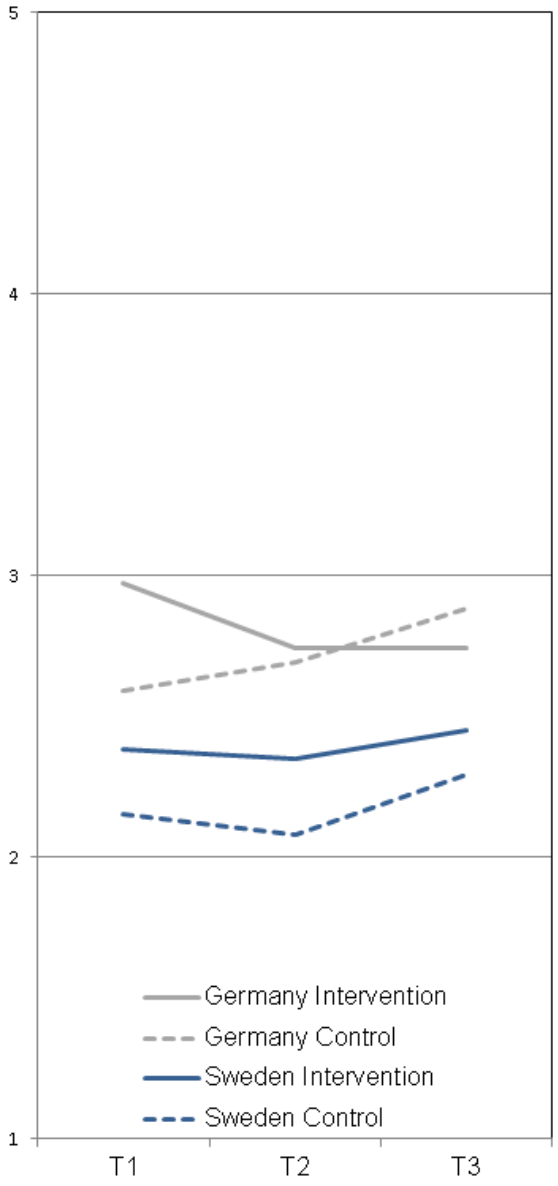
Sweden

There were no significant main effects of time, group or interaction effects.

With regard to our prototypical trajectory models we can state

"no effect" for sickness presence

in the Swedish sample.



sickness presence last six months

GERMANY

Overall (T1-T2-T3): (N^{cont} = 50/N^{int} = 56)
Time: F = 0.33, p = .72, η2 = .00
Group: F =0.23, p = .63, η2 = .00
TxG: F = 1.99, p = .14, η2 = .02
T1-T2: (N^{cont} = 60/N^{int} = 74)
Time: F = 0.63, p = .43, η2 = .01
Group: F = 1.88, p = .17, η2 = .01
TxG: F = 0.51, p = .48, η2 = .00
T2-T3: (N^{cont} = 51/N^{int} = 69)
Time: F = 1.50, p = .22, η2 = .01
Group: F = 0.12, p = .73, η2 = .00
TxG: F = 0.12, p = .73, η2 = .00
T1-T3: (N^{cont} = 55/N^{int} = 60)
Time: F = 0.05, p = .83, η2 = .00
Group: F = 0.28, p = .60, η2 = .00
TxG: F = 5.12, p = .03, η2 = .04

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 21/N^{int} = 80)
Time: F = 0.09, p = .91, η2 = .00
Group: F = 1.42, p = .24, η2 = .01
TxG: F = 0.70, p = .50, η2 = .01
T1-T2: (N^{cont} = 43/N^{int} = 121)
Time: F = 0.62, p = .43, η2 = .00
Group: F = 2.03, p = .16, η2 = .01
TxG: F = 0.18, p = .67, η2 = .00
T2-T3: (N^{cont} = 47/N^{int} = 99)
Time: F =1.73, p = .19, η2 = .01
Group: F = 0.05, p = .82, η2 = .00
TxG: F = 1.10, p = .30, η2 = .01
T1-T3: (N^{cont} = 39/N^{int} = 102)
Time: F = 0.30, p = .59, η2 = .00
Group: F = 2.15, p = .15, η2 = .02
TxG: F = 0.18, p = .67, η2 = .00

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.19 rmANOVAS and Means across time for intervention and control group for sickness presence

Occupational Self-Efficacy

Figure 6.20 provides an overview of results from rmANOVAS using occupational self-efficacy as dependent variable.

Germany

There were no significant main effects of time. Control-, and intervention group significantly differed in their ratings of self-efficacy in the T2 → T3 model indicating higher ratings among the intervention group participants. There were significant interaction effects of time and group in the overall model, the T1 → T2 model, and a marginal significant effect in the T2 → T3 model. Albeit this pattern might be interpreted as a continuing effect, looking at the figure, we rather would classify this as a sustainable effect, based on weak evidence accordant to our classification, because the interaction effect was not significant in the T1 → T3 model.

With regard to our prototypical trajectory models we can state

"sustainable effect" for occupational self-efficacy (weak evidence)

in the German sample.

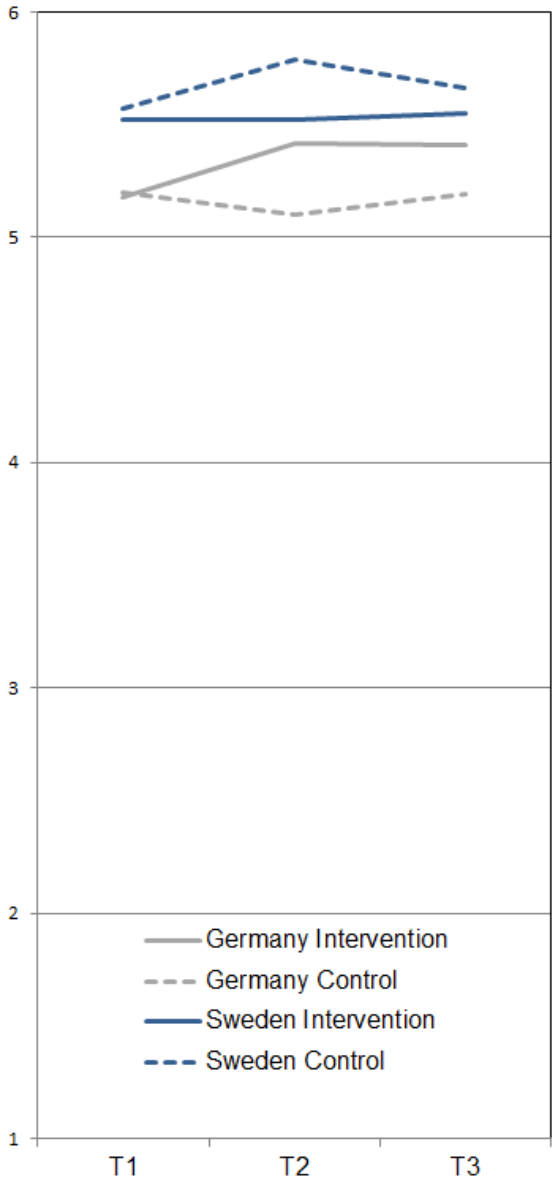
Sweden

There were no significant main effects of time or group. The time x group interaction effect reached significance in the overall model and the T1 → T2 model. But as this effect is due to an increase within the control group we do not claim this to be a training effect.

With regard to our prototypical trajectory models we can state

"no effect" for occupational self-efficacy

in the Swedish sample.



Occupational Self-Efficacy

GERMANY

Overall (T1-T2-T3): (N^{cont} = 50/N^{int} = 57)
Time: F = 0.61, p = .94, η2 = .00
Group: F = 1.85, p = .18, η2 = .02
TxG: F = 4.06, p = .02, η2 = .04
T1-T2: (N^{cont} = 61/N^{int} = 75)
Time: F = 0.51, p = .48, η2 = .00
Group: F = 0.82, p = .37, η2 = .01
TxG: F = 6.74 , p = .01 η2 = .05
T2-T3: (N^{cont} = 50/N^{int} = 69)
Time: F = 0.00, p = .97, η2 = .00
Group: F = 5.13, p = .03, η2 = .04
TxG: F = 3.62, p = .06, η2 = .03
T1-T3:(N^{cont} = 55/N^{int} = 60)
Time: F = 0.19, p = .66, η2 = .00
Group: F = 0.60, p = .44, η2 = .01
TxG: F = 1.71, p = .19, η2 = .02

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 20/N^{int} = 81)
Time: F = 0.74, p = .48, η2 = .01
Group: F = 0.03, p = .88, η2 = .00
TxG: F = 3.39, p = .04, η2 = .03
T1-T2: (N^{cont} = 20/N^{int} = 81)
Time: F = 0.23, p = .63, η2 = .00
Group: F = 1-14, p = .29, η2 = .01
TxG: F = 6.01, p = .02, η2 = .04
T2-T3: (N^{cont} = 46/N^{int} = 96)
Time: F = 0.05, p = .83, η2 = .00
Group: F = 0.86, p = .36, η2 = .01
TxG: F = 0.00, p = .96, η2 = .00
T1-T3: (N^{cont} = 37/N^{int} = 104)
Time: F = 0.51, p = .48, η2 = .00
Group: F = 0.03, p = .87, η2 = .00
TxG: F = 1.30, p = .26, η2 = .01

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.20 rmANOVAS and Means across time for intervention and control group for occupational self-efficacy

Workengagement

Figure 6.21 provides an overview of results from rmANOVAS using work engagement as dependent variable.

Germany

There were significant main effects of time in all but the T1 → T2 model indicating similar trajectories for both groups. Control-, and intervention group did not generally differ in their ratings of work engagment. The time x group interaction reached marginal significance in the T1 → T2 model. No significant changes occurred between T2 and T3. As the comparison of T1 and T3 also provided no significant interaction effect, we can claim a sustainable effect, based on weak evidence according to our scheme.

With regard to our prototypical trajectory models we can state

"sustainable effect " for work engagement (weak evidence)

in the German sample.

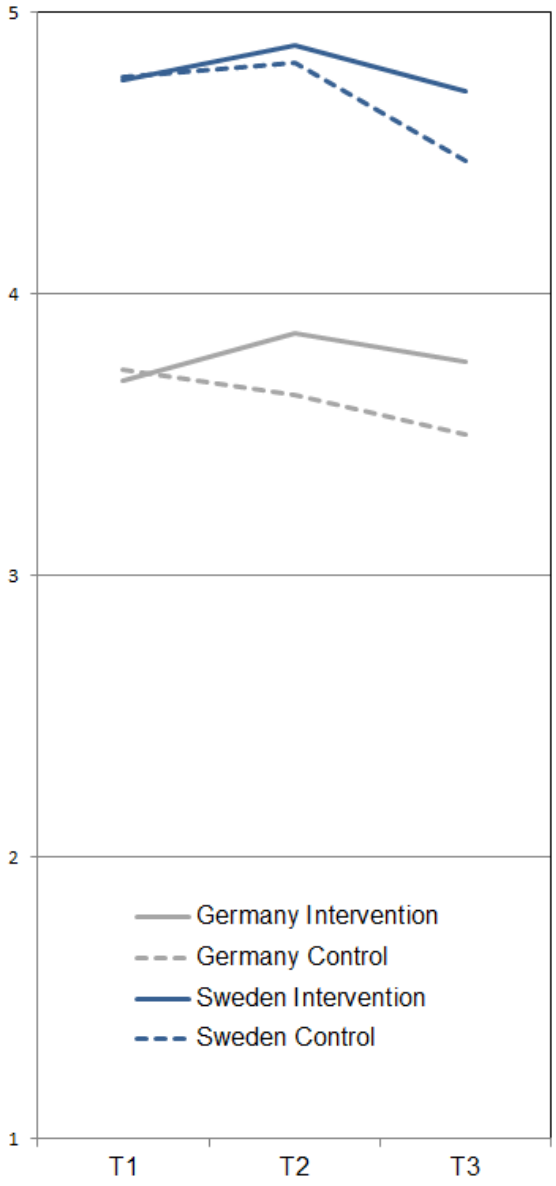
Sweden

There were significant main effects of time in the T2 →T3 and T1 → T3 models indicating similar trajectories in both groups. Main effects for group was significant in the overall model and the T2 → T3 model indicating higher general levels of work engagement in the intervention group. None of the time x group interaction effects reached significance.

With regard to our prototypical trajectory models we can state

"no effect" for work engagement

in the Swedish sample.



Workengagement

GERMANY

Overall (T1-T2-T3): (N^{cont} = 50/N^{int} = 60)
Time: F = 3.03, p = .05, η2 = .03
Group: F = 1.13, p = .29, η2 = .01
TxG: F = 2.08, p = .13, η2 = .02
T1-T2: (N^{cont} = 59/N^{int} = 78)
Time: F = 0.09, p = .76, η2 = .00
Group: F = 0.52, p = .47, η2 = .00
TxG: F = 3.71, p = .06, η2 = .03
T2-T3: (N^{cont} = 50/N^{int} = 71)
Time: F = 4.70, p = .03, η2 = .04
Group: F = 1.01, p = .32, η2 = .01
TxG: F = 0.72, p = .40, η2 = .01
T1-T3:(N^{cont} = 55/N^{int} = 62)
Time: F = 4.07, p = .05, η2 = .03
Group: F = 1.74, p = .19, η2 = .02
TxG: F = 0.84, p = .36, η2 = .01

SWEDEN

Overall (T1-T2-T3): (N^{cont} = 20/N^{int} = 83)
Time: F = 2.19, p = .12, η2 = .02
Group: F = 4.33, p = .04, η2 = .04
TxG: F = 1.07, p = .34, η2 = .01
T1-T2: (N^{cont} = 40/N^{int} = 125)
Time: F = 1.98, p = .16, η2 = .01
Group: F = 2.19, p = .14, η2 = .01
TxG: F = 0.15, p = .70, η2 = .00
T2-T3: (N^{cont} = 47/N^{int} = 98)
Time: F = 6.82, p = .01, η2 = .05
Group: F = 6.49, p = .01, η2 = .04
TxG: F = 1.55, p = .22, η2 = .01
T1-T3: (N^{cont} = 38/N^{int} = 106)
Time: F = 9.58, p = .00, η2 = .06
Group: F = 1.88, p = .17, η2 = .01
TxG: F = 0.08, p = .78, η2 = .00

N^{cont} = N Control Group
N^{int} = N Intervention Group

Fig. 6.21 rmANOVAS and Means across time for intervention and control group for work engagement

Teamclimate

Figure 6.22 provides an overview of results from rmANOVAS using teamclimate as dependent variable.

Germany

There were no significant main effects of time. Control-, and intervention group did generally not differ in their ratings of team climate. There was a marginal significant interaction effect of time and group in the overall model, and a significant effect in the T1 → T2 model. Neither for T2 → T3 nor for T1 → T3 significant interaction effects occurred.

With regard to our prototypical trajectory models we can state

"sustainable effect" for teamclimate (weak)

in the German sample.

Sweden

There were no significant main effects of time. Main effects for group were significant in all models but the overall model indicating better team climate ratings in the control-, as compared to the intervention group. The time x group interaction effect reached marginal significance in the T1 → T2 model. But as this effect is due to an increase within the control group we do not claim this to be a training effect.

With regard to our prototypical trajectory models we can state

"no effect" for teamclimate

in the Swedish sample.

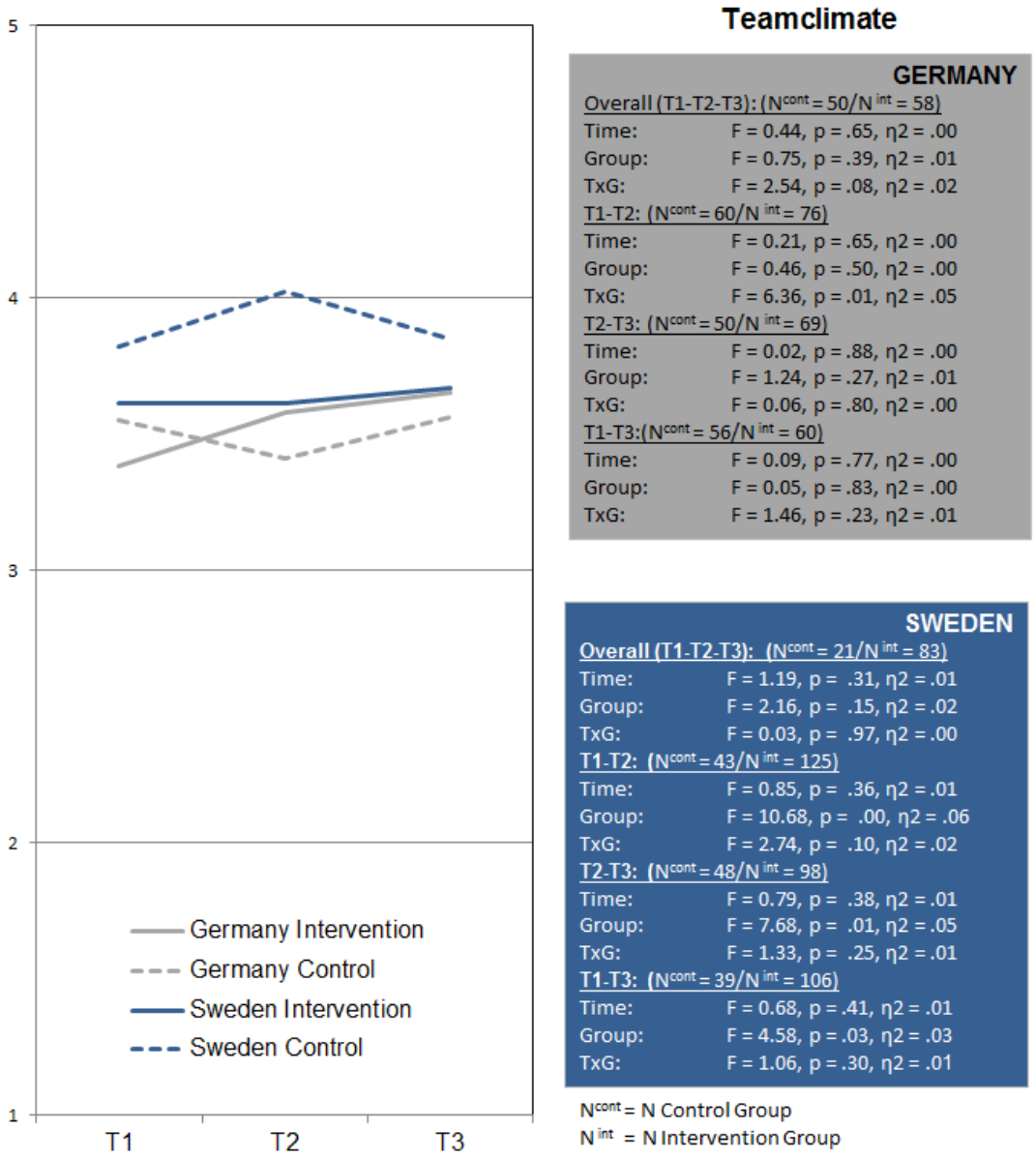


Fig. 6.22 rmANOVAS and Means across time for intervention and control group for teamclimate

6.3.2 Summary and Conclusions

Table 6.32 provides a summary of significant time and group interaction effects.

