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The Balance of Give and Take: Toward a Social Exchange Model of Burnout

Donner et recevoir : une question d'équilibre. Vers un modèle du burnout fondé sur l'échange social

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Abstract

Based on the notion of a disturbed balance between give and take, about a decade ago a research program on social exchange and burnout was initiated. Meanwhile, about twenty (longitudinal) studies have been carried out including more than eight thousand professionals such as teachers, physicians, nurses, police officers, prison officers, social workers, and mental disability workers. This article pulls together the results that have been obtained by the research program as well as by other researchers in the field. Based on empirical results, an integrative comprehensive social exchange model is proposed that includes three levels of social exchange with recipients, colleagues, and the organization as a whole. The hallmark of burnout – emotional exhaustion – appears to be related to lack of reciprocity at *all* three levels of social exchange. In addition, professionals who feel disadvantaged at a particular level

Résumé

À partir de l'idée d'un déséquilibre entre donner et recevoir, un programme de recherche sur le lien entre échange social et burnout a été initié il y a une dizaine d'années. Une vingtaine d'études longitudinales ont été menées. Elles portent sur plus de huit mille professionnels tels que des enseignants, des médecins, des infirmières, des policiers, des gardiens de prison, des travailleurs sociaux et des personnes travaillant auprès de handicapés mentaux. Cet article rassemble les résultats obtenus au cours de ce programme de recherche et inclut ceux produits ailleurs par d'autres chercheurs. En se basant sur les résultats empiriques, un modèle intégrateur, compréhensif, de l'échange social est proposé. Il intègre 3 niveaux de l'échange social : avec les récipiendaires, avec les collègues et avec l'organisation dans son ensemble. Il apparaît que la dimension centrale du burnout – l'épuisement professionnel – est liée au manque de réciprocité aux trois niveaux de l'échange social. De plus,

Key-words
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Mots-clés
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of exchange tend to withdraw from that *specific* relationship. Furthermore, results indicate that simple and straightforward measures of reciprocity are to be preferred above more complicated measures, that is: (1) intrapersonal measures of reciprocity that exclusively refer to one's own standards are superior to more complex interpersonal measures that include comparisons with others; (2) one-item ratings of reciprocity that are completed by the respondents are superior to researcher calculated ratio-scores of investments and outcomes.

les professionnels qui se sentent désavantagés à un niveau particulier de l'échange tendent à se retirer de cette relation spécifique. Par ailleurs, les résultats indiquent que les mesures simples et directes de la réciprocité doivent être préférées aux mesures plus sophistiquées. Plus précisément: 1) les mesures intra-personnelles de la réciprocité qui réfèrent exclusivement à ses propres standards sont supérieures aux mesures interpersonnelles plus complexes qui incluent des comparaisons avec autrui; 2) les auto-évaluations de la réciprocité basées sur un item sont supérieures aux scores calculés à partir du rapport entre les gains et les coûts.

'It is not the heavy emotional investment per se that drains the provider; rather it is an investment that has insufficient dividends' (Heifetz & Bersani, 1983, p. 61)

'It means that no matter how good you are, how much you put into this job, often you're just not going to reach the kids. I feel you put a lot more into your work than you get back. This realization is very depressing' (A science teacher, cited in Blase, 1982, p. 105)

From the outset, the a-theoretical nature of burnout research has been lamented. Burnout research has been criticized for being repetitive, non-innovative, data-driven, empiricistic, and a-theoretical (Rösing, 2003). But is burnout research really burned out, or is there still hope? By pulling together empirical results of a research program that started about a decade ago, the present article makes the case that a theoretical perspective from social exchange is fruitful in understanding the nature of burnout.