Tab. 6.32 Overview of significant time x group interactions in rmANOVAS

		Overall Effect	T1 → T2	T2 → T3	T1 → T3	Type of effect
Job stressors						
Work load	Germany	-	-	-	-	No effect
	Sweden	-	-	-	-	No effect
Cognitive Demands	Germany	-	-	-	-	No effect
	Sweden	J+	-	-	-	pattern "no effect"
Emotional Demands	Germany	J+	-	-	J	pattern "no effect"
	Sweden	-	-	-	-	No effect
Job Resources						
Role Clarity	Germany	-	-	-	-	No effect
	Sweden	-	J+	-	-	pattern "no effect"
Job autonomy	Germany	-	-	-	-	No effect
	Sweden	-	J	-	-	pattern "no effect"
Meaning of Work	Germany	-	-	-	-	No effect
	Sweden	-	-	-	-	No effect
Leadership						
Transformational	Germany	-	-	-	-	No effect
	Sweden	-	J	-	-	pattern "no effect"
Authentic	Germany	-	J+	-	-	**Sustainable effect (weak)**
	Sweden	-	-	-	-	No effect
Fair	Germany	-	J	J+	-	**Short-term effect**
	Sweden	-	J+	-	-	pattern "no effect"
Healthpromoting	Germany	-	J+	-	-	**Sustainable effect (weak)**
	Sweden	-	-	-	-	No effect
Health and Wellbeing						
Irritation at work	Germany	-	-	-	-	No effect
	Sweden	-	-	-	-	No effect
Job exhaustion	Germany	-	-	-	-	No effect
	Sweden	-	J+	-	-	pattern "no effect"
Somatic Stress	Germany	J+	-	J	J+	**Delayed effect**
	Sweden	-	-	-	-	No effect
Sickness absence	Germany	J+	J	-	-	**Sustainable effect (weak)**
	Sweden	-	-	-	-	No effect
Sickness presence	Germany	-	-	-	J	**Sustainable effect (weak)**
	Sweden	-	-	-	-	No effect
Self-efficacy	Germany	J	J	J	-	**Sustainable effect (weak)**
	Sweden	J	J	-	-	pattern "no effect"
Work engagement	Germany	-	J+	-	-	**Sustainable effect (weak)**
	Sweden	-	-	-	-	No effect
Good team climate	Germany	J+	-	J	J+	**Sustainable effect (weak)**
	Sweden	-	-	-	-	No effect

J: $p < .05$, J+: $p < .10$

In the Swedish sample we could not find any evidence that the intervention program has changed stressors, resources, leadership ratings or health and wellbeing of participants.

In the German sample no effects were found for job characteristics, neither for stressors nor for resources. Concerning leadership ratings the intervention seemed to have a short term effect on fair leadership, as ratings first increased, but then decreased again in the follow up. Furthermore for two indicators we could find evidence for a sustainable effect (Authentic leadership, and health-promoting leadership). We observed a significant increase in the intervention-, as compared to the control group before (T1) and immediately after the intervention has finished (T2). However to provide strong support for a sustainable effect, changes between T1, and the follow up measure (T3) should be significant, but this was not the case. For nearly all variables under research the statistical evidence in accordance to our proposed typology of trajectories has to be rated weak. We have to keep in mind, that at the follow up we had the highest attrition rates, and thus lower statistical power to detect differences. As a consequence changes have to be great to be detected and small changes remain unidentified, even so they may be of importance for the participants.

Concerning indicators of health and wellbeing, no effects of the intervention could be found for irritation, and job exhaustion. But there were a host of effects, which we classified as sustainable effects, based on the weak statistical evidence model. Such sustainable effects were found for sickness absence (less days), sickness presence (less), increased self-efficacy, work engagement, and a positive team climate in the intervention - as compared to the control group. Finally there was one effect, which we classified as a delayed effect for somatic stress. It may well be that changes in the cooperation in the team need some time before they impact physical health.

That we could not find any evidence for the effectiveness of the ReSuLead intervention for Sweden may have diverse causes. Compared to the German sample, Swedish participants started with “better” values in almost all variables that we studied. They reported less stressors, more resources, gave their leaders higher ratings, and reported to have a better state of health and wellbeing. We can speculate that the Swedish teams could profit less from the intervention, because they already were on a high level in the analyzed indicators. This may also produce a kind of ceiling effect, i.e. there is not much room to improve anymore. A further option could be that certain teams profited more than others, or among the intervention teams in Sweden things happened during the intervention phase which had a greater impact on the observed indicators. In the following chapter, dealing with process evaluation, we will take a closer look at potentially different effects across intervention teams, and present exemplary evidence that (among other things) satisfaction of the team with the intervention can make a difference.

6.3.3 Process evaluation

The process evaluation aims at describing why an intervention works or fails. In our special case we made the experience, that our intervention worked in Germany to a certain degree, but not in Sweden. In case of a failure the process evaluation is of special interest in terms of *relevance, implementation and impact of participants*. Relevance of activities to reach the goals would give us an indication of possible *the-*

oretical failures (good goals but not the right activities). The *implementation* of activities by trainers was evaluated in order to find possible problems with the teaching and activities (implementation error). A final but important source of error is *participant* error due to mistakes in e.g. matching participants' prior knowledge with the content of the intervention. Participant error could also result from low levels of motivation and readiness for change in the organization (KARLSSON & VESTMAN, 2010) or giving the (right) intervention to the (wrong) people. Also external conditions could have counteracted. RANDALL und NIELSEN (2012) argue for an "environmental-intervention fit". Often a bad fit may be the case when other processes of restructuring are going on in the company at the time of the intervention. BIRON (2012) gives another list of contextual factors, among others a lack of resources (financial, human, expertise, skills) of the company. We start with explaining the model used in more detail.

Model and data used

The general aim of the intervention – *changing leaders' behaviour into a more rewarding and health supporting form,* was divided into a number of sub-goals (see below) with the aim to clarify the objectives of the intervention in more detail for the participating leaders and team members. Once decided, these sub-goals on individual, team and organizational levels were used as guidelines both for the content and the different activities in the intervention. These sub-goals for teams and leaders were evaluated during and after the implementation of the intervention. Our main focus for the process evaluation in this report will be to use the process data collected to evaluate effects of the intervention for individual leaders and their teams. As a reminder, s summary of process goals, content and activities is shown in table 6.33 below.

Tab. 6.33 Goals, content, and activities in the health promoting intervention

	Process goal	**Content**	**Method / process/activities**
Team level	1. Improved working methods 2. changed its view of work	team climate, reduce stress and increase cooperation, communication, psychosocial work environment, leadership and health	Lectures, workshops (ARIA, dialogue method, perspective taking), observations of team climate skill building
Individual leaders	1. Personal development 2. Conceptual understanding 3. feedback on leadership behavior 4. Skill building	team climate, reduce stress and increase cooperation, communication, psychosocial work environment, leadership and health	Self-reflection, coaching Lectures, diary group discussions with other leaders, workshops ARIA, dialogue method, observations of team meetings

Table 6.34 below shows data used for the process evaluation. Due to budget cuts and practical reasons related to how the intervention was conducted, it was not possible to conduct the evaluation for both countries in the same way. This lead to slightly different evaluation strategies in Germany and Sweden but efforts were made to use the same methods whenever possible. Results will be reported from the evaluation of Workshop I, Workshop II and the final evaluation after the intervention. The first workshop (WS I) was conducted in spring 2011 and was evaluated by all participants during the workshop in Germany. In Sweden this evaluation was done a few weeks later by both leaders and employees. The second workshop was conducted almost one year later (WS II) in winter and spring of 2012. This time the evaluation by all participants was made at the end of WS II both in Germany and Sweden. The final evaluation was made after finishing the intervention in Sweden (June 2012) and as part of the T3 data collection in Germany (December 2012). After the final questionnaire data collection an external researcher in Sweden interviewed 12 of the 17 participating leaders.

Tab. 6.34 Data used for the formative evaluation of the intervention

Module	Germany	Variables	Sweden	Variables
Workshop I	1) short questionnaire for participants of the intervention teams (teams and their leader) at the end of the workshop, 2) Record form about context data of the workshop (completed by students observing the workshop)	1) satisfaction with the workshop, Utility of action plans etc. 2) group size, resistance towards parts of the workshop, Time pressure, Omission of parts of the workshop, etc.	questionnaire (completed one year later at WS2) asking team members 3 questions about WS1	See figure 27
Workshop II	mainly like WS1	mainly like WS1	partly same questionnaire as in Germany, record form completed by leaders	
T2: total intervention, after end of intervention	items part of the t2-questionnaire	context factors: changes in the team, changes concerning the work tasks, new technical equipment, participation in other interventions etc items part of the t2-questionnaire		

Continued Tab. 6.34

Module	Germany	Variables	Sweden	Variables
total intervention, between t2 and t3:	Interviews with leaders of the intervention and control teams and one representative of every organizations involved	Interview guideline mainly including context factos (see above, but additionally about resctructuring, special events etc.,)	Interviews with 12 of 17 participating leaders of the intervention teams, partly with the same interviewguideline	
T3: total intervention, about six month after end of intervention:	items part of the t2-questionnaire for leaders	goal attainment, assessment of different aspects of the training (importance of content, acitivities, clearness of goals, quality of implementation), assessment of the eight different modules of the training level of own engagement engagement of the team (and some additional qualitative questions) context factors: changes in the team, changes concerning the work tasks, new technical equipment, participation in other interventions etc items part of the t2-questionnaire for leaders		

The larger part of these data based on additional questionnaires or interviews were collected by student researchers or PhD students not paid by project funds.

In the following sections we first will give results based on teams. The first two sections are about particular modules of the intervention that is WS I and WS II, based on data from participants and (partly) students observing the workshops. The third section will be to compare the most satisfied teams with the less satisfied.

The next part of our process evaluation is based on leaders' data and is related to all modules of the intervention. We first will have a look at the evaluation we asked the leaders after the end of the intervention by questionnaires. Next we make a special analysis dividing the leaders in those who had a progress in transformational leadership and those who had no gain during the time of intervention. The last step will be to give results from the interviews with leaders.

Before we come to the conclusion a short section will give the overall differences between Germany and Sweden in how the intervention was set into action.

6.3.4 Evaluation of Workshop I

Our main interest for the first workshop was to find out, if participants were satisfied with the workshop, because it is argued that statisfaction contributes to positive out-

comes of the intervention (MURTA, SANDERSON & OLDENBURG, 2007) and which characteristics and elements of WS I contributed to the satisfaction level.

Germany

Participants

In Germany, 11 teams were recruited to take part in the intervention, with overall *N* = 87 participants. Nine of the teams work in municipalities, two teams work for a private bank (see Chapter on summative evaluation for further information regarding the German and Swedish samples).

Measures

As predictors we evaluated a set of WS characteristics to be grouped into 1) context variables, 2) process variables 3) team characteristics: resources and problems (based on t1 data, compared to the mean of the other groups) and 4) content of the WS I: impact of feed-back about t1 data and quality of action plans.

As context variables we included time pressure during the workshop and team size. Process variables were omitted program parts, deviations from the agenda, protest of participants toward elements of the workshop, questions of participants about pre-measurement and additional agreements with participants after the WS.

In general there were two data resources for the process evaluation: Each participant filled out a two-page questionnaire at the end of the workshop. Additionally, a trained student assistant accompanying the trainer had to fill out a questionnaire with a series of questions describing the above mentioned context and process variables. Problems and resources as team characteristics were measured in the following way: If the group in question was significantly below average for a positive construct of the T1 questionnaire (e.g. *Role clarity*) or significantly above average for a negative construct (e.g. *Workload*), this would count as one problem. Otherwise, if it was above average for positive or below average for negative constructs, it was seen as a resource. All the team problems were then accumulated to a team problem score. The same was done with resources.

Potential predictors for the success of a workshop

In this report we will only present a choice of criteria that have been measured.

Impact of T1. The subjective impact of the presentation of the results derived from the first survey (T1) is of special interest for this evaluation because it is strongly linked to the participants' expectations of the workshop (participants have reported strong interest in feedback about the current status of their team during the realisation of the first survey). It was measured via a self-constructed scale of seven items, again with a five-point Likert scale. The participants were asked to what extent they perceive the results of the workshop as novel, and interesting. The scale yielded a Cronbach's alpha of .83.

Quality of action plans. The quality of the action plans, which were developed as an important part of the workshop, can be seen as an indicator for possible skills that the participants could have acquired during the workshop. To measure this item, a scoring system was developed to assess the complexity of each plan. The action plans consisted of seven levels (*targets*, *sub-targets*, *procedure*, *dates*, *responsibilities*, *obstacles* and *suggestions for coping, see figure 6.2*). The plans become more and more sophisticated with each level (DE BONO, 1992). The scoring system was simple: For every given answer on every level one point was added. Since some groups had more targets than others, the resulting sum of points was divided by the number of goals derived.

Group size. The size of each workshop group was taken from the total number of evaluation questionnaires completed by its members. So, only participants that were present at the end of the workshop session counted, regardless of whether they were present from the beginning or not.

Problems and Resources. Both Variables can be seen as a kind of baseline of the workshop groups' individual status quo, derived from the first measurement T1: If the group in question was significantly below average for a positive construct of the T1 questionnaire (e.g. *Role clarity*) or significantly above average for a negative construct (e.g. *Workload*), this would count as one problem. Otherwise, if it was above average for positive or below average for negative constructs, it was seen as a resource. All the team problems were then accumulated to a team problem score. The same was done with resources.

Team climate. Unfortunately, the team climate was only described by a short, personal review of a person who observed the workshop. To derive useful data from these information, a group of three experts rated each description for the three self-created sub facets *communicativeness*, *equality of the share of speech* and *atmosphere (tense vs. relaxed)*. If a sub facet did not seem to fit to the observer's review, it was omitted for the corresponding group. Each one of the experts rated the team climate for every workshop. Then the sub facets were combined by calculating the arithmetic mean. For each team, three team climate ratings resulted. These ratings were tested for inter-rater reliability by a two-way mixed model intraclass correlation, resulting in a very good ICC of .87. The mean of the three ratings for each group was used as team climate score.

Outcome variable

Satisfaction. The subjective satisfaction of participants with the workshop can be seen as a very useful outcome variable, for it is highly related to factors of high importance for a successful transfer of workshop contents, like motivation (VOHS & BAUMEISTER, 2008) or compliance (SMITH, LEY, SEALE, & SHAW, 1987). Satisfaction was assessed with a self-constructed scale using ten items and a five-point Likert scale. The participants were asked, among other things, the extent to which they found the workshop to be useful, interesting, applicable, and how much they were likely to recommend it to others. The scale yielded a Cronbach's alpha of .93.

Results

Figure 6.23 gives an overview of satisfaction ratings across items. Satisfaction with the workshop was overall good (M = 4.13, SD = 0.72, n = 87), with the majority of participants giving ratings on ”agree” and ”completely agree” to all items. Especially ratings related to the structure, and atmosphere in the workshop were very positive. A potential transfer of workshop contents to daily work was seen slightly less favorably. However, the majority of participants (59.1 %) perceived that the workshop will positively change their work, or that they will be able to transfer contents from the workshop to their daily work (65.1 %).