Burnout and social exchange

As is illustrated by both quotations above, burnout has often been associated with some sort of imbalance or mismatch between investments and outcomes. Although the importance of lacking reciprocity in terms of a mismatch between investments and outcomes has been recognized throughout the burnout literature, this notion has not been explored systematically. At least not until Buunk and Schaufeli (1993) made an attempt to link burnout with social exchange processes between caregivers and recipients. Their central thesis is that burnout develops primarily in the social and interpersonal context of the work organization and that in order to understand its development attention has to be paid to the way individuals perceive, interpret, and construct the behaviors of others at work. Buunk and Schaufeli (1993) follow Maslach's (1993) notion of burnout as a multidimensional syndrome that consists of emotional exhaustion, mental distancing (depersonalization and cynicism) and reduced personal accomplishment, which is rooted in the emotionally demanding interpersonal relationship between caregiver and recipient. By definition, this relationship is complementary in the human services, which is semantically well-illustrated by the terms 'caregiver' and 'recipient'. Nevertheless, professionals look for some rewards in return for their efforts; for example, they expect the recipients of their care to show gratitude, to improve, or at least make a real effort to get well. However, these expectations often remain unfulfilled because, for instance, recipients do not improve as they suffer chronically, or they take the professional's efforts for granted. Hence, it is likely that over time a lack of reciprocity develops and that the balance between give and take is disrupted. As Buunk and Schaufeli (1999) have pointed out, reciprocity plays a central role in human life and establishing reciprocal social relationships is essential for the individual's health and well-being. They argue that the strong universal preference for reciprocal interpersonal relationships is deeply rooted since it may have fostered survival and reproductive success in our evolutionary past.

In their theorizing, Buunk and Schaufeli (1993, 1999) draw heavily upon equity theory, probably the most influential social

exchange theory. According to equity theory, people pursue reciprocity in social relationships: what they invest and gain from a relationship should be proportional to the investments and gains of the other party in the relationship (Adams, 1965). Moreover, when individuals perceive relationships as inequitable they feel distressed and they are strongly motivated to restore equity (Hatfield & Sprecher, 1984; Walster, Walster, & Berscheid, 1978). Or as Freudenberger and Richelson (1980, p.175) have put it: '*Since burnout sets in when the effort spend is in inverse proportion to the reward received, it becomes imperative to balance the equation*'.

More specifically, Buunk and Schaufeli (1993) assumed that lack of reciprocity, or an unbalanced helping relationship, drains the professional's emotional resources and eventually leads to emotional exhaustion – a hallmark of burnout. Initially, when the expected outcomes do not occur caregivers are likely to invest more effort in their relationships with recipients. When this does not pay off in terms of better outcomes, the imbalance increases and resources are further depleted, resulting a so-called 'loss spiral' (Hobfoll & Shirom, 2000). For most professionals, investing in a relationship without receiving appropriate outcomes is a highly energy consuming, extremely depressing and frustrating. The resulting emotional exhaustion is typically dealt with by decreasing investments in the relationships with recipients. That is, by responding to recipients in a depersonalized way instead of expressing genuine empathic concern. Hence, according to Buunk and Schaufeli (1993) depersonalization – the second burnout component – can be regarded as a way of restoring reciprocity by withdrawing psychologically from recipients. Depersonalization involves a negative, callous, indifferent, or overly detached attitude to others. However, this way of coping is dysfunctional since it deteriorates the helping relationship, increases failures and thus fosters a sense of diminished personal accomplishment – the third burnout component that is characterized by feelings of incompetence and doubts about one's work achievements.

Equity theory not only applies to the interpersonal level, but also to the organizational level where similar social exchange processes govern the relationship of employees with their orga-

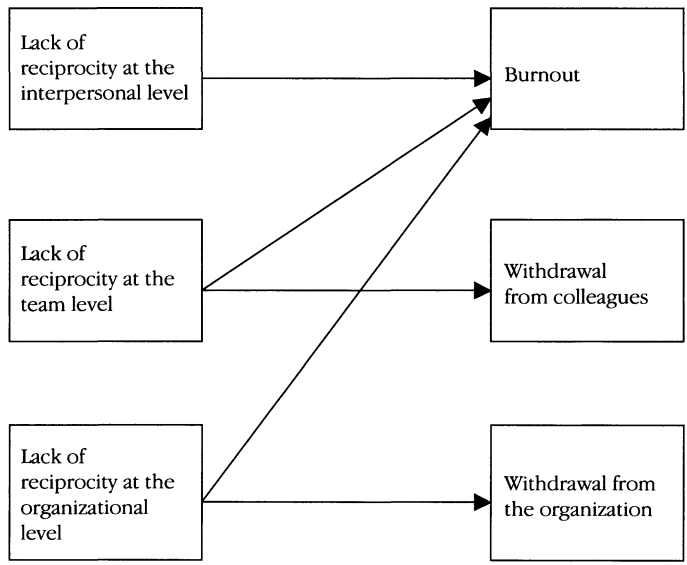
nization. Therefore, Schaufeli, Van Dierendonck and Van Gorp (1996) have proposed a *dual*-level social exchange model that assumes that in addition to an unbalanced relationship at the interpersonal level, burnout is also caused by lack of reciprocity at the organizational level – that is, by a violation of the so-called psychological contract. The notion of psychological contract refers to the expectations held by employees about the nature of their exchange with the organization (Rousseau, 1995). It reflects the employees' subjective notion of reciprocity: the gains or outcomes from the organization are expected to be proportional to one's own investments or inputs. When the psychological contract is violated and reciprocity is corroded, this not only might lead to psychological distress (emotional exhaustion), but also a host of negative work outcomes is likely to occur, including the intention to quit, turnover, job dissatisfaction (Robinson & Rousseau, 1994), employee theft (Cropanzano & Greenberg, 1997), cynicism (Anderson, 1996), poor organizational commitment (Guzzo & Noonan, 1994), and absenteeism (De Boer, Bakker, Syroit & Schaufeli, 2002). From the perspective of equity theory, these responses to a violation of the psychological contract may be interpreted in terms of restoring reciprocity, either by *in*creasing one's outcomes (employee theft, illegitimate absenteeism) or by *de*creasing one's investments: withdrawing psychologically (cynicism, reduced commitment) or behaviorally (turnover, absenteeism).

In addition to the individual level and the organizational level, social exchange processes also play a role in work teams among colleagues. For instance, Buunk and Hoorens (1992) found some evidence that employees keep a 'support bookkeeping' that is based on the balance between giving and receiving support from others in their team. Given the centrality of the relationships with colleagues for work related outcomes, it seems plausible to expect that lack of reciprocity in the exchange relationship with one's colleagues is an important determinant of burnout as well. Therefore, Taris, Schaufeli, Van Horn, and Schreurs (2004), added a third level at which social exchange processes may lead to burnout: the work team. They reasoned that team members who experience an imbalance between their investments in and their outcomes from the work team are likely to withdraw psychologi-

cally by depersonalizing their colleagues in an attempt to restore reciprocity.

Figure 1 summarizes the specific relationships between social exchange processes at three levels and their assumed outcomes that constitute the basis of our research program. Lack of reciprocity at *all* three levels of social exchange is expected to be associated with distress (emotional exhaustion), as well as with attempts to restore the balance of give and take at that *specific* level of exchange. This agrees with Lazarus and Folkman (1984) who distinguish between strains and coping behaviors. Strains – such as emotional exhaustion – may be considered generic outcomes, in the sense that they are likely to result from *any* disturbed exchange relationship. In contrast, coping behaviors – such as withdrawal – are tightly linked to *particular* exchange relationships.

Figure 1:
Burnout at withdrawal at different levels of social exchange.



Before discussing the findings of our research program on social exchange and burnout, it is imperative to make a brief note about the central concept of reciprocity.

Reciprocity: concept and measurement

In Adams' (1965) seminal paper, the degree to which an exchange relationship is equitable is expressed in terms of the ratios of the investments and outcomes of one party and those of the other party, respectively. If one outweighs the other, inequity or lack of reciprocity exists, whereby equity is defined by as '*...the equality of exchange between parties*' (Adams, 1965; p. 278). It has been correctly noted by Chadwick-Jones (1976, p. 234) that equity and reciprocity – as used in Adam's original equity theory – are *'almost identical terms'*; both involve the comparison of the ratio of own investments and outcomes to that of another party. We prefer to use 'reciprocity' because this term is slightly more generic than 'equity', and because some of our operationalizations differs from the classical equity formula (see below).