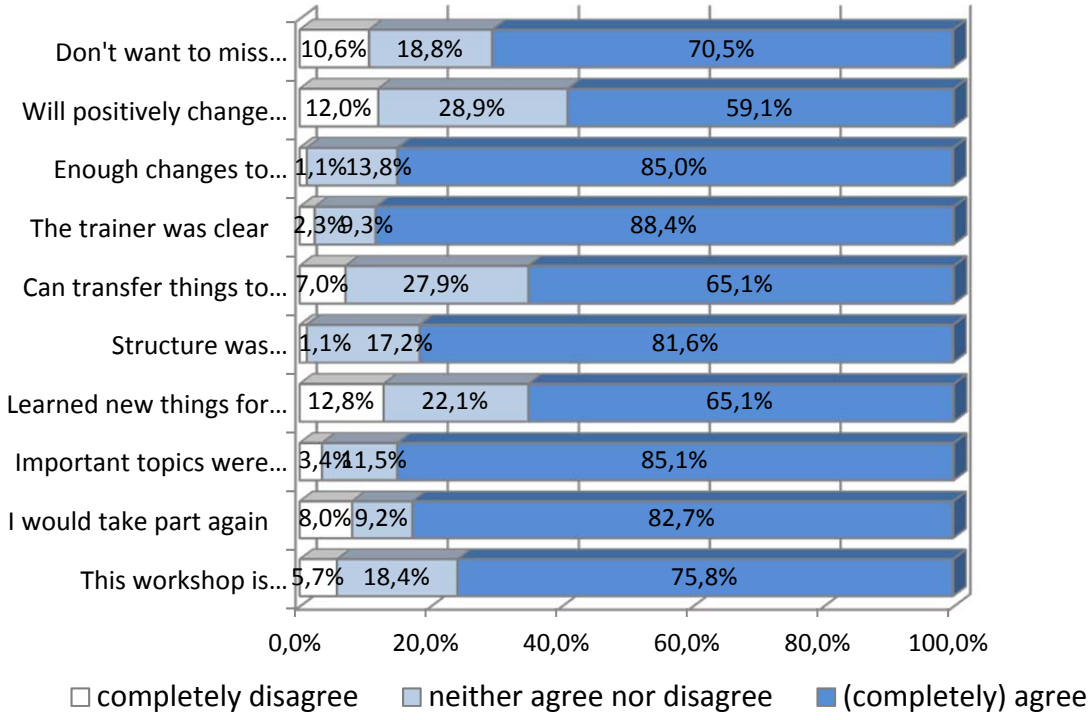


Fig. 6.23 Satisfaction with the workshop in Germany (N = 87)

Our expectation was that context and process variables are of less importance than the content of our intervention. Concerning the characteristic of teams – teams that are better off and those who are worse off – we hoped that our intervention will satisfy both groups.

Using HLM we found out, that greater team size and having more problems compared to other teams were related with lower satisfaction whereas perceiving an impact of results-feedback from the t1 data collection wave was related with higher satisfaction.

Obviously feedback about the current state of the team seems to be the most important feature for the satisfaction with the workshop. Feedback on survey results can be seen as a standalone intervention.

We were pleased to find out – after controlling for additional variables – that there were no differences due to the trainers. This leads us to assume that our trainers had comparable and adequate level of competencies in order to handle the different teams.

Sweden

Participants

In Sweden, 16 teams were recruited to take part in the intervention, with overall *N* = 238 team members and 16 leaders at the start. All teams worked in two municipalities.

Measures

Data collection and measures for WS I differed from those of Germany due to constraints of capacities. Whereas in Germany leaders and their team members completed a questionnaire immediately after the intervention, in Sweden the data collection with leaders and team members was done on two distinct dates. Leaders got a questionnaire few month after the end of WS I with 15 questions (see figure 6.25) and team members were asked about WS I at WS II with three questions (see figure 6.26) almost one year later.

Results from leaders

The 16 responding leaders in Sweden were generally positive in their evaluations of content and relevance of the workshop and slightly more positive towards the workshop as a whole (M = 3.70, SD = 0.56 compared to M = 3.45, SD=0,58, n = 16) for the evaluation of the questionnaire feedback. Lowest value concerned whether anything learned from the workshop had an influence on their work as leaders and if it changed anything in the workplace.

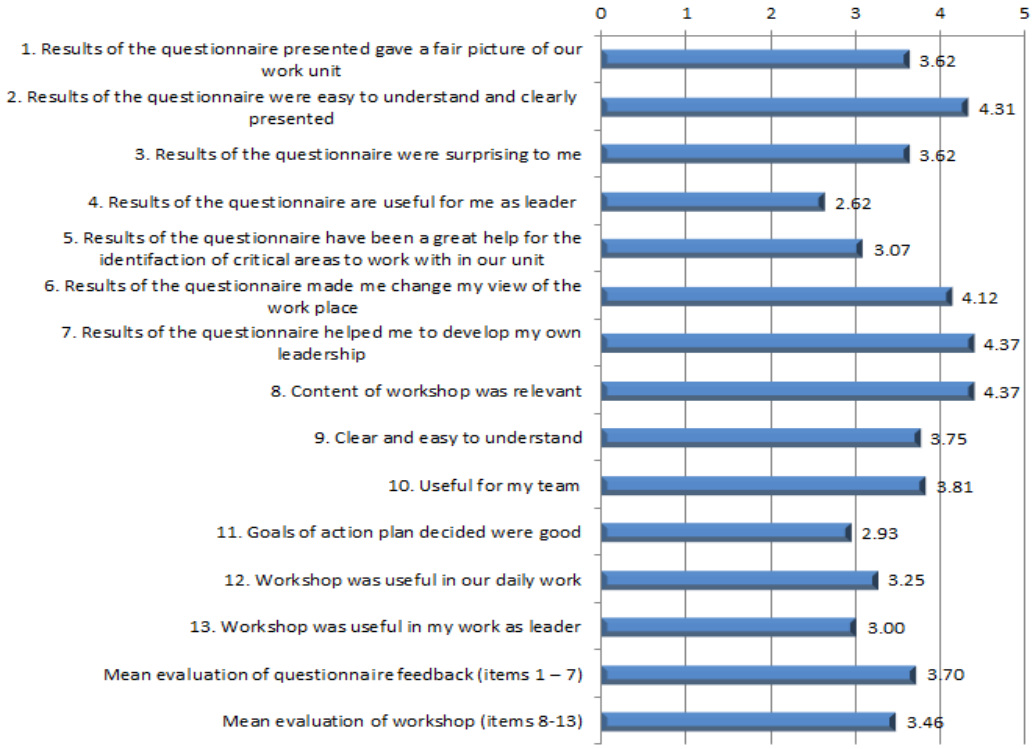


Fig. 6.24 Evaluation of WS I by Swedish leaders (n=16), scale 1-5 (Completely Disagree to Agree completely)

Results indicate that the Swedish leaders in general were quite satisfied with the first workshop and especially with the feedback on their own team's responses to the first questionnaire. Although they gained new knowledge about how their team members perceived working conditions and their leadership, the practical implications of this for their daily work as a leader seemed to be less obvious.

Results from teams

The items used the past tense to ask about how WS I was perceived. Responses were given on a five-point scale ranging from "not at all" through "partly" to "To a very high degree". Per cent and mean values of the three items are shown below:

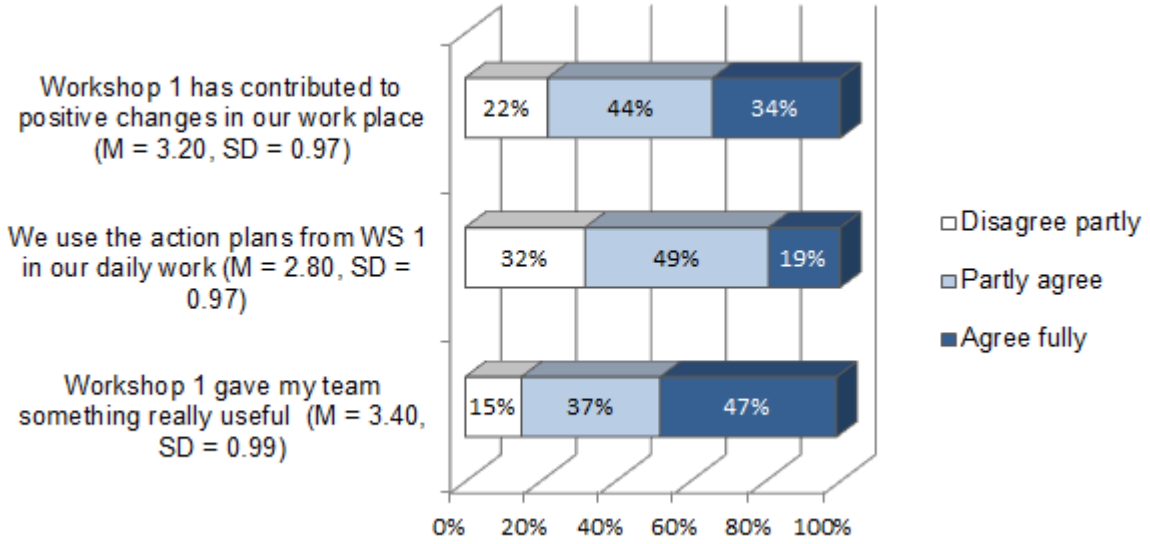


Fig. 6.25 Evaluation of WS I in Sweden

Most positive perceptions were given on the first item regarding the usefulness of WS I, i.e. the questionnaire feedback (T1) and action plans made.

6.3.5 Evaluation of Workshop II

WS II was evaluated in the same manner as WS I in Germany, using the same scale for satisfaction with the workshop but with different predictors, because the WS II had different elements. Additionally we compared the results of the process evaluation for Germany and Sweden.

Participants
The second workshop was evaluated by all participants (both leaders and employees) at the end of the workshop in both countries. Employees and leaders completed partly similar evaluation-questionnaires in both countries and results were compared. Number of participants was 88 in Germany and 196 in Sweden. We first will report the results for Germany only.

Germany

Measures
We used the satisfaction measure as in WS I. Mean was 4.06 (SD .69, n = 84), alpha equaled .91.
We examined four elements of the WS II as predictors for satisfaction:
Utility of action plans. The utility of action plans, which were an essential part of the team workshop, was measured with two items and a 5-point Likert scale (1 = don´t agree at all to 5 = completely agree).

Teamwork. Due to the fact that in this workshop teamwork and its benefits was focused, it is of special interest how the participants perceived the teamwork elements which were applied in the workshop. When these elements were considered to be not helpful at all it would surely influence the satisfaction with the workshop. A four item scale with a 5-point Likert scale (1 = don´t agree at all to 5 = completely agree) was used to gain information about the perception of these particular exercises of the workshop. Cronbachs alpha (.74) was acceptable.

Amount of time. This predictor aims at the subjective perception of the participants if the amount of time which was intended for the workshop was well-balanced. Two items were rated on a 5-point Likert scale (1 = don´t agree at all to 5 = completely agree) for either there was too much or too less time scheduled.

Goal attainment. In WS I one exercise was that each team should invent three goals the particular team wanted to work on. Within the evaluation of WS I the participants rated the extent they think these goals were already achieved. These three items were included in our evaluation questionnaire again while naming the specific goals for each team in the items. Participants rated on a 5-point Likert scale (1 = not at all attained to 5 = completely attained) in which extent they think this goals are achieved at this point.

Results.
After calculating again a hierarchical regression after the inclusion of several control variables Utility of the action plan and the teamwork elements contributed significantly to satisfaction with the workshop.

Comparing Germany and Sweden

Measures

This time we asked employees to evaluate whether the goals decided as part of making the action plans at WS I had been implemented as planned during the period between workshops. Participants rated level of goal attainment on a scale from 1-5. Employees also evaluated their satisfaction with WS II on a scale from 1 to 5 (“not at all” to “completely”). Three items in this questionnaire were the same in Germany and Sweden evaluating participants’ satisfaction *with WS II* in terms of content, relevance and implementation. *Goal attainment* and *Satisfaction* indexes (the mean of three items) was used for comparing the two countries, correlations and regression analyses.

For WS II an observation form developed in Germany for WS I was used in both countries. It was completed during the workshop by trainers in Sweden and by a student researcher in Germany. The observation form covered different conditions during the workshop such as team climate, disturbances, and time pressure, which might have an influence on the outcome. A general conclusion was that there seemed to be more variation concerning the conditions in the German workshops due to e.g. more time pressure and difficulties to leave work. In Sweden conditions were more similar in the different teams. Nearly all teams in Sweden could allocate three hours to the workshop and disturbances or time pressure was fairly unusual.

Results

Figure 6.26 shows results comparing Germany and Sweden on the two indices aiming to measure Goal attainment and Satisfaction with WS II. The table also shows mean size of teams in the two countries, and finally mean values of a three item measure of team climate based on the observations made during WS II.

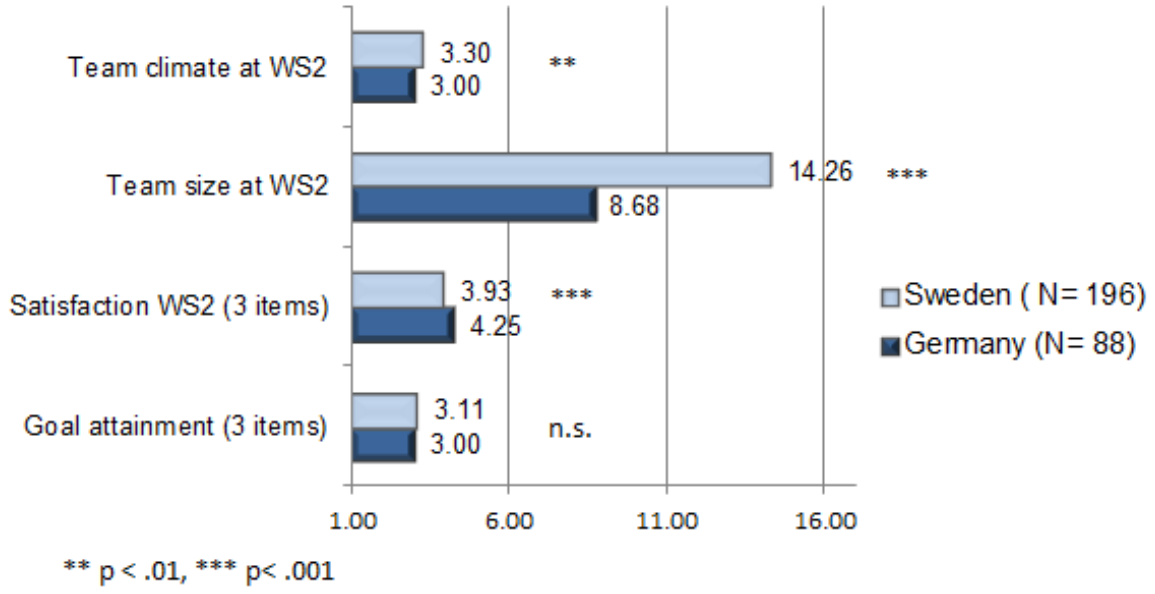


Fig. 6.26 Evaluations made by employees and leaders at WS2, Comparing Germany and Sweden

Results showed that the level of Goal attainment, referring to goals in action plans made at WS I, did not differ significantly between Germany and Sweden. The German participants appeared to be more positive about WS II. Team size was significantly larger in Sweden with 14 as mean level (compared to 9 in Germany) and the variation in team size was also greater compared to Germany. Finally, the team climate observed during WS II was slightly more positive in Sweden. Correlations between these indicators showed that Satisfaction with WS II had a significant association with perceived goal attainment. Generally, the smaller teams appeared to be more satisfied with WS II.

Variables of the evaluation as predictors of perception of health promoting leadership

Finally, multilevel analyses were used to test whether the evaluations of Goal attainment and Satisfaction with WS II had any relationship to employees' responses at T2 as measured in the questionnaire. The aim was to investigate whether group level indicators from the evaluation of the intervention seemed to affect individual perceptions of their leaders in terms of health promoting leadership behavior. The dependent variable was employees' perceptions of health promoting leadership measured by questionnaires at T2. Level 1 variables (individual level) entered were: working conditions (role clarity, work load and team climate). Individual control variables were age and level of education. On the group level we entered, Goal attainment Satisfac-

tion with workshop 2 and Number of subordinates of leader (Team size). Results are shown in table 6.35.

Tab. 6.35 Perceived health promoting leadership predicted by evaluations of Goal attainment, Satisfaction with WS II and Team size.

Dependent variable: Health Promoting Leadership	Coefficient	SE
Intercept	3.91***	.07
Team-level		
Goal attainment	-.80	.09
Satisfaction	.13	.11
Team size	-.01*	.01
Individual Level		
Work load	-.21**	.07
Role clarity	.34***	.06
Education level	.11**	.04

Results in table 6.35 show that the individual level perceptions of work load and role clarity had significant effects on how employees perceived their leader's degree of health promoting behavior. However, none of these evaluation measures seemed to be critical. The only significant effect from the group level was number of subordinates of the leader (Team size) which indicated that the larger groups generally had lower perceptions of health promoting leadership. ICC was .25. Results were similar when we tested transformational leadership as the outcome variable. We also tested health related outcomes such as work engagement and job exhaustion. Similar results occurred for work engagement where the working conditions had significant effects on the individual level. For job exhaustion however, ICC was non-significant indicating that the group level effects did not explain variation.

6.3.6 Comparing the most satisfied teams to the least satisfied teams collapsed across countries

Aiming to understand effects of the intervention on perceptions of working condition as measured by the questionnaires T1-T2-T3, an effort was made to compare the most satisfied and the least satisfied teams combining both countries. The least satisfied teams had mean values below 3.75 on the 3-item Satisfaction index (WS II) and the most satisfied had mean values above 4.50. Differences between the teams in working conditions and perceptions of leadership at T1, T2 and T3 are shown in table 6.36.