Pritchard (1969) criticized the measurement of equity by means of Adam's (1965) classical formula because it neglects the role of one's internal standard as a means for comparison. This internal standard refers to '*... the amount of outcome Person perceives as being commensurate with his own inputs, without regard to any comparison person*' (p. 205; Underscore in the original). According to Pritchard, rather than *inter*personal comparisons as proposed in classical equity theory, *intra*personal comparisons play a crucial role in exchange processes. The internal standard is largely based on one's past experience in similar exchange relationships. Thus, in a sense intrapersonal comparison is a form of interpersonal comparison where the comparison other is substituted by one's own previous experiences. Following this lead, reciprocity is defined here as *the equality of one's perceived investments in and benefits from an exchange relationship, relative to the person's own internal standards regarding this relationship*.

As several operationalizations of reciprocity exist an important issue is whether or not these measures can be used interchangeably. Research on the concurrent validity of reciprocity measures is scarce and the results seem to be at odds with each other. For instance, whereas Prins, Buunk and Van Yperen (1993) asserted that different assessments of reciprocity led to similar results,

Lujansky and Mikula (1983) reported poor intercorrelations between interpersonal and intrapersonal measures. Therefore, one of the aims of the research program is to asses the concurrent validity of various measures of reciprocity in predicting outcomes, most notably burnout (see the section on the measurement of reciprocity). Six different kinds of operationalizations of (lack of) reciprocity were used:

1. Adam's (1965) classical interpersonal equity formula, based on single ratings of one's own and other's investments and outcomes. Typically, first some examples of investments in and outcomes from the relationship with, for instance, recipients are described (e.g. time, patience, effort, appreciation, and gratitude). Next, four questions are asked about the investments in the relationship of both parties and about their outcomes; for instance; '*Overall, how much do you feel you put into the relationship with recipients*?' and '*Overall, how much do you feel recipients put into the relationship with you*?' (e.g., Van Dierendonck, Schaufeli & Buunk, 2001). Instead of recipients, one's colleagues may also act as comparison other: e.g. '*How much do your immediate colleagues invest in the relationships with patients*' (e.g., Smets, Visser, Oort, Schaufeli & De Haes, 2004).
2. Adam's classical interpersonal equity formula, based on multiple-item scales for one's own and other's investments and outcomes. For instance: '*How much do you feel you invest in your work in terms of skills and energy*?' (own investments) and '*How much do you feel you get in return from you work in terms of income and job benefits*?' (own outcomes) (e.g., Taris, Kalimo & Schaufeli, 2002).
3. The intrapersonal ratio of one's own outcomes relative to one's own investments, based on a single rating of each. Sample items: '*How much do you invest in the relationship with your patients*?' and '*How much do you receive in return from this relationship*?' (e.g., Smets *et al.*, 2004).
4. Hatfield's Global Measure of reciprocity (Hatfield, Traupman, Sprecher & Hay, 1985) that requests respondents to consider their investments in and outcomes from the relation involved, and then asks them to endorse the answer that best characterizes this relationship, using a seven-point rating scale. For

instance, '*The organization invests much more than it gains from me*' (+3); '*The organization and I invest and gain equally*' (0); '*I invest much more in my work than I gain from the organization*' (-3). (e.g., Van Dierendonck, Schaufeli & Buunk, 1996).

5. Multi-item scales that assess intrapersonal lack of reciprocity and that include such items as: '*I spend much time and consideration with my patients, but they gave me little appreciation back in return*' and '*I benefit little from the effort I put in the organization*' (e.g., Schaufeli, *et al.*, 1996).
6. The intrapersonal ratio of one's own outcomes relative to one's own investments, based on multiple-item scales. Sample items: '*How much do you invest in motivating your students*' and '*How much do you invest in coaching your students individually*' (investment in recipients); '*How much appreciation do your students have for you*', '*How much satisfaction do you get from your student's personal growth*' (outcomes from recipients) (e.g., Van Horn, Schaufeli & Taris, 2001).

A second issue of concern is whether inequity has curvilinear effects on the outcome variables rather than linear effects only. According to Adams (1965), receiving too little (underbenefited) as well as receiving too much (overbenefited) should result in negative outcomes. When the ratio between own investments and outcomes equals the ratio of others, the optimum level for the outcome variables is obtained (reciprocity). In intrapersonal approaches the optimum level is reached when one's perceived investments equal one's perceived outcomes. It might seem counterintuitive that human services professionals who feel overbenefited in their relationships with recipients may feel bad, but they often consider their job as a calling. Therefore, they are likely to be deeply personally involved in their relationships with recipients and, thus, as in intimate relationships, feeling overbenefited might induce negative feelings. Hence, in our research program we not only evaluated linear effects of lacking reciprocity, but also curvilinear effects (see the section on the measurement of reciprocity).