Tab. 6.36 Comparing least satisfied teams at WS II (n = 6) with the most satisfied (n = 5).

	T 1			T2			T3		
	Low	High	F	Low	High	F	Low	High	F
Role Clarity	4.1	4.0	n s	3.9	4.1	4.29*	4.0	4.1	n s
Autonomy	3.7	3.6	n s	3.6	3.7	n s	3.7	3.6	n s
Work load	3.7	3.6	n s	3.8	3.7	n s	3.8	3.7	n s
Team Climate	3.5	3.7	n s	3.4	3.8	18.0***	3.5	4.0	16.41***
Exhaustion	2.4	2.4	n s	2.6	2.3	n s	2.8	2.2	3.10
Health promoting leadership	3.8	3.8	n s	3.7	3.9	4.41*	3.7	4.0	6.3
Organizational change				0.91	0.64	2.92			
OHS measures				0.69	0.93	n s			

The table shows a few interesting and significant differences between the least satisfied teams and the most satisfied ones in the direction that could be expected after the workshops. Role clarity, team climate and health promoting leadership was perceived as slightly higher among the most satisfied teams after the intervention (T2). Emotional exhaustion was significantly higher in the least satisfied teams. There was a tendency (p<10) indicating that the least satisfied teams had a higher level of organizational change during the year between T1 and T2. Six months later at T3, health promoting leadership and team climate showed more positive values among the most positive teams. Again, questionnaire data showed higher levels of emotional exhaustion as reported by the least satisfied teams compared to the most satisfied ones.

6.3.7 Final evaluation of the total intervention (by leaders, t3)

Participants and data

The final evaluation of the intervention was made by leaders in Sweden at T2 (n = 13) and as part of the completion of questionnaire T3 in Germany (n = 10). The same items were used in both countries to evaluate goals, content and activities of the intervention. Each item was evaluated on a scale from 1 to 5 where 1 indicated “Not at all” and 5 “To a very high degree”.

The general aim of the intervention was: *changing leaders’ behaviour into a more rewarding and health supporting form.* Sub-goals for participating leaders were: personal development (increased confidence in one’s own ability as a leader) acquisition of relevant facts and theories in this area, feedback about own leadership behaviour and training of new skills.

Figure 6.27 shows relatively high mean values for both countries in the evaluation of the aim of the intervention and the sub-goals. Values were mostly above 3 which in-

dicated that the goals were at least partly reached. There were no significant differences between countries in the evaluation of the goals although the tendency was that Swedish leaders had higher ratings. Training of new skills was the goal that had the lowest mean value. Individual development was the sub-goal that was perceived to be reached to the highest extent.

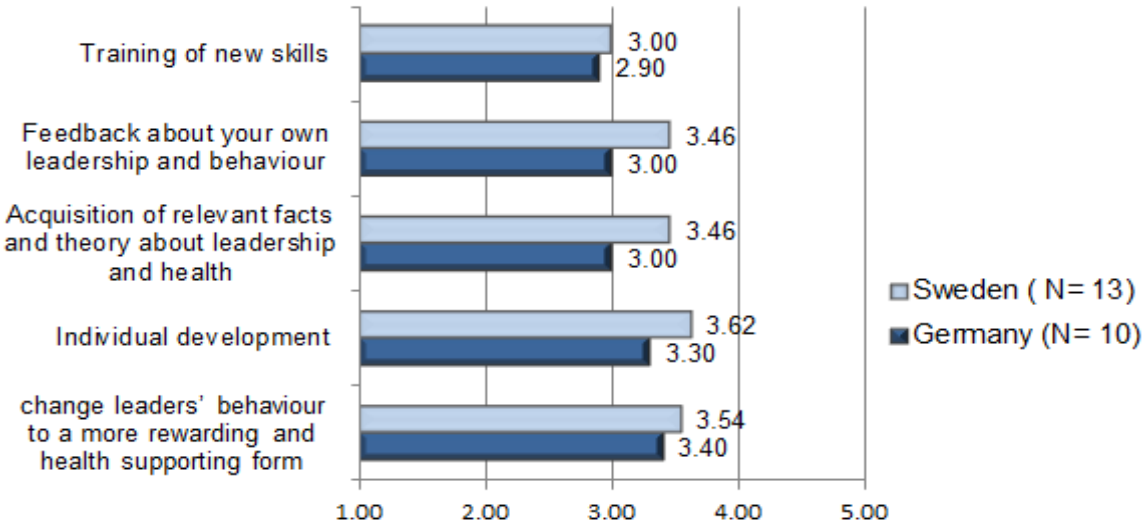


Fig. 6.27 Leader's final evaluation of the aim of the intervention and the sub-goals. Scale: 1 = not at all reached, 5 = To a very high degree

Figure 6.28 below shows how the leaders evaluated the intervention process for reaching the sub-goals. In this case evaluations of the implementation were slightly more positive than for the goals seen in table 4.5. The data show that the implementation generally was rated close to 4 "to a fairly high degree". The Swedish leader's tended to rate the intervention process higher, but the difference was only significant for implementation quality.

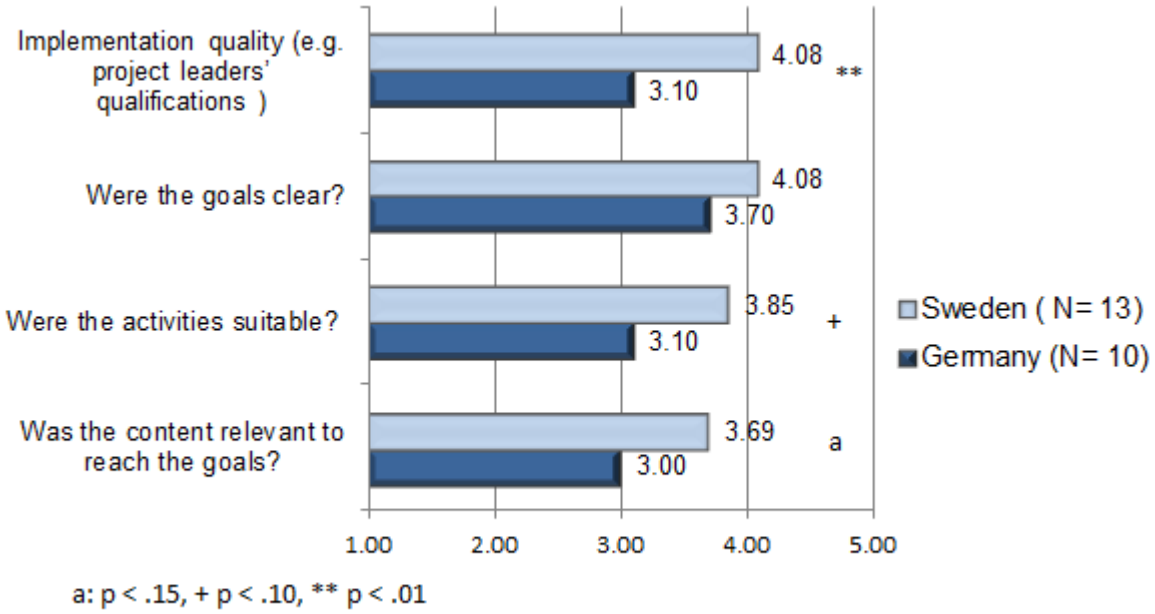


Fig. 6.28 Leader's final evaluation of the intervention process. Scale: 1 = not at all reached, 5 = To a very high degree

Figure 6.29 shows the evaluation of each of the activities in the intervention. Generally these results show very positive evaluations for all activities with the exception that the diary writing for self-reflection was not appreciated in Germany. Leaders could also indicate whether they participated in all activities and we found that dropout was largest in Germany for the diary writing. In Sweden some leaders refrained from accepting the individual coaching which was relatively highly appreciated by those who participated with similar mean values in both countries. For other activities, such as lectures for the whole team and leader workshops, ratings showed significantly higher mean values in the German organisations.

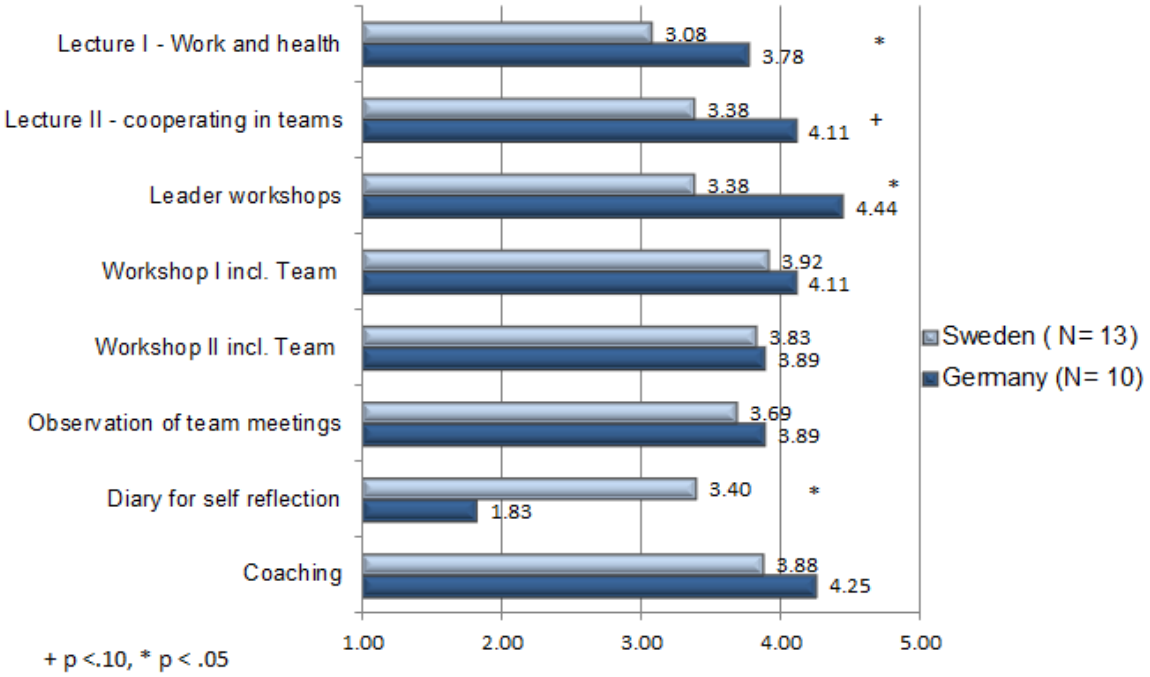


Fig. 6.29 Leader's evaluation of activities in the intervention. Scale: 1 = not at all reached, 5 = To a very high degree

Figure 6.30 compares results from leaders in Germany and Sweden and shows their rated engagement in the intervention for themselves and their team on a scale from 1 to 5.

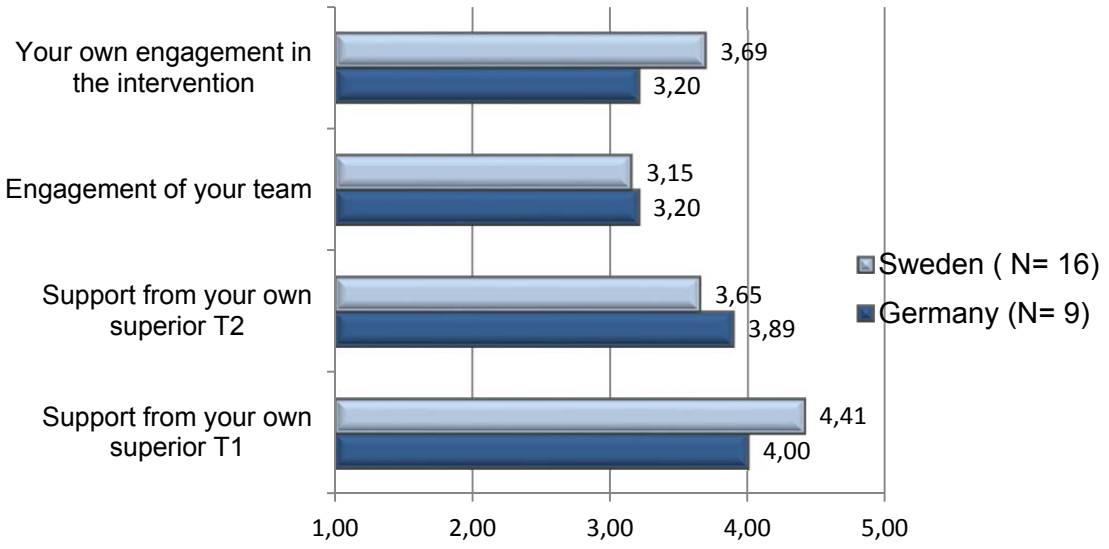


Fig. 6.30 Engagement of leaders, and support from supervisors

The results show similar values for engagement in the intervention between Germany and Sweden. There was a non-significant tendency for German leaders to report receiving more support from their supervisors.

The correlation matrix in table 6.37 shows relationships between the variables presented in table 6.36. With the small sample size we can't use more sophisticated methods for analyses but this table shows some tendencies. Correlations above .40 are significant. A positive evaluation of intervention goals and activities is related to perceptions of quality and relevance, but also to level of engagement of leaders and team. Short experience as leader is also related to the evaluations. Shorter experience as leader is related to a more positive evaluation but could also indicate that the more experienced leaders are slightly less positive.

Tab. 6.37 Correlation matrix of the variables used for the final evaluations by leaders (n = 16-23)

		M	SD	1	2	3	4	5	6	7	8	9	10
1	**Evaluation of interv. goals**	3.29	0.75										
2	**Usefulness of interv. Activities**	3.69	0.58	.64**									
3	**Leader's engagement**	3.48	1.04	.78**	.39								
4	**Team's engagement**	3.17	0.89	.59**	.47*	.60**							
5	**Relevance of content**	3.39	1.03	.83**	.55*	.75**	.62						
6	**Relevance of activities**	3.52	0.99	.78**	.51*	.67***	.56*	.81***					
7	**Goal clarity**	3.91	0.95	.58**	.47*	.51**	.29	.45*	.53**				
8	**Quality of implementation**	3.65	0.98	.72**	.41	.57**	.39	.63***	.80***	.55			
9	**Number of subordinates**	20.12	12.34	.27	.28	.03	.51	.35	.71**	.11	.42		
10	**Experience as leader**	12.07	8.58	-.40*	-.47*	-.21	.11	-.43*	.12	.09	.31	.13	
11	**Support from supervisor (T2)**	3.73	1.51	-.26	-.01	-.10	-.10	-.38	-.32	.15	-.40*	-.22	.40*

6.3.8 Summary of interviews and open questions with participating leaders

Germany

After the data collection T2 that is after the end of the intervention, interviews were conducted with leaders of the intervention and control teams as well with one representative by master students under supervision of one of the senior researchers. Answers were transferred into a SPSS-data matrix as far as possible by rules already developed when constructing the interview-guideline, including numerous string variables.

Whereas the interviews served to get information which could have additional influence during the intervention, three open questions in the t3 questionnaire were added to ask about hindrance, positive aspects and further improvements.

Results from interviews

This data of the leader reveal, that about 70 % of them (15 resp. 16 of 22, that is leaders of the intervention and the control groups) report changes in work tasks for the team or themselves during time of intervention. A third of the leaders report that they do not have the resources necessary to fulfill these tasks. 54 % report about construction work going on and 59 % had to move during the time of the intervention. All but one team report about changes in the team. The majority of the leaders reports about enlargement of the team. In most teams other activities are going on during the intervention. In six of the intervention teams and in four of the control teams other health promoting activities took place during the time of our intervention. Participation rate was low. For three intervention teams there was no participation at all, for two the rate ranged from 2 to somehow between 2 and 5. Only in one team 8 members took part. Beneath health promoting activities other programs were going on for two of the intervention groups, one being the introduction of a new electronic data management system. For the control groups it mostly was a new quality certificate program with additional tasks for documentation of work processes.

This information from the team leaders were in line with the information we got from the eight representatives of the different organizations. They also indicated that in six organizations during our intervention additional activities were going on like prohibition of smoking in the company, new time-arrangements, new regulations for holiday planning etc. They also gave information about changes in staff. Only two reported downsizing (between 2 und 3 %). Asked about the economic perspective four rated this as positive, one as unclear and only two as negative.

Open questions in t3

Additionally the leaders of the intervention answered three qualitative questions in the t3 questionnaire: Five of ten leaders responded the questions about hindrances. Of these five four named time constraints. Continuous keeping track with things learned was not possible because of time pressure and restructuring going on in the organization. Only one out of these five answered that there were no constraints and it was possible to take part as expected.

Asked for the most positive aspect, eight from 10 leaders answered. Four named the coaching (which was voluntary) as the most positive aspect, three underlined to get new knowledge, especially about the relation between work, leadership and health. One leader pointed to the observation as an important issue and another underscored the appreciation experienced and the stimulation received.

The last question was about proposal for further improvements of the intervention. Only three leaders gave comments. One leader asked for special hints how to improve the individual leadership based on the results of the project. Two would like to have the intervention tailored more to the specific demands of the specific occupation (in this case: child day care).

Sweden

Following the last questionnaire data collection (T3) and as part of the evaluation, one of the doctoral students in Sweden interviewed the leaders about the intervention. His results generally were in line with what was reported above.