Is the balance between give and take disturbed in the human services?

In order to answer this question we carried out a number of studies that are listed in Appendix 1. Table 1 summarizes the results of Appendix 1 and shows the average proportions of (lack of) reciprocity across different samples and across different (intrapersonal and interpersonal) measures of reciprocity.

Table 1: Average proportion of perceived reciprocity (%).

Level of social exchange	k	i	N	Underbenefited	Balanced	Overbenefited
Recipients	5	8	4,077	56	37	7
Colleagues	2	3	3,525	29	66	5
Organization	4	7	1,987	65	27	6

Note: Based on Appendix 1; k = number of samples; i = number of reciprocity indices evaluated; N = total number of respondents.

Two general conclusions can be drawn. First, as Table 1 shows, lack of reciprocity is most often experienced in the relationship with the organization, followed by recipients and colleagues, respectively. This trend is even more striking when different social exchange relationships *within the same study* are compared; for instance, Van Horn and Schaufeli (1996) found that 41% of the teachers in their sample felt underbenefited with regard to their students, whereas 76% felt underbenefited with regard to their school. As can be inferred from Appendix 1, comparable differences between interpersonal reciprocity and organizational reciprocity were found for medical specialists (Smets, *et al.*, 2004), police officers (Kop, Euwema & Schaufeli, 1999)[1], staff working with the mentally handicapped (Van Dierendonck, Schaufeli & Buunk, 1996), and nurses (Van Yperen, 1995) The only exception are therapists from a forensic psychiatric center of whom 84% (sic!) felt underbenefited in their relationship with recipients, against 'only' 82% with the organization (Van Dierendonck, Schaufeli & Buunk, 1996). A minority of 10% of this sample felt that their investments and outcomes in the relationship with mentally disturbed criminal offenders were

1. Based on mean differences that are not represented in Appendix 1.

in balance – by far the lowest proportion. This might be explained by the fact that most criminal offenders suffer from severe personality disorders that are characterized by the very inability to reciprocate and thus maintain social relationships. Quite remarkably, the highest proportion of advantaged employees (24%) was found in the only non-human survives sample – a representative sample of the Finnish working population – which suggests that the balance of give and take is particularly disrupted among those who do people work.
In conclusion: the balance between give and take is indeed disrupted among human services professionals, not only as far as the recipients and the colleagues are concerned, but particularly with regard to the organization. As will be discussed below, this result was likewise observed for intrapersonal and interpersonal measures of reciprocity.

Lack of reciprocity and burnout

Table 2 summarizes the results of the studies on burnout and lack of reciprocity that are described in greater detail in Appendices 2-4. Both the unweighted average correlation as well as the average correlation that is weighted for sample size are presented.

Level of social exchange	k	N	EEX		DEP		RPA	
			U	W	U	W	U	W
Recipients	27	11,385	.26	.20	.22	.17	.19	.12
Colleagues	11	8,222	.20	.14	.07	.05	.09	.07
Organization	17	9,599	.21	.20	.13	.13	.11	.12

Note: Based on Appendix 2; k = number of samples; N = total number of respondents; EEX = emotional exhaustion; DEP = depersonalization; RPA = reduced personal accomplishment; correlations are weighted for sample size; U = unweighted; W = weighted.

Table 2: Average (un)weighted correlations between burnout and perceived lack of reciprocity at three levels of social exchange.

Indeed, the mean correlations are strongest between emotional exhaustion and lack of reciprocity at *all* three levels of social exchange, with the highest correlation for the interpersonal level of social exchange with recipients. Furthermore, and consistent with expectations, the correlation of depersonalization with reciprocity at the interpersonal level is stronger than with reciprocity at the team level and at the organizational level. Finally, the correlation between lack of personal accomplishment and reciprocity

at the interpersonal level is relatively high. Hence, lack of reciprocity at the interpersonal level is positively related with *all* three burnout dimensions: the less professionals feel that they get back from their investments in relationships with recipients, the more they feel exhausted, the stronger they depersonalize their recipients, and more their sense of accomplishment is diminished.