Leaders generally described the project aims and content as relevant for leadership in the public sector. The most important aspect of this intervention compared to other similar ones was the involvement of team members which was perceived positively by leaders as was the focus on health.

Among the activities, WS I with the tailored feedback of questionnaire results about working conditions leadership and health was described as most important. The outcome of WS I, the action plan made by team members, was also described as useful. Some leaders reported that the action plan had been used repeatedly as part of their team meetings after the workshop. Leader workshops were also appreciated. There seemed to be general agreement among the Swedish leaders that the rather long time frame of the intervention (16 months) was a problem. There were too few activities and too long gaps between them which made it difficult to keep the intervention focus regarding health promotion. On the other hand, there was variation in participation among leaders. Only 8 out of 17 i.e. less than 50 % accepted the offer of individual coaching in Sweden and slightly more than 50 % (9 out of 17) used the diary method for self-reflection.

Positive effects described mostly concerned individual improvements in their leadership. Most of them found it difficult to describe any effects of the project that could be directly related to any specific intervention activities and to distinguish effects from other activities in their organization during the same period.
Finally, several contextual factors affecting the outcome were described in the interviews. Number of subordinates varied a lot in Sweden (from 5 to 42) and this had a clear effect on their chances to engage and accept the activities offered. Several leaders reported a lack of support from their own superior managers.

6.3.9 Differences between Germany and Sweden in how the intervention was conducted

Recruiting of teams was different which also affected how the interventions were conducted. In Sweden teams from two large municipalities were recruited by an announcement by the HR managers. In Germany, teams from different organizations both public and private were recruited individually. The German teams came from several cities which made it difficult to arrange leader workshops. This lead to larger variation in conditions for the workshop in Germany e.g. time allocated, disturbances, participation of team members etc., but also that the interventions were a bit more tailored to suit each team regarding e.g. feedback. Germany even had special conditions for one team – two additional steps in the workshop aiming to solve conflicts in the team.

In Sweden there was less variation in how the workshops were conducted and hence more of a general form for all teams (three hours, the same content etc.).

Leaders reacted differently to the content and activities. In Sweden many leaders had already participated in other leadership development programs including e.g. individual coaching and diary writing. This lead to lower participation in coaching compared to Germany. The diary writing was perceived as too time consuming in Germany; only 4 out of 11 completed the diary and in these cases without the final follow-up that was part of the plan. Generally, absence in activities increased during the 16 months which could also be related to lower levels of support from their managers.

Steering committees – In Sweden it was not possible to arrange meetings with all stakeholders at the same time. Unions and HR-management were informed separately. When the first part of the intervention was finished HR managers in Sweden got information about WS I during a lunch meeting. Higher level managers got information only at the start aiming to get support for the leader's participation.

Keeping continuous contact to the steering committee in Germany was not possible because of permanent time constraints. It was of advantage, that some of the leaders involved in the intervention (especially in the finance sector) were also members of the initiation steering committees. But in the other organization the contact to the steering committee was reduced to giving them reports about our results after each wave.

6.3.10 Information from the summative evaluation for process evaluation

Besides these results we have to keep in mind, that also the data from the summative evaluation in the former chapter gave us some information relevant for the process evaluation. The summative evaluation revealed, that the control group had less workload, less cognitive demands and less emotional demands. Thus we can conclude that participation error is not an issue, because the more needy ones got the intervention.

6.3.11 General conclusions related to the intervention

Generally, the evaluation showed positive results in terms of the main goal: *changing leaders' behaviour into a more rewarding and health* or the sub-goals for individual leaders being partly reached with mean values between 3 and 4 on the 5-point scale. Highest values were obtained in both countries for the main goal for change of behaviour to a more rewarding and health supporting form and for individual development. Regarding the implementation process Swedish leaders reported higher values but the only significantly higher value was found for implementation quality. A negative correlation between experience as leader and satisfaction could indicate that leaders with shorter experience were generally more positive to the intervention. This conclusion was supported also by the interviews made after the intervention.

It was difficult to find effects of the intervention on the employees´ perceptions of health promoting leadership. The only significant factor was number of subordinates of leader (Team size) which was negatively related to level of perceived health promoting leadership.

Referring to the goal set up for the intervention we conclude that the goals were reached for the individual leaders, but only partly for the teams (e.g. regarding team climate).

Referring to the current state of the art for intervention studies (e.g. BIRON, KARANIKA-MURRAY & COOPER, 2012), the general conclusion is that it is difficult to clearly show effects related to an intervention in a work organization. The primary reason is that organizations change as too do working conditions and these contextual conditions are difficult to control for. Furthermore, our results support the notion that interventions need to be tailored to the organization and that it's difficult to conduct the same intervention in several organizations. In line with this is that the fit of the intervention is critical for the outcome together with the readiness for change in the organization. Our intervention had several activities that were tailored e.g. questionnaire feedback and action plans made during WS I. However, the general outline was made to be suitable not only for about 10 organizations but also for two countries. A final problem in our case could have been the decreasing levels of support from supervisors of participating leaders.

6.4 Differences between countries

The ReSuLead project explores the role of leadership in relation to workers' psychological wellbeing with special consideration being given to the differences in leadership between three European countries, namely Finland, Germany and Sweden. The GLOBE-study on leadership prototypes has shown differences between these countries, in particular concerning the dimensions of human orientation and group- versus self-centeredness (BRODBECK et al., 2000), which can be assumed to be important when it comes to the relationship between leadership style and wellbeing of the subordinates. Further, Germany, Sweden, and Finland differ in other ways including the degree of women's participation in the workforce and gender ratio of leaders.

6.4.1 First wave data

Figure 6.31 shows country differences in leadership ratings in our sample. The overall result is that leadership is perceived most positively in Sweden and most negatively in Germany; Finland falls in between. More specifically, leadership climate, transformational leadership, authentic leadership and abusive leadership were all perceived significantly more positively in Sweden than in Germany and Finland. In addition, fair leadership and health-promoting leadership were both evaluated more positively in Sweden and Finland than in Germany. For authentic leadership the difference between Finland and Germany was in favor of Finland; authentic leadership was perceived more positively in Finland than in Germany. Results from ANOVA-analysis, including post-hoc tests for mean differences between the three country samples are included in the figure. Further, regression analyses were performed, including two dummy variables for country (Finland as reference), and controlling for public vs. private sector, age, sex, and working hours per week. The differences between country samples remained significant after controlling for these background factors, with differences between the German and Finish sample regarding abusive supervision being the only exception. Differences were found between private and public sector employees with regard to leadership climate, transformational leadership, authentic leadership, health-promoting leadership, but not for fair leadership, and abusive supervision. Age proved to be positively related to leadership climate only. Women and men differed in their perceptions of leadership climate (women gave more positive ratings), and fair leadership (women gave more negative ratings). Longer working hours per week were positively related to leadership climate and authentic leadership, and negatively correlated with abusive supervision. Maybe for employees with more opportunities to interact with their leaders, there are also more options for clarification, leading to higher transparency in the leader-employee relationship.

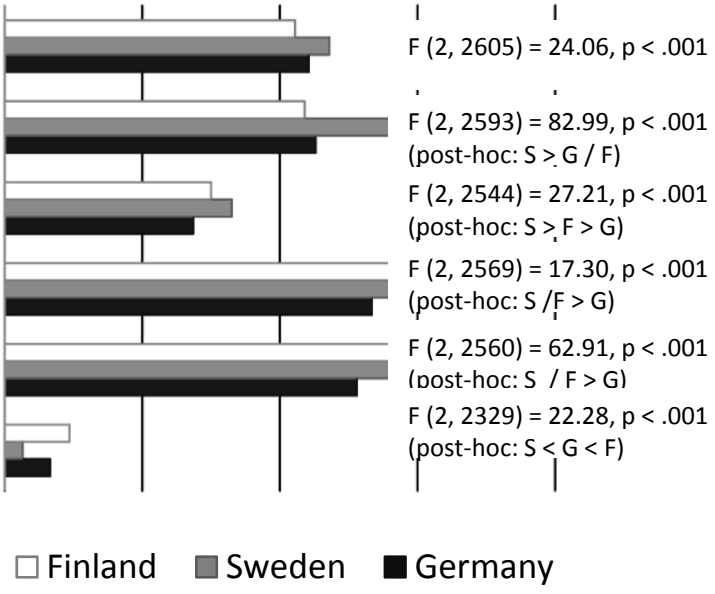


Fig. 6.31 Leadership ratings across countries (Numbers in brackets indicate the range of the scales)

These country differences can only be seen as a first hint on potential cultural differences. Samples are not representative for countries and participants from the three countries also differ with respect to sectors included, as well as on socio-demographic characteristics.

When comparing the leadership appraisals made by the leaders themselves and their subordinates, the result was that all leadership dimensions were seen significantly more positively by the leaders themselves than by their subordinates. This same difference between the leader and employee perceptions was seen in every country.

The country differences in wellbeing scales are shown in figure 6.32. We can see from the figure that in terms of both (high) job exhaustion and (low) work engagement the worst situation is among German employees compared to both Sweden and Finland. Further, irritation and depression were higher, and general health was worse, on average among German participants than among those in Finland or Sweden. Concerning somatic complaints German and Finnish participants were on the same level, which was slightly higher than for Swedish participants. All in all, it seems that German participants have the lowest wellbeing level.

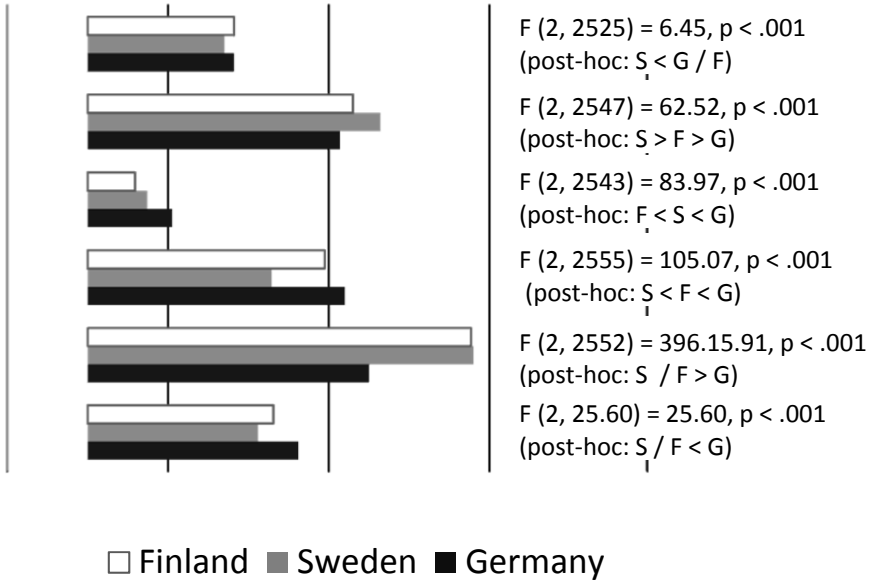


Fig. 6.32 Wellbeing across countries (Numbers in brackets indicate the range of the scales)

When controlling for potentially confounding background factors in regression analyses, the Finnish sample showed substantially higher ratings on somatic complaints; even higher than the German sample. Differences with regard to general health between the German and Finnish sample disappeared after controlling for background factors. Concerning depression, the above results from an ANOVA were shown to be robust, even when controlling for background factors. Differences in irritation were no longer significant between the German and Finish samples in the regression anal-

yses. The pattern of results for work engagement and exhaustion did not change when background factors were partialled out.

Age was negatively correlated with somatic complaints, general health, depression, and exhaustion, and positively correlated with work engagement. Aside from reporting a lower general status of health, older employees in the sample do not seem to be under more strain than younger employees. Men had, on average, fewer somatic complaints, better general health, and less depression and irritation than did women.

Once again, differences between country samples should not be interpreted as representative. Organizational differences might be more important, than cultural or societal factors. A large part of the German participants work in a bank. Working conditions and job characteristics in the financial sector may well explain the higher rates of exhaustion, and depression, and lower levels of work engagement in the German, as compare to the Swedish and Finnish sample.

6.4.2 Second wave data

In addition to T1 analyses, we will also explore some country differences in the T2 data concerning perceptions of one's ideal leader and the Hofstede dimensions of femininity and masculinity, as well as some other factors which may impact perceptions of health promoting and transformational leadership. Unless otherwise specified all results in this section are from one-way ANOVAs with country as a between-groups variable. Where appropriate, post hoc analyses were conducted using the Bonferoni correction to control for cumulative Type I error. It is important to bear in mind that differences between countries may occur due to varying background factors, such as branches included, task characteristics or socio-demographic differences between the three samples.

Figure 6.33 shows country differences in leadership ratings at T2. In general Sweden and Finland tended to have more positive ratings of leadership than did Germany. More specifically, transformational leadership was rated highest in Sweden which was significantly more positively than in Finland, which in turn significantly differed from Germany which was lowest. Ratings of abusive supervision were lowest in Sweden which was significantly lower than in Finland and Germany which did not differ. For authentic and health-promoting leadership Sweden and Finland did not significantly differ, but both were significantly higher than Germany. All countries differed significantly with regard to fair leadership. Ratings were highest in Finland, in the middle in Sweden, and lowest in Germany.

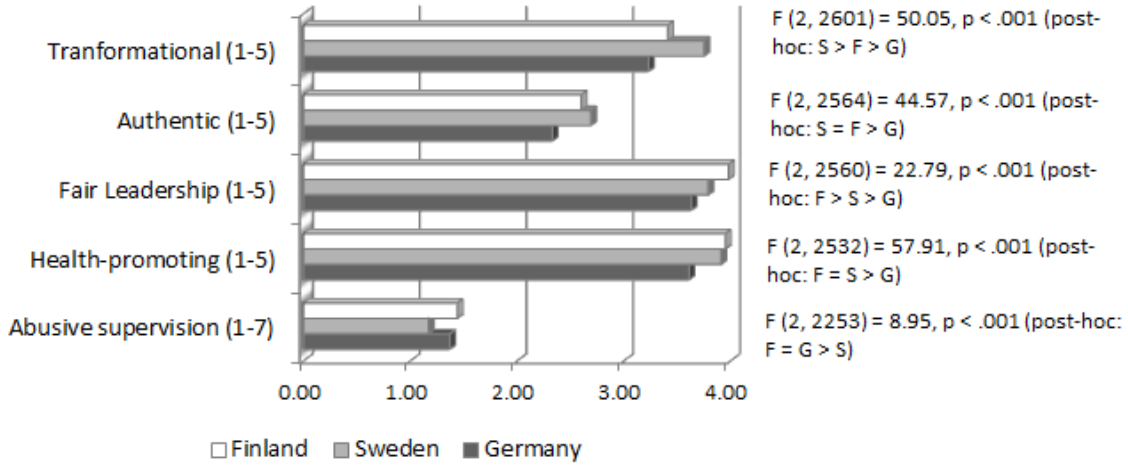


Fig. 6.33 Leadership ratings across countries for the second wave (T2) data (Numbers in brackets indicate the range of the scales)

In order to measure cultural value differences about leadership we used items from the Globe study (HOUSE et al., 2004) figure 6.34 shows country differences in ratings of characteristics of an ideal leader. In general, the characteristics are rated very highly with the exception of autocratic and autonomous/independent leaders which tended to be lower. While the ratings tended to be lower in all countries for autocratic and autonomous/independent leaders, ratings for these characteristics were significantly higher in Sweden than in Germany and Finland which did not differ from each other. Germany and Finland did not differ with regard to the quality of being a morale booster, and both valued this characteristic significantly more than Sweden did. Regarding collaborative, improvement oriented and inspirational leadership, Sweden and Finland did not differ from each other, but valued each of these characteristics more highly than did Germany. Finland regarded the characteristic of being an integrator significantly more highly than did Germany, with Sweden in the middle not differing from either of the other countries. There were no significant country differences for administratively skilled.

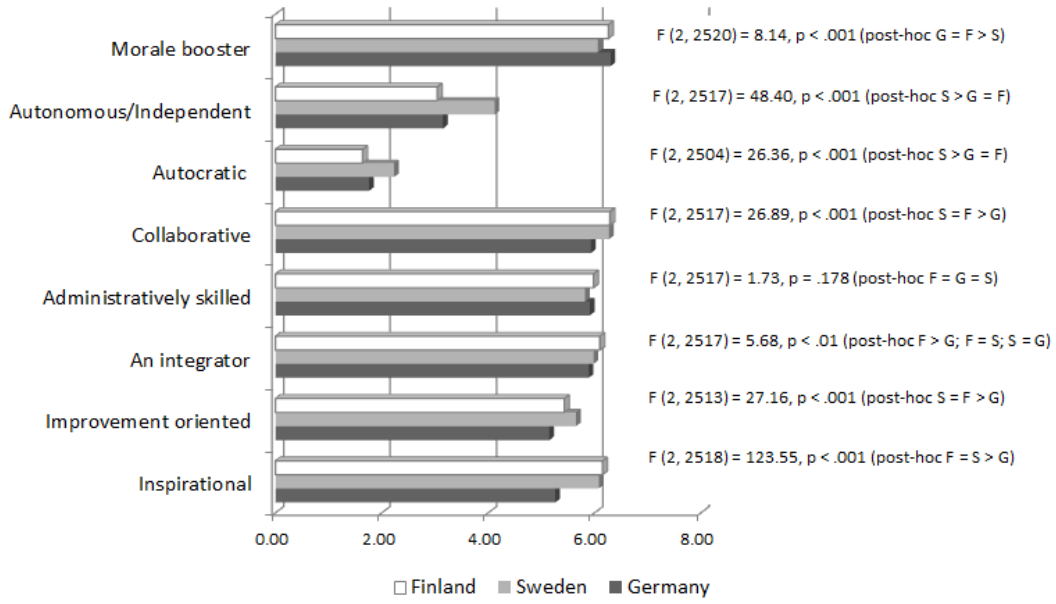


Fig. 6.34 Ideal leader characteristics across countries for the second wave (T2) data (the scales ranged from 1-7)

To assess the Hofstede dimensions of masculinity and femininity we asked participants to rate some of the characteristics of what they would consider to be their ideal job (see figure 6.35). Femininity was assessed with items concerning employment security and working with pleasant people. Sweden valued working with pleasant people significantly more than did Finland and Germany, which did not differ from each other. Sweden was also significantly higher than Germany with regard to employment security, with Finland in the middle not differing from either of the other countries. Masculinity was assessed with items concerning advancement opportunities and high earnings. The pattern of significant differences was the same for these measures, with Sweden rating them higher than Germany, who in turn rated them higher than Finland.