It should be noted, though, that the average correlations in Table 2 are not very impressive. One possible explanation for these rather low correlations is that instead of linearly related, burnout and reciprocity are curvilinearly related (see the next section). Furthermore, as can be seen from Appendices 2-4 the size of the correlations fluctuates considerably across samples from virtually zero to almost.70. In addition to sample effects, this large variation might be due to different operationalizations of reciprocity. For instance, correlations with multi-item scales are consistently higher than with single-item measures or with ratio scores[2] (see the section on the measurement of reciprocity). Nevertheless, without any exception, all correlations are in the expected, positive direction.

In conclusion: anticipated, lack of reciprocity at *all* three levels of social exchange is positively related to emotional exhaustion, whereas, in addition, lack of reciprocity in the relationship with recipients is also positively related to depersonalization and reduced personal accomplishment.

Reciprocity with recipients and burnout[3]

Of course, lack of reciprocity with recipients is not the only stressor that human services professionals face. In their review of the burnout literature Schaufeli and Enzmann (1998; pp. 81-85) discuss many other potential causes of burnout of whom work overload, role problems, and lack of social support seem to be

2. For reciprocity at the interpersonal level average (unweighted) correlations of emotional exhaustion, depersonalization and reduced personal accomplishment with multi-item measures are .40, .38. and .28, respectively, against .18, ,13, and .14 with single-item measures and ratio-scores. For the organizational level the corresponding average correlations are: .36, .23, and .20, against .16, .11, and .10, respectively.

3. As the detailed account of research findings in the section below and in the section on reciprocity at various levels of exchange might be somewhat difficult to follow, the reader is advised to consult Figure 4 that integrates and summarizes the main research findings.

the most prominent. Hence, it is important to assess the strengths of the relationship between lack of reciprocity and burnout when such stressors are controlled for. In other words, does lack of reciprocity explain a significant and unique proportion of variance in burnout after the effects of work stressors or other relevant variables such as biographical characteristics are accounted for?

Based on several studies, this question can be answered affirmative. For instance, in a sample of prison guards a significant effect of lack of reciprocity was found on *all* three dimensions of burnout after controlling for workload, role conflict, and specific prison related stressors such as aggression and violence from inmates (Schaufeli, Van den Eijnden & Brouwers, 1994). In a similar vein, among teachers, reciprocity was significantly related to *all* three burnout dimensions, when controlled for age, gender, number of hours worked, and teaching experience (Van Horn, Schaufeli & Taris, 2001). Furthermore, in two samples of Polish and Dutch nurses, lack of reciprocity was associated with *all* three levels of burnout, not only after controlling for work stressors (uncertainty and lack of control), but also for personality (self-esteem and emotional reactivity), hours worked, and team size (Schaufeli & Janczur, 1994). The fact that similar results were obtained in both national samples lends further credence to the validity of the research findings. Moreover, it was shown in a sample of intimate partners, who cared for their spouses who suffered from either cancer or from multiple sclerosis, that the relationship between caregiver burnout and lack of reciprocity held when marital quality, gender, the duration of the illness, the physical and psychological condition of the ill partner, and support from other persons were controlled for (Ybema, Kuijer, Hagedoorn & Buunk, 2002).

However, Van Horn and Schaufeli (1996) using a sample of primary and secondary teachers, failed to observe a significant relationship between lack of reciprocity with students and burnout. Two years later their study was replicated with one important difference: instead of the researchers calculating the investments-outcome ratio, Hatfield's global, single-item measure was used which requires the teachers to asses their balance of give and take themselves (Peeters, Geurts & Van Horn,

1998). This time, lack of reciprocity was significantly and positively related to *all* three burnout dimensions, also when controlled for age, gender, type of school, number of hours worked, and teaching experience.

Taken together, lack of reciprocity with recipients is positively related to burnout, also after controlling for various work stressors, interpersonal characteristics, personality characteristics, and demographic variables. Up to 10% of the variance in burnout is uniquely explained by lack of reciprocity; that is, after the effects of other relevant variables have been partialled out. Moreover, it seems that a global single-item rating of reciprocity yields better results than a similar ratio-score that is calculated by the researchers.

All previous studies were all cross-sectional in nature. But what about longitudinal effects; does lack of reciprocity predict burnout over time? A longitudinal study among a representative sample of Dutch general practitioners spanning five years sheds light on this question. In the initial cross-sectional study at Time 1 (Van Dierendonck, Schaufeli & Sixma, 1994) a structural equation model was tested that assumed that harassment by patients would lead to lack of reciprocity, which in turn would provoke emotional exhaustion followed by the development of negative attitudes (i.e. depersonalization and lack of personal accomplishment). Most importantly, it was reasoned that these negative attitudes would worsen the doctor-patient relationship and foster harassment by patients. In other words, a circular process was assumed: patient harassment → lack of reciprocity → emotional exhaustion → negative attitudes → patient harassment (see Figure 4). It appeared that this hypothesized model fitted quite well to the cross-sectional data. Five years later a follow-up was conducted so that the model could be studied longitudinally. As expected, it was found that negative attitudes towards patients at Time 1 increase the likelihood of being harassed by them five years later at Time 2, which fosters a lack of reciprocity and eventually leads to burnout (Bakker, Schaufeli, Sixma, Bosveld, & Van Dierendonck, 1998). Thus, a lack of reciprocity in the caregiver-recipient relationship seems to play an important role in the development of burnout through the impairment of the quality of the doctor-patient relationship.

As previously noted, equity theory predicts a curvilinear or U-shaped relationship between reciprocity and burnout. Indeed, it was found among health care professionals that feeling deprived or underbenefited in the relationship with recipients *as well* as feeling advantaged or overbenefited results in higher future exhaustion levels, as measured at the one-year follow up (Van Dierendonck, Schaufeli and Buunk; 2001). In contrast, *no* indication was found for a longitudinal (curvilinear) relation between reciprocity and depersonalization and reduced personal accomplishment. The U-shaped relationship between reciprocity and emotional exhaustion that is depicted in Figure 2 has two rather unexpected characteristics, though.

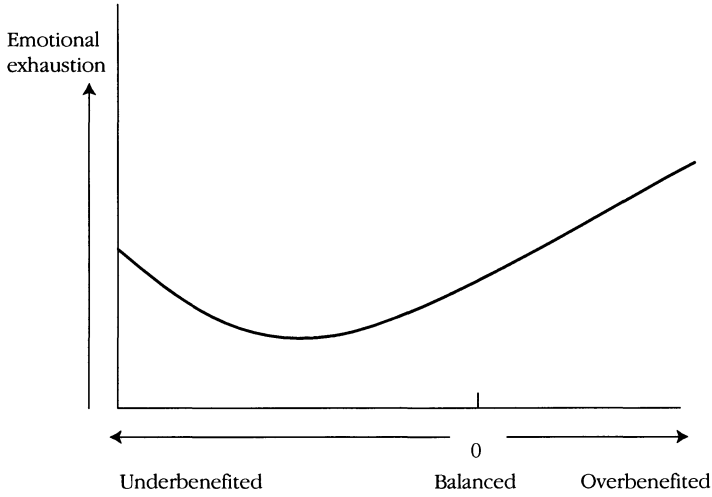


Figure 2:
Curvilinear relation between reciprocity in the relationship with recipients (Time 1) and emotional exhaustion (Time 2).

Note: Adapted from Van Dierendonck, Schaufeli & Buunk (1996, p.48).

First, contrary to what equity theory predicts, rather than feeling underbenefited feeling *over*benefited leads to higher future exhaustion scores. A similar relationship is also found in a cross-sectional study among therapists from a forensic psychiatric clinic (Van Dierendonck, *et al.*, 2001).