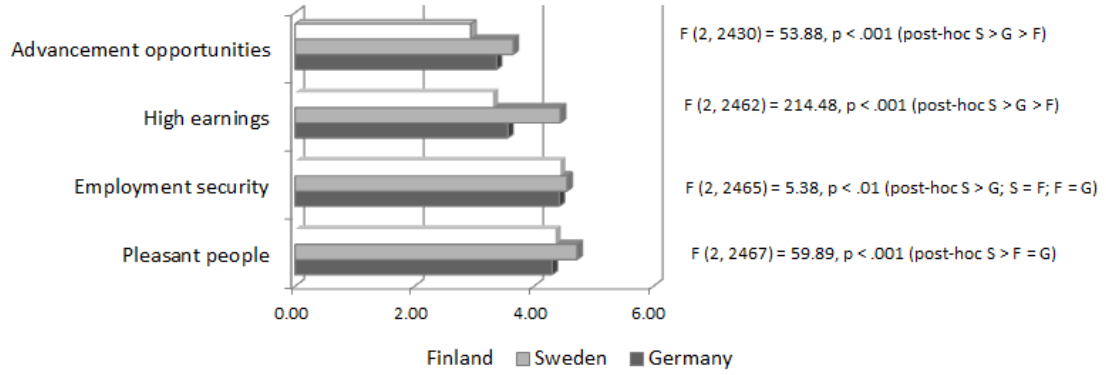


Fig. 6.35 Ratings of characteristics of one's ideal job (the scales ranged from 1-5)

We wanted to investigate whether different cultural values could explain the variation in perceived leadership behavior. To achieve this, we used hierarchical regression analyses aiming to explain variation in team members' perceptions of health promoting leadership and transformational leadership at T2 (see table 6.38). The first step introduced individual factors which might have an influence: education level, age and occupational self-efficacy. Country was then introduced (dummy variables for Germany and Sweden with Finland always 0). Step 3 introduced a few organizational factors that could affect leadership perceptions: team climate, organizational change during the last year as well as activities related to occupational health and safety during the last year. The final step introduced cultural values about leadership (ideal leader) and about jobs (ideal jobs) aiming to measure cultural values about leadership and femininity/masculinity, respectively.

Results indicated that cultural values seemed to explain a small but significant part of the difference in perceptions of leaders. For health-promoting leadership results indicated that Sweden and Finland were similar to each other and had higher ratings than did Germany. For transformational leadership the Swedish employees reported higher levels even after controlling for individual and organizational factors. In both cases, having inspirational leadership as an ideal was related to health-promoting and transformational leadership. Similarly, ideal jobs with high earnings were related to the leadership outcomes. In both cases country differences remained significant indicating that there are other factors differing between the countries that can explain perceptions of health promoting and transformational leadership.

Tab. 6.38 Predictors of health promoting leadership T2 (adding T1 value at step 5)

	Health-promoting leadership T2 (N = 1537)				Transformational leadership T2 (N = 1542)			
	1	2	3	4	1	2	3	4
Step 1								
Sex(male)	-.01	.01	.01	.00	.01	.00	.00	.01
Education	-.03	-.01	.02	-02	-.10***	-.09***	-.10**	-.10***
Age	.02	.01	.01	-.01	-.01	-.02	-.02	-.01
Self-efficacy	.32***	.28***	-.27***	.24***	.20***	.17***	.16***	.14***
Step 2								
Sweden		.01	.01	-.04		.15***	.15**	.10**
Germany		-.13***	-.11***	-.10**		-.04	-.02	-.04*
Step 3								
OHS since T1			.07**	.07**			.10***	.10***
Org. change since T1			-.01	-.01			.04	.05
Step 4								
Inspirational				.09**				.09***
Autonomous				.00				.03
Moral booster				-.01				-.04
Fem. Values (social)				.06*				.04
Mask values (earnings)				.08**				.07**
Adj. R^2	.10	.11	.12	.14	.05	.07	.08	.09
ΔR^2	.10***	.01***	.01***	.02***	.05***	.02***	.01***	.01***

Note. *** p < .001, ** p < .01

Figure 6.36 shows country differences in ratings of wellbeing at T2. Ratings of work engagement were the highest of the wellbeing variables in all countries. However, ratings in the German sample were significantly lower than those of the Finnish and Swedish samples, which did not differ from each other. Ratings of depression tended to be low across countries although significantly higher in Germany than in Finland and Sweden, which did not differ. The same pattern of significance was obtained for job exhaustion which also tended to be low across countries. Irritation was significantly higher in Germany than in Finland, which in turn was significantly higher than Sweden. Somatic complaints were rated significantly lower in Sweden than in Germany and Finland, which did not differ. Finally, there were three levels of general health with Sweden having the highest, Finland the middle level, and Germany having the lowest.

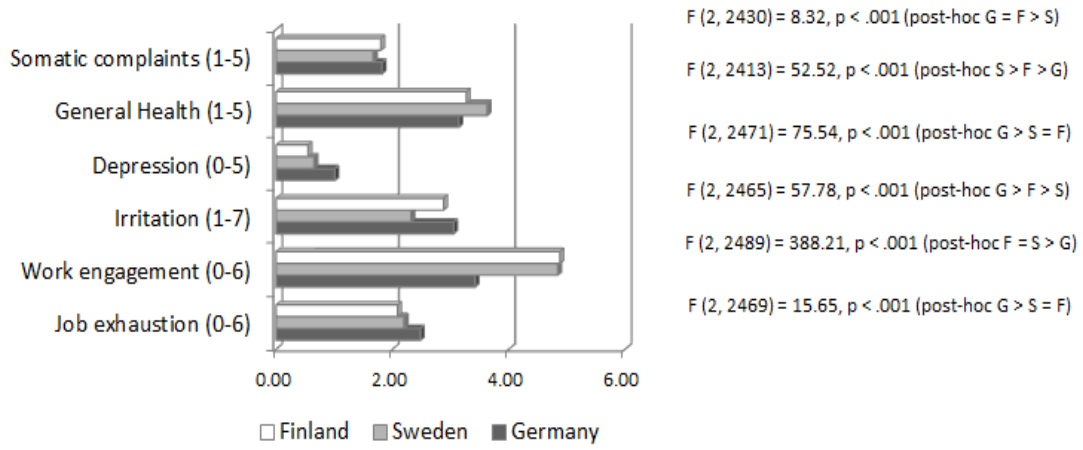


Fig. 6.36 Wellbeing across countries for the second wave (T2) data (Numbers in brackets indicate the range of the scales)

6.4.3 Third wave data

Figure 6.37 shows country differences in leadership ratings at T3. Transformational leadership was rated highest in Sweden, which was significantly more positively than in Finland, which in turn was significantly higher than Germany. For authentic leadership, Sweden and Finland did not significantly differ, but both were significantly higher than Germany. For health-promoting leadership, Finland was significantly higher than Sweden, which in turn was significantly higher than Germany. Leadership was perceived as significantly more fair in Finland than in Sweden and Germany, which did not differ. There were no significant differences in ratings of abusive supervision, which were generally low in all countries.

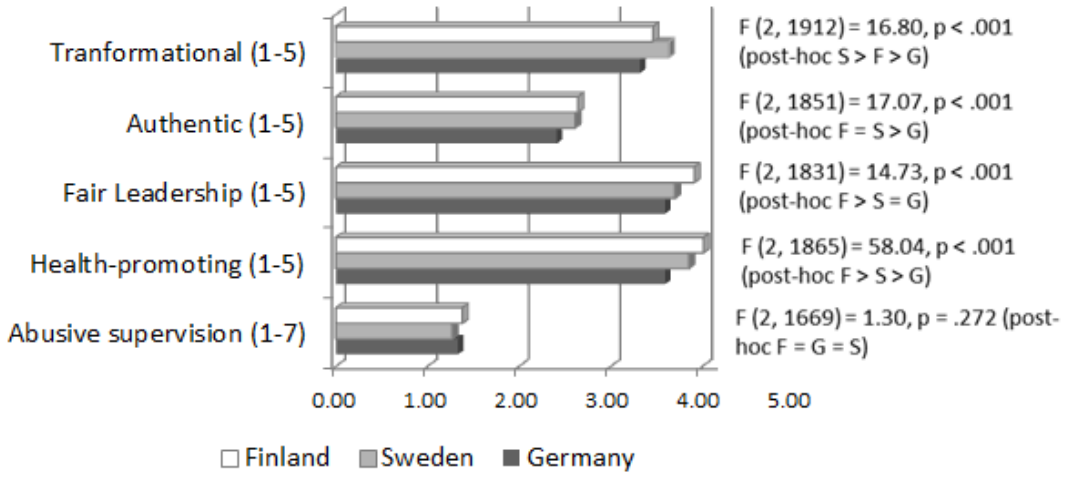


Fig. 6.37 Leadership ratings across countries for the third wave (T3) data (Numbers in brackets indicate the range of the scales)

Figure 6.38 shows country differences in ratings of wellbeing at T3. Ratings of work engagement were the highest of the wellbeing variables in all countries. However,

ratings in the German sample were significantly lower than those of the Finnish and Swedish samples, which did not differ from each other. Ratings of depression tended to be low across countries although were significantly higher in Germany than in Sweden, which in turn was significantly higher than Finland. Ratings of job exhaustion were significantly higher in Germany than in Finland and Sweden, which did not differ. Irritation was significantly higher in Germany than in Finland, which in turn was significantly higher than Sweden. There were three levels of general health with Sweden having the highest, Finland the middle level, and Germany having the lowest. Finally, there were no significant differences in somatic complaints between the countries.

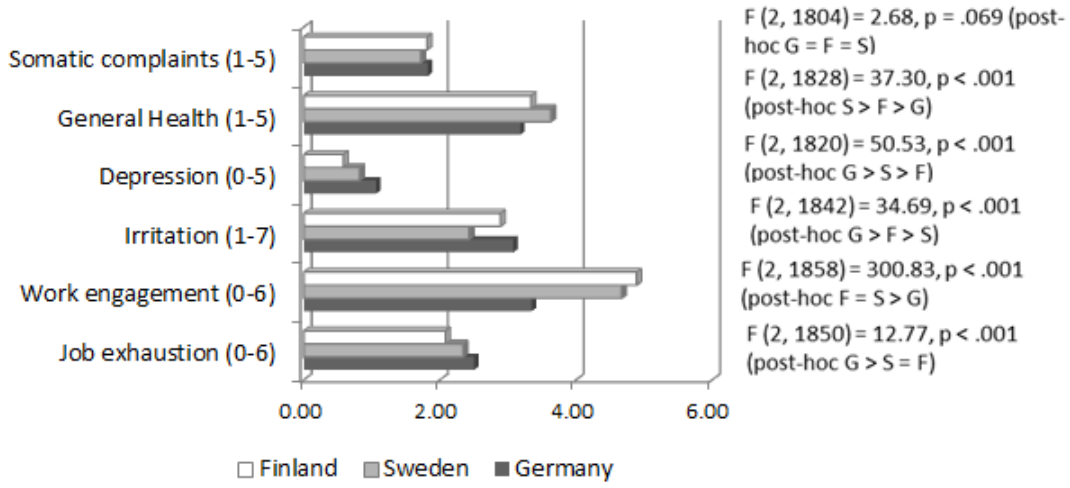


Fig. 6.38 Wellbeing across countries for the third wave (T3) data (Numbers in brackets indicate the range of the scales)

In summary our results clearly support previous research about cultural differences between our participating countries. Most notably and also expected was that Germany would differ significantly from Finland and even more from Sweden in terms of perceptions of leadership. Swedish employees rated their leaders as generally more transformational and less abusive than the other countries and on a similar level as Finland regarding health promoting and authentic leadership. Both countries had significantly higher values than Germany on all these indicators. As expected, these differences between countries were relatively stable over time (cross sectional T1, T2 T3) when all respondents were included. No significant longitudinal change was discovered. Part of the explanation to these country differences seemed to be differences in cultural values regarding ideal leader and ideal job. Still, significant country differences remained unexplained by the factors included in our study.

The significant differences in health and wellbeing could be part of a complex set of mechanisms that in future research could aim towards explaining these results. Factors related to the organization such as other ongoing OHS measures and organizational change together with work characteristics will be further explored in our data.

6.5 The role of Gender

First of all we checked for gender differences in a set of selected study variables using t-test for independent samples. We performed these analyses using the T1 dataset for the overall sample as well as separately for the three country samples (see table 6.39).

In the overall sample we can state that women report less favorable working conditions. They have significant lower levels of autonomy, and meaning of work but higher levels of work load and emotional demands. There was no gender difference concerning cognitive demands, and perceived job insecurity.

Tab. 6.39 Gender differences in selected study variables

	Germany			Sweden			Finland			Overall		
	Men N =	Wo men		Men N	Wo men		Men N =	Wo men		Men N =	Wo men	
	M(S	M(S	T	M(S	M(S	T	M(S	M(S	T	M(S	M(S	T
Job characteristics												
Autono	3.22	3.06	-	3.69	3.57	-	3.70	3.53	-	3.38	3.29	-
Meanin	3.75	3.77	0.5	4.23	4.34	1.4	4.02	4.17	2.0	3.87	3.99	3.4
Worklo	3.59	3.62	0.8	3.49	3.63	1.8	3.36	3.72	5.5	3.53	3.65	3.7
Cogniti	3.88	3.95	1.8	4.09	4.12	0.4	3.87	3.80	-	3.91	9.95	1.1
Emotio	2.97	3.12	2.6	3.43	3.54	1.1	3.04	3.33	3.0	3.05	3.26	4.8
Job	2.09	2.22	2.7	1.64	1.54	-	1.70	1.92	2.2	1.95	2.01	1.3
Leadership												
Transfo	3.20	3.28	1.5	3.88	3.75	-	3.32	3.15	-	3.31	3.34	0.5
Authent	2.29	2.39	2.1	2.68	2.64	-	2.54	2.49	-	2.93	2.47	2.0
Fair	3.73	3.64	-	4.05	3.90	-	4.06	3.81	-	3.84	3.73	-
Health-	3.53	3.57	1.0	3.94	3.83	-	4.04	3.84	-	3.68	3.69	0.2
Abusiv	1.40	1.30	-	1.09	1.14	0.8	1.58	1.45	-	1.39	1.31	-
Health and Wellbeing												
Exhaus	2.53	2.64	1.2	2.09	2.13	0.2	1.76	2.43	4.3	2.32	2.48	2.2
Irritatio	3.04	3.27	3.0	2.22	2.30	0.6	2.84	2.97	1.0	2.89	2.99	1.7
Somati	1.60	1.88	7.2	1.47	1.74	4.1	1.58	1.87	5.0	1.58	1.85	8.8
Depres	0.91	1.09	3.5	0.65	0.75	1.1	0.42	0.63	3.7	0.78	0.90	3.2
Health	3.33	3.07	-	3.90	3.60	-	3.55	3.24	-	3.45	3.23	-
Self-	5.38	5.12	-	5.75	5.51	-	5.93	5.64	-	5.54	5.34	-

*p < .05, ** p <.01, *** p < .001

Irrespective of the leaders' gender, women rated their leaders on average to be less authentic and fair. Despite for Irritation in all other selected indicators for health and wellbeing women and men differed in their ratings. Women reported more emotional exhaustion, somatic stress and depressive symptoms and a worse state of general health.

When looking separately at the country samples we can see that there are pronounced gender differences in job characteristics in Germany and Finland but not in

Sweden. In Germany women rated their supervisors to be more authentic on average (no other leadership ratings were significantly different for men and women), whereas in Finland, women rated their leaders to be less fair and less health-promoting when compared to their male colleagues. Again, no general gender differences could be found in the Swedish sample. When it comes to health and wellbeing, in all countries women indicated more somatic stress, worse general health, and less self-efficacy when compared to men. Only in the Finish sample women indicated on average to suffer more from emotional exhaustion, Irritation on the other hand was only reported by the German women to be higher when compared to men. Finally differences in depressive symptoms comparing men and women were not significant in Sweden, but in Germany and Finland.

Of course lower statistical power due to a smaller sample size in Sweden has to be taken into account when interpreting these results.

An interesting question is whether the observed differences in perceptions of demands and resources at work may explain gender differences in depressive symptoms. To test this we conducted a stepwise regression analysis using Depressive Symptoms at T2 as dependent variable. We introduced sex in the first step. As expected women report more depressive symptoms as compared to men. In a second step, we included job related resources and stressors. Autonomy (negative), work load, and emotional demands (all assessed at T1) showed to be significantly related to depressive symptoms at T2. The gender difference disappeared after inclusion of job characteristics. Thus we can state that gender differences in the perception of stressors and resources at work can explain differences in depressive symptoms. To rule out that stressors, and resources may have a different impact on depressive symptoms when comparing men and women, in a third step we included the interaction variables between sex and job characteristics. None of these interactions reached significance (see table 6.40).

Tab. 6.40 Regression analysis testing the potential mediating role of task characteristics in gender differences of depressive symptoms

T1↓	**Depressivity (T2)**		
Step 1			
Men vs. Women	-.07**	-.04	.05
Step 2			
Autonomy		-.19***	-.18***
Workload		.13***	.12***
Cognitive Demands		-.04	-.01
Emotional Demands		.17***	.14***
Step 3			
Sex X Autonomy			-.13
Sex X Workload			.17
Sex X Cognitive Demands			-.26
Sex X Emotional Demands			.12
ΔR^2	1%	10%	0%

N = 1.467

Additional analyses of gender differences were done in context of country differences. Concerning positive leadership, in Germany female leaders were perceived as more transformational and authentic. Concerning authentic leadership this is also true for Finland. In Sweden male leaders received higher ratings in all four positive leadership types. This converges with the result reported above: the ideal job in Sweden is seen as more androgynous. Jobs are less perceived as sex typed, but the question remains, why male leaders get higher ratings.

Effects of gender differences affecting the relationship between employees perceptions of health promoting leadership and wellbeing outcomes have generally been very few and difficult to interpret. One reason could be that the sample is skewed with a large majority of female leaders and probably also on different levels and positions compared to the male leaders.

So far results are limited but on-going work aims on further clarification. What we have found are relatively few longitudinal differences and a few more looking at cross-sectional data. Generally, again Germany differs from Finland and Sweden. In the Nordic countries, female employees report higher levels of exhaustion regardless of leader gender. Furthermore in the two Nordic countries the relationship between employees' perceptions of health promoting leadership /transformational leadership and work engagement/exhaustion is stronger for male leaders. However, these results remain preliminary and will be reported in detail in an article which is in progress.

7 Discussion

In the following chapter we will first shortly summarize our main results with respect to both the longitudinal study and the intervention study and in that we provide first answers to our research questions. Next, we will discuss the potential and contribution of our project in relation to its shortcomings and limitations. We then continue with deriving ideas for practical implications and also for future research questions. Finally, we will finish this report with some concluding remarks.

7.1 Answer to Research Questions

Based on a combination of a longitudinal study and an intervention, our research project aimed at gaining knowledge on the effects of leadership behaviour for health of employees, and to develop an intervention program to enhance such leadership behaviour in particular that turned out to be health-promoting. Overall, our findings unambiguously support our assumption that leader's behaviour can either provide support for employees enhancing their mental and physical wellbeing as could be shown in our study for transformational as well as for health-promoting leadership behaviour. Yet, it can also constitute a major source of stress as was true for employees who were confronted with leaders showing an abusive way to lead. While our effects are partly small we have to consider that health is multi-determined and leader's behaviour is only one out of many determinants.
Exploring the effects of leadership behaviour on employees' mental health and wellbeing in the longitudinal and the intervention study, we aimed at answering the following main questions in our project:

a. Do changes occur in the leadership behaviour (evaluated by the employees and their leaders) across time? If there are changes, what factors (e.g., lengthened relationship tenure, decrease in job demands, increase in job resources) explain these changes in leadership behaviour?

b. Does leadership behaviour have longitudinal effects on employees' psychological wellbeing and health? Or is there evidence for the reversed causality that is, do employees' psychological wellbeing and health have longitudinal effects on leadership behaviour?

c. Do job demands (e.g., work load, cognitive or emotional demands) and job resources (e.g., autonomy, role clarity, meaning of work), or changes in these variables, mediate the potential relationship between leadership behaviour and employees' mental wellbeing and health?

d. Are there any cultural differences in the questions (a-c) posed?

With respect to the (a) **first research question** if changes occur in leadership behaviour, it can be summarized from our *longitudinal study* that overall leadership behaviour was highly stable over time. This has theoretical as well as practical consequences. From a theoretical standpoint we consider leadership to be a phenomenon contingent on situational characteristics, and to be a two-sided interaction process. Our results at least question how much leadership behaviour as reflected in our

measures can be really seen as behaviour open to changes and how much it is a trait. Traits are regarded as relatively stable dispositions to specific behaviour. From a practical view, the stability in the leadership behaviour measures might be indicative that changing leadership behaviour has to be seen as a challenging endeavour. Nevertheless, our findings from our *intervention study* revealed that we had been able to improve various kinds of leadership, namely authentic leadership, fair leadership, and health-promoting leadership (in Germany) at least in the short run (changes between T1–T2). Unfortunately though, we were not able to reveal sustainable long-lasting effects. Notice, however, that we had expected our intervention only to have sustainable effects if leaders receive incentives for changing their behaviour, such as a reduced workload due to their subordinates' improved health status (and fewer sickness absences)

Next, regarding our (b) **second research question** if leadership behaviour has longitudinal effects on employees' psychological wellbeing and mental and physical health our *longitudinal study* lends support for reciprocal causation, i.e. that leadership behaviour not only predicts changes in wellbeing over time but also that wellbeing predicts changes in leadership behaviour over time. When comparing the effects for regular causation with those for reversed causation, in line with expectations we found that the link from leadership to health was stronger than that of the opposite direction though only as long as no autoregressor effects were considered. Yet, when controlling for the baseline of the outcome variables, there were more reversed causality effects (from wellbeing to leadership behaviour) than regular causality effects (from leadership behaviour to wellbeing).

Taking a look at comparable results of our *intervention* we can provide several findings supporting our theorizing that through changing the behaviour of the leaders to be more supportive and health-promoting in our training (shown in the T1–T2 improvements in the leadership scales) various adaptive consequences – some even long-lasting (increase in self-efficacy and decrease in somatic stress in Germany between T1–T2 and sustainability of these effects between T2–T3) – for subordinates' mental and physical health could be achieved. In particular, work engagement, occupational self-efficacy, and team climate (in Germany) could be improved during the training period, and the changes in occupational self-efficacy (in Germany) remained stable in the follow-up assessment. Moreover, our training lessened somatic stress (in Germany).

Additionally, though only on a cross-sectional level we explored the impact of a transformational, authentic, fair, health-promoting or abusive leadership climate on subordinates' wellbeing. As all team members share the same leader it seems to be reasonable to assume that there is also a shared perception of leadership behaviour across the members of the team over and above the individual perception. Accordingly, in our analyses we found team-level leadership ratings to explain additional variance in follower wellbeing (i.e., work engagement and job exhaustion) beyond individual leadership perceptions.

Concerning our (c) **third research question** that job demands and job resources play a role as underlying mechanisms in the link between leadership and health, we found leadership behaviour to predict changes in job resources but (except for job insecurity) not in job demands. As underlined in the *longitudinal study* leadership can

have an enhancing effect on job resources. Interestingly, the same effect was found in the *intervention study* where positive changes in the assessed job resources during the training (T1–T2 improvements) towards higher role clarity and more job autonomy in employees (in Sweden) could be revealed.

In the same vein, the relationships between leadership and wellbeing in the *longitudinal study* were attenuated more by considering job resources in the regression models than by considering job demands. It might be speculated that our investigated leaders were not in a position to be able to change the job demands of their subordinates by reducing their workload, or their cognitive or emotional demands, respectively. Building on assumptions of the JD-R model (BAKKER & DEMEROUTI, 2007; DEMEROUTI, BAKKER, NACHREINER, & SCHAUFELI, 2001), we also found job demands and job resources to work as mediators in the relationship of leadership and health. More specifically, health-promoting leadership impacted on occupational self-efficacy through increasing cognitive demands, decreasing job insecurity, and increasing autonomy and meaning of work. In addition, a good team climate can be promoted by increasing cognitive demands, role clarity and meaning of work, whereas, depressive symptoms can be lessened by reducing job insecurity and enhancing autonomy and meaning of work.

With respect to the (d) **fourth and last research question** posed we would like to add that exploring the national differences in leadership styles is a critical part of our research. Such differences could be expected as earlier research has clearly shown that the concept of leadership is based on cultural values. In a comparison of 16 countries, ZANDER (1997) showed that north European countries – Finland and Sweden among them – seem to prefer a coaching style of leadership compared to a preference for a directing leader in Germanic countries. Moreover, the differences reported in how leadership is perceived by BRODBECK et al. (2000), indicate such clear differences that they may have an impact on the health of the subordinates. Human orientation (generous, compassionate) was perceived to be prototypical for outstanding leadership by managers in Sweden, but this was not at all the case in Germany and Finland. As for the evaluation of self- vs. group orientation, managers from Sweden and Finland perceived ‘Team Collaborative’ and ‘Team Integration’ to be more prototypical for outstanding leadership than managers from Germany. It may be worth mentioning that such national dissimilarities regarding leadership preferences override differences caused by different kinds of departments, work positions, age groups or gender (ZANDER & ROMANI, 2004).

These former empirical findings on differences in leadership between our three countries were supported in the ReSuLead project. In the Nordic countries, for example, a collaborative, improvement oriented and inspirational leader was more highly valued than in Germany. We, also studied if employees in Finland, Germany and Sweden differ with respect to their masculinity-femininity scores based on HOFSTEDEs cultural dimensions. While, we expected that Sweden would be the most feminine and Germany the most masculine country – with Finland being in between – we, surprisingly found that Sweden endorsed both feminine (social relations at work) and masculine values (career opportunities) of their jobs highest. This calls, on the one hand, for looking at further gender differences, and on the other hand, might indicate that the Swedish employees prefer androgynous jobs which have consequences for their evaluations of leaders and their impact on health and wellbeing.

In the *longitudinal study*, we found general differences between German employees and those from the Nordic countries in their evaluations of their leaders. Overall, German leaders were appraised as being less authentic, fair and health-promoting as compared to their Finnish and Swedish counterparts. Also with respect to wellbeing substantial differences emerged between Germany and the Nordic countries. When crossing gender and cultural differences and interesting pattern of results emerged in our longitudinal analyses: Whereas in Germany subordinates of female leaders reported more job exhaustion in the long run, in Finland and Sweden female subordinates – independent of their leader's sex – showed higher exhaustion. It seems, thus, that besides cultural differences also gender differences or more specifically differences in the gender dyads of leaders and followers are at play.

On a cross-sectional level of analysis, our findings revealed further that the positive impact of a health-promoting as well as transformational leadership behaviour on followers' wellbeing (i.e. work engagement, job exhaustion) is stronger for male leaders in Nordic countries. It is an interesting question why in particular male leaders receive credit for showing transformational/health-promoting leadership behaviour. A former study by WOLFRAM and MOHR (2010) with German employees also found that if male leaders show a more transformational way to lead this has more positive consequences for their followers than if female leaders behave as transformational leaders. The authors found a positive relation for males high in transformational leadership to followers' satisfaction. This relation was not found when women showed transformational leadership. This supports the notion that men "get the credit" for showing a behaviour that is valued as female (e.g. showing verbal consideration), whereas the same behaviour in women is taken for granted and therefore has less effect on satisfaction. This leads to the conclusion that the way to reach healthy subordinates seems to be different for male and female leaders, and also that it might be more difficult for female leaders to positively impact on the health of their followers. If female leaders try to fulfil the male norm and show male behaviour, they are closer to the behaviour that is related to leadership (think-manager-think-male) and is evaluated as competent. Although these male behaviours are linked to the ideal of a successful manager, empirical research shows that the more "female" behaviours (like transformational, person-oriented, and participative) are related to higher effectiveness. Women get higher ratings of Transformational leadership, but if they show this more female and more effective behaviour, they do not get the overall credit for this behaviour.

Yet, when additionally considering cultural differences by comparing the role of gender in leader-follower dyads for health of employees, we found that only male leaders from Finland and Sweden who leaded their team in transformational or health-promoting way had a strong positive impact on their followers' health though not those from Germany. It remains an open question why this cultural difference emerge. One post-hoc speculation could be that the leaders of the Nordic countries showed a leadership behaviour that was more in line with their stereotype of an ideal leader (see, findings from the GLOBE study).

Cultural differences might also have impacted on the *intervention* as we found more significant effects in line with our hypotheses in Germany than in Sweden; where during the training (T1–T2 comparison) also contradictory findings occurred (e.g., decrease in transformational and fair leadership, increase in job exhaustion). We have

to take into account here that Swedish leaders were assessed to show a more supportive and health-promoting way to lead their team from the start. In that also the baseline of other positive concepts as job resources, and positive health indicators was overall higher in Sweden as compared to Germany (for negative concepts, the opposite was true). Hence, while the training could reveal positive consequences in Germany the Swedish leaders did not get a credit for behaving differently. Instead, they leadership style was evaluated more negatively after the training (i.e. decrease in transformational and fair leadership between T1–T2).

7.2 Limitations and Strengths

Our project aimed at clarifying the causal role of leadership for the health of employees. While most studies so far focusing on this relationship can be criticized for a lack of theory (HOLSTAD et al., in press) one strength of our project is that it builds on a sound theoretical framework (JD-R model; BAKKER & DEMEROUTI, 2007). With respect to its further strengths our study approach included five attributes making it standing out in contrast to usual research designs: (1) it is a three-wave longitudinal study, (2) it includes a quasi-experimental long-term on-the job intervention, (3) it combines data from leaders and followers (multi-source data), (4) it uses interview and questionnaire data (multi-method data), and (5) it refers to different cultural contexts.

Moreover, the *longitudinal findings* of this project are based on a large sample exceeding by far our estimations in the project application, relatively low dropout rates and a thorough sampling strategy. DAY (2010) recommended a multilevel approach for the research on leadership. The nesting of different followers within the same leader violates the basic assumption of independence and makes multilevel analyses in leadership research necessary. In line with this acknowledgement we considered a multilevel design, and analysed our data by considering also the team perspective.
The *intervention* was different from the “usual” leadership training insofar, as it was conducted on-the-job, was implemented as a process covering overall 15 months and included the team members of the leaders, as we considered leadership to be a two-sided interaction process. In that our approach was distinct from main stream research by taking a systemic view, which included characteristics of the team, as well as aspects of the leadership process (instead of focusing only on the leaders' abilities and competencies) and include also – though to a minor part – the supervisors of our target leaders, as they had the power to support the process and to approve needed resources. To ensure transfer and sustainability, our intervention program took place predominantly "on the job", including joint development of rewarding interactions in the real life setting.

While this project offers several advantages making it stand out among past health-related leadership research, several limitations should be taken into account when interpreting our results. In the following we will focus in particular on three constraints, related to the design, the assessment of the constructs, and the sample.

First, in longitudinal studies as well as in intervention studies the choice of the follow-up period is a crucial question. Theoretically, it is very difficult to define an optimal follow-up period within which, for example, positive or negative outcomes of leader-

ship behaviour should emerge (see DE LANGE, TARIS, KOMPIER, HOUTMAN, & BONGERS, 2004). There is no sound theoretical basis for which to decide upon the appropriate time lag between measurements. It depends on different factors (e.g. ROE, 2008), the most significant of which being the outcome measured. We employed a three-wave study in both the longitudinal research and the intervention covering a time frame of 20 months (T1–T2: 14 months, T2–T3: 6 months). In line with DE JONGE et al. (2001) we regarded a time lag of twelve months as sufficient for changes to occur. Yet, little is known about appropriate time frames for studies of leadership, job resources and demands, as well as wellbeing as it is unclear how long the hypothesized processes take to develop. There is only little longitudinal research so far and results have been somewhat inconsistent: VAN DIERENDONCK et al. (2004) conclude that a time frame between a few days and five months should be appropriate. Nevertheless, the stability of for example emotional exhaustion casts doubt on short time lags. DORMANN and ZAPF (2002) recommend a time lag of two years between stressors and strain. NIELSEN and colleagues (2008) also found transformational leadership to impact follower wellbeing over a two-step indirect effect in a study with a time lag of 18 months. Hence, it is possible that the effects of our training, for example, might take more time than 6 months after finishing the intervention (T2–T3) to develop. This problem though is quite difficult to solve as it calls for multiple assessment time points to get a clear idea about the adequate time frames. Whereas multiple measurement points could be easily managed in laboratory settings, in field studies it seems to be nearly impossible to get more frequent access to study employees' perceptions of their leaders or their health and wellbeing respectively. In sum, we share this shortcoming with all other research designs exploring the leadership-health link.

Second, we aimed at relying on a multi-source- multi-method approach, that is, to include data from leaders and their subordinates, and to use not only questionnaire but also register data (e.g., days of sickness absence) from the organizations. Whereas we were able to study both leaders and their followers the problem of common source bias might have been reduced at least in some ways. Yet, most of our analyses (with the exception of that of trickle down processes) so far have been done without considering the data obtained from the leaders. We also planned to ask for written consents signed by each participant for collecting register-based sickness absences and for asking for supervisors' ratings, yet due to the extra effort to get these data such objective data could not be considered. Hence, the problem of common method and common source bias could not be sufficiently overcome (PODSAKOFF, MACKENZIE, LEE & PODSAKOFF, 2003) which may have inflated relationships between the different constructs. To avoid this problem, future research should also take into account measuring job demands and job resources, for example, by observation, or by using register-based data to assess sickness absences or by additionally considering physiological indicators of employees' wellbeing as cortisol levels, for example.