Secondly, and again contrary to what equity theory predicts, the lowest level of exhaustion was observed for the deprived or underbenefited relationship and *not* for the balanced relationship with patients. Obviously, an advantaged relationship runs

counter to the professional's attitude – which is directed at giving – in such a strong way that it might become stressful in itself. Recently, Truchot and Badré (2006) offered an interesting explanation for this intriguing result by discriminating between two different helping paradigms. The medical model that is predominant in health care settings, assumes that patients are 'victims' who are supposed to accept their fate passively and follow the prescription of the expert. Hence, the investment of the patient in the relationship with the health professional is expected to be low. Patients are considered uncooperative when they resist their passive role. Health professionals might burn-out because the perceived investments of their active patients exceed their own investments. On the other hand, the compensatory model, that is predominant in social work settings, assumes that clients are 'active agents' who are responsible for the solution of their own problems. Hence, their investments in the helping relationship are expected to be high. Recipients are perceived as uncooperative when they do not act as active agents. Social workers might burn-out when the investments of their passive clients are perceived to be low compared to their own investments. Using a vignet study among French nurses and social workers Truchot and Badré (2006) found that, as expected, nurses who were confronted with the overbenefice scenario experienced more burnout compared to nurses who were confronted with the underbenefice scenario. For social workers, the reverse was observed. As far as nurses are concerned, these findings agree with those of both studies by Van Dierendonck, Schaufeli, and Buunk (1996, 2001). Hence, it seems that in medical settings feeling *over*benefited in the relationship with patients rather than feeling *under*benefited may act as a risk-factor for developing burnout.

In a study among hospital nurses, Van Yperen, Schaufeli and Buunk (1992) showed the moderating role of a particular personality characteristic. It appeared that nurses who perceived a lack of reciprocity in the relationship with their patients *and* who were low in communal orientation (i.e. do not have the desire to give and receive benefits in response to the needs of others) exhibited high levels on all three burnout dimensions. This result was replicated in an independent study among hospice nurses

(Van Yperen, 1995), but not among medical specialists (Smets, *et al.*, 2004). As illustrated by the results of Truchot and Deregard (2001) it is again important to take the type of helping paradigm into consideration. In their study, they observed the buffering role of communal orientation on burnout only among professionals who endorsed the medical model but *not* among those who adhered to the compensatory model. Under the medical model lack of reciprocity is not troublesome for those who are high in communal orientation – that is, who are responsive to the needs of others – because the investments of the patients are expected to be lower than the investments of the professional anyway. In that case low investments of patients go along with high investments of professionals. On the other hand, when communal orientation is low, lack of reciprocity is associated with high levels of burnout.

One study investigated the relationship between lack of reciprocity and burnout within as well as *outside* the work setting (Bakker, Schaufeli, Demerouti, Janssen, Van der Hulst & Brouwer, 2000). It was found that among teachers lack of reciprocity in the intimate relationship with one's partner was related to depression (and not to burnout), whereas lack of reciprocity in the relationship with students was related to burnout (and only indirectly to depression). Accordingly, burnout and depression are both linked with similar social exchange processes, which, however, occur in different domains: burnout is related to lack of reciprocity in the professional domain and not in the private domain.

In conclusion: lack of reciprocity at the interpersonal level is clearly and convincingly related to *all* three dimensions of burnout, even after controlled for a host of variables such as work stressors, interpersonal characteristics, personality characteristics, and demographics. Also, there is some evidence for the role of lack of reciprocity in the development of burnout, namely through a progressive deterioration of the quality of the caregiver-recipient relationship. Furthermore, reciprocity is curvilinearly related to burnout (i.e. exhaustion), both cross-sectionally as well as longitudinally. However, against expectations, instead of feeling underbenefited, feeling overbenefited is more strongly related to burnout, which seems to be

specific for health care settings where the medical helping model prevails. A low level of communal orientation, or being less responsive to the needs of others, appears to be a protective factor for burnout, at least for nurses working in health care settings. Finally, the relationship between lack of reciprocity and burnout seems to be specific for the professionals working with other people in the human services.

Reciprocity with the organization and burnout

Several studies were conducted to specifically explore social exchange processes at the organizational level in relation to burnout. In a study among mental health care professionals, a structural equation model was successfully tested that assumed that lack of reciprocity with the organization affected both emotional exhaustion and the intention to leave the organization (Geurts, Schaufeli, & De Jonge, 1998). Both