Third, we aimed to enlarge the knowledge on gender differences with respect to leadership and health outcomes as gender differences in leadership have been so far restricted to diverse perceptions of male and female leaders and how they are perceived by followers. With respect to gender equality there are great differences between our three countries, evident by statistics such as the employment rate of women (73 % for Sweden, 66 % for Finland and only 59 % for Germany; see, ALL-

MENDINGER, EICHHORST & WALWEI, 2003), as well as the unemployment rate of women (6.4 % for Sweden, 7.2 % for Finland and 8.3 % for Germany; see, EUROSTAT, 2009b), and most importantly the share of women in executive committees in the top European companies (27 % in Sweden, 20 % in Finland and only 13 % in Germany; EUROPEAN COMMISSION, 2008) which can be regarded as indicative of complex differences in historical and societal conditions. One of the main individual factors was the inclusion of the gender of leaders and followers in our project, because leadership research has shown, that the effects of a leader's behaviour depend on the gender of the leader as well as on the gender of the follower (MOHR & WOLFRAM, 2008; NYBERG, WESTERLUND, HANSON & THEORELL, 2008). Furthermore, gender differences in health or mental illness are a widespread research result (but warranting, however, periodic re-examination, see MACINTYRE, HUNT & SWEETING, 1996). Our findings also point to some interesting gender differences with respect to wellbeing in general (i.e. with female showing more job exhaustion in the Nordic countries) or related to the sex of the leader in particular (i.e. with followers of female leaders reporting on more exhaustion in Germany). Yet, we have to keep in mind that our sample has overall to be perceived as a female-dominated sample. In that with more than 75 % of females in both the intervention and the longitudinal study our project does not allow to comprehensively explore the kind of role gender issues will play in activities meant to booster rewarding and sustainable health-promoting leadership. In future studies it is important either to try to get samples from more gender-balanced branches or to combine samples from more female-dominated sectors with those from more male-oriented sectors to adequately provide and answer to the role of gender in the relation of leadership and health of employees.

Fourth and finally, as participation in our study was voluntary it cannot be ruled out that in particular the "healthy" subjects, i.e. those without current problems in their working situation or their mental health status, were more likely to take part in the study from the start. This is not only a critical point regarding the composition of the longitudinal study but even more so in relation to the intervention study. As the teams or their leaders respectively more or less voluntarily decided if they want to participate in the intervention biases in our findings might have occurred: On the one hand, those teams/leaders that really needed our training might have refused to take part, on the other hand, those that had to participate because the higher representatives of the organizations suggested that they should might not profit enough from the training because of a low compliance.

Over and above, that attrition might have played a role as the "sick employees" might have dropped out during our study. We checked the longitudinal sample for its representativeness by inspecting whether nonparticipation at T2 or T3 was related to any demographic or work characteristics, leadership or health variables. The dropout analysis revealed that in particular women, younger employees and those with a higher qualification level took part continuously. Moreover, the "survivors" reported on a better work-related wellbeing, characterized by more autonomy, higher self-efficacy and less somatic complaints, for example. All in all, these findings can be interpreted as a sign that the healthy ones remained and in that the true correlations between leadership and wellbeing of followers are underestimated.

7.3 Practical Implications and Future Research Outlook

Based on our project's findings, several ways of how to improve the health of employees can be derived. Specifically, the intervention aimed at changing leaders' behaviour into a more rewarding and health supporting form and demonstrated that leadership behaviour (though only in the short-run, and not long-lasting) can be improved by training on-the-job and that this improvement in leaders' behaviour is positively reflected in the employees' psychological health and wellbeing. Moreover, we identified that job demands and job resources are the mechanisms behind any improvement in employees' wellbeing and health. This implicates that if leaders are aware that they can change the working conditions of their subordinates they are able to enhance the physical and mental health of employees.

A constructive leadership behaviour was found to be positively related to mental health via an increase in job resources. With respect to promoting *job resources*, for example, there might be various options: To maximize followers' autonomy leaders can let their followers decide freely how they want to organize their daily work. Meaning of work, on the other hand, can be provided by assigning meaningful tasks and emphasizing the importance of each contribution. Through autonomy and meaning of work leaders would be able to reduce strain levels of their followers.

Yet, not all leaders practise a constructive leadership behaviour. Some might also show behaviour that is described by public intimidation or humiliation of followers, i.e. abusive leadership. The behavior of supervisors is also critical for employees in organizations because supervisors are organizational role models. Supervisors play an important role in organizational development, maintenance and change (SCHEIN, 1992) and reflect the organization's culture. Thus, supervisors should send the message that they care and value their subordinates. Neither, the higher-level leader nor the organization as a whole should tolerate behaviors that lead to psychological or physical bullying of employees. As a clear signal, abusers should be punished. Supervisors should be given information on types of abusive behavior and how to detect and prevent it.

It still seems important to identify conditions which further health-promoting leader behavior. This would for example include the leaders' social skills and personality, but also the leader's own health status or working conditions of leaders which may relate to better wellbeing of followers. If leaders, for example, lack autonomy to design health-promoting workplaces for their followers, negative effects on followers' health are likely. Moreover, poor health status of leaders can result in poor leadership behaviour which would again affect follower wellbeing negatively. Whereas the ReSuLead project as well as a lot of recent research focuses on the impact of leadership behaviour on followers' health little is known on the consequences of practising a constructive leadership behaviour (by being transformational or health-promoting) for the health of leaders themselves.

What should be additionally focused on in future research? We believe that various research avenues should be gone, namely to further investigate the kind of leadership behaviour, how cultural and gender differences interact, and if sector-specific conditions play a role.

Overall, we found that the leadership scales we applied were highly correlated with each other and that the positive relations of leadership and health could be assessed for each of the leadership concepts (authentic, transformational, health-promoting, fair leadership, or low destructive leadership respectively). This raises concerns about the uniqueness of each of the assessed leadership behaviours. For example, authentic leadership has been criticized as being merely an extension of transformational leadership (YUKL, 2010). WALUMBWA et al. (2008) acknowledge some conceptual overlap between the constructs but also emphasize the differences. A CFA confirmed that authentic leadership was distinct from both transformational and ethical leadership. Yet, the findings from the ReSuLead project again challenge this assumption. We believe that there might be shared facets across the concepts like showing individual consideration, for example. Future research could help to clarify if specific facets of leadership behaviour are more important than others and if in particular the common facets impact on health of employees, and should be trained in interventions.

Moreover, we found cultural differences that cannot be neglected. Our project revealed differences in HOFSTEDEs masculinity-femininity dimension, the evaluation of a prototypical ideal leader, in the leadership scales, and finally also with respect to work characteristics, health and wellbeing. Exploring national differences that may appear on cultural dimensions will contribute to more valid recommendations concerning the situation and the type of leadership that may be more prone to protect and support employees. On the team level, also diversity of members (with respect to nationality, age) should be taken into account. Besides further investigating cultural differences by also considering other countries in the EU the exploration of gender differences is still at stake. Differences might emerge if not only female-dominated sectors (as was true in our project) are studied but also male-dominated or gender-neutral sectors. The same goes for the branches: We primarily studied organizations from the public sector in the field of administration, and only to a lesser degree (and only in Germany) the private sector.

7.4 Conclusions

In the ReSuLead project we expected to clarify under which conditions rewarding and health-promoting leadership behaviour will be supportive for wellbeing of employees. By doing so we went beyond leadership concepts that focus on social interaction and social exchange (such as inspiring and intellectual stimulation) and took into account the job demands of subordinates, especially those that are under the control of the leader, such as workload, working overtime, unclear work description, etc. Overall, the study's results support the idea that leaders impact their followers' wellbeing through influencing the job resources (and to a lesser degree the job demands) which are inherent in their work.
Nevertheless, to date we are still far away from comprehensively understanding the underlying mechanisms between leadership, on the one hand, and followers' health and wellbeing, on the other. Despite the fact that we caused some encouraging effects in changing leader behaviour to become more health-promoting in our intervention it also became obvious that behaviour-oriented preventions alone will have no sustainable effects if structural preventions are lacking. An intervention that focuses on reciprocal interaction between leaders and team members seems to have a lim-

ited success if leaders do not have enough scope of action to shape the work design of their subordinates. We believe that a leader can be an important person in charge to cooperate when it comes to structural preventions.

Several European national organizations involved in OSH put a focus on psychological stressors and mental health, including topics such as harassment and violence at work (EUROPEAN AGENCY FOR SAFETY AND HEALTH AT WORK, 2009). The issue of leadership as a health-relevant work feature for employees was highly underemphasized. Our study served to enlarge OSH approaches from the more traditional environmental hazards and hard facts to the “soft” factor of interpersonal interaction, in particular the one with the leader. We considered leadership behaviour as a future emerging psychosocial risk, though the European Risk Observatory does not mention it (yet). Our assumption is based on the idea, that psychosocial risk such as ‘work intensification’, ‘lean production’, ‘poor work life balance’, ‘high emotional demands at work’, ‘long working hours’, feeling of job insecurity’, ‘new forms of employment contracts’ (see EUROPEAN AGENCY FOR SAFETY AND HEALTH AT WORK, 2009) are partly under the influence of the leader. With our approach to develop tools for ameliorating the quality of this “soft” work condition, we provided first ideas to enforce rewarding and sustainable health-promoting leadership as this leads to better health of employees, boosts business productivity on the micro-level, and helps the EU in achieving its goals of economic growth and global competitiveness on the macro-level (MCDAID, 2008, COMMISSION OF THE EUROPEAN COMMUNITIES, 2007).

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Appendix

Publications

Holstad, T.; Rigotti, T. & Otto, K. (2013): Prozedurale Fairness als Mediator zwischen transformationaler Führung und psychischer Beanspruchung am Arbeitsplatz: Eine Mehrebenenstudie [Procedural fairness as a mediator between transformational leadership and followers' strain: A multilevel study]. *Zeitschrift für Arbeits- und Organisationspsychologie, 57,* 163-176.

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Rigotti, T.; Emmerich, A. & Holstad, T. (in press): Zukünftige Forschung zum Zusammenhang von Führung und Gesundheit. In J. Felfe (Hrsg.), *Trends der psychologischen Führungsforschung – Neue Konzepte, Methoden und Erkenntnisse.* Göttingen: Hogrefe.

Conference contributions

Most of the conference presentations can be downloaded from the project webpage: http://www.uta.fi/projects/resulead/

Emmerich, A. & Holstad, T. (2013, May): *Can you give what you don't have? Relations between leadership style and leaders' psychological health and possible mediators*. Oral presentation at the 16th EAWOP Congress in Münster, Germany.

Emmerich, A.; Holstad, T. & Rigotti, T. (2011, September): *Führ' dich gesund! Transformationale und Authentische Führung als gesundheitsrelevante Ressource von Führungskräften*. Poster at the „7. Kongress der Fachgruppe Arbeits- und Organisationspsychologie der DGPs", Rostock.

Hansen, E.; Loeb, C. & Isaksson, K, (2012, May): *Promoting health-promoting leadership: Leader behavior and followers' health and well-being*. Oral presentation at the 8th Nordic Conference on Group and Social Psychology (Grasp2012), Bergen.

Holstad, T.; Otto, K.; Stempel, C. & Rigotti, T. (2011, September): *Faire Führung = Gesunde Führung?* Oral presentation at the „7. Kongress der Fachgruppe Arbeits- und Organisationspsychologie der DGPs“, Rostock.

Holstad, T., Otto, K.; Stempel, C. R. & Rigotti, T. (2013, May): *The leader's job characteristics – antecedents of followers' wellbeing?* Paper presented at the 16th European Congress of Work and Organizational Psychology, Münster, Germany.

Holstad, T. & Rigotti, T. (2012, September): *Gute Seiten – schlechte Seiten. Wie Führungskräfte Einfluss auf die Gesundheit ihrer Mitarbeiter nehmen*. Symposium auf dem 48. Kongress der Deutschen Gesellschaft für Psychologie in Bielefeld.

Holstad, T.; Rigotti, T.; Otto, K. (2012, June): *Organizational Justice as Mediator of the Relation between Transformational Leadership and Employee Mental Health*. Oral Presentation at the 3rd IWP International Conference on Work, Wellbeing and Performance, Sheffield.

Holstad, T.; Rigotti, T. & Otto, K. (2012, September): *Immer muss ich ran! – Faire Aufgabenverteilung als Mediator zwischen transformationaler Führung und dem Wohlbefinden von Mitarbeitern.* Vortrag auf dem 48. Kongress der Deutschen Gesellschaft für Psychologie, Bielefeld.

Holstad, T.; Rigotti, T.; Otto, K.; Stempel, C. & Mohr, G. (2014, April): *Training health related leader-follower interaction: results of summative evaluations*. Paper presented at the 11th European Academy of Occupational Health Psychology Conference, London, UK.

Holstad, T.; Stempel, C.; Otto, K. & Rigotti, T. (2011, September): *Warum ist Transformationale Führung gesundheitsrelevant?* Poster presented at the „10.Tagung der Fachgruppe Gesundheitspsychologie der DGPs“, Berlin.

Holstad, T.; Werth, L. & Wegge, J. (2013, May): *Perspectives on Leadership I: Effectiveness, Diversity and Wellbeing*. Symposium at the 16th EAWOP Congress in Münster, Germany

Isaksson, K. & the Re-SU-LEAD team (2013, July): *Health promoting leadership, concepts models and behavior*. European Congress of Psychology, Stockholm, Sweden.

Isaksson, K.; Hansen, E. & Loeb, C. (2012, June): *Hälsofrämjande ledarskap – gamla och nya modeller och begrepp*. (Health promoting leadership – old and new models and concepts) Presented in FALF (Association for Swedish studies of working life) annual Congress in Karlstad.

Isaksson, K., Mohr, G., Hansen, E., Loeb C. & Stempel C. (2013, May). *Organizational interventions in a cultural context – Health promoting leadership in Germany and Sweden*. Presentation in APA-Congress, Work, Stress and Health 2013, Los Angeles CA, USA.

Kinnunen, U. & Perko, K. (2012, August): *What kind of leadership behaviour is related to sickness presenteeism?* Oral presentation at the 26th European Health Psychology Conference, Prague, Tchech Republic.

Loeb, C.; Isaksson, K. & Hansen, E. (2013, July): *Impact of a health promoting leadership intervention on emotional self-efficacy and work engagement*. Oral presentation at the 13th European Congress of Psychology (ECP, 2013), Stockholm, Sweden.

Otto, K. (2013, July): *Cultural differences in the job insecurity-job attitudes relationship: Masculinity vs. femininity as explanation*. Poster presented at the 13th European Congress of Psychology, Stockholm, Sweden.

Otto, K. & Holstad, T. (2011, September): *Gesund und leistungsfähig bleiben trotz Arbeitsplatzunsicherheit: Welche Rolle spielen Führungskraft und Team?* Oral presentation at the „7. Tagung der Fachgruppe Arbeits- und Organisationspsychologie“, Rostock.

Otto, K. & Holstad, T. (2012, September): *Leaders' perceptions of distributive justice impact their subordinates' work situation: Money doesn't matter, appreciation does.* Paper presented at the 14th International Social Justice Conference, Rishon, Israel.

Otto, K.; Holstad, T. Stempel, C. & Rigotti, T. (2014, April): *Why does abusive supervision undermine loyalty and efficacy? A decrease in health as explanation*. Paper presented at the 11th European Academy of Occupational Health Psychology Conference, London, UK.

Otto, K.; Stempel, C. R. & Holstad, T. (2013, May): *Gender and cultural differences in leaders' perceptions of being fairly rewarded for their work and their impact on subordinates' job attitudes and health.* Paper presented at the 16th European Congress of Work and Organizational Psychology, Münster, Germany.

Perko K. & Kinnunen U. (2011, November): *Transformational leadership and depressive symptoms of employees: mediating factors*. Paper presented at the National Work Life Research Congress, Tampere, Finland.

Perko, K.; Kinnunen, U. & Feldt, T. (2012, June): *Transformational leadership and depressive symptoms of employees: mediating factors.* Oral presentation at the IWP International Conference 2012 in Sheffield, UK.

Rigotti, T.; Holstad, T. & Otto, K. (2012, September): *Arbeitsplatzunsicherheitsklima – Authentische Führungskräfte als Ressource*. Vortrag auf dem 48. Kongress der Deutschen Gesellschaft für Psychologie, Bielefeld.

Stempel, C. (2012, June): “*Role congruence: a guarantee for getting leadership credit?” Does gender influence the relationship between leadership and health?* Oral presentation at the 7th Biennial International Interdisciplinary Conference,Keele University, Staffordshire, UK.

Stempel, C.; Holstad, T. & Rigotti, T. (2011, September): *Faktoren gesunder Arbeit für Frauen und Männer - eine explorative Analyse.* Poster presented at the „10. Kongress der Fachgruppe Gesundheitspsychologie der DGPs“, Berlin.

Stempel, C. & Rigotti, T. (2012, September): *“Eine Frage der Attribution?” Geschlecht als Moderator zwischen Führung und Wohlbefinden am Arbeitsplatz?* Oral presentation at the „48. Kongress der Deutschen Gesellschaft für Psychologie“, Universität Bielefeld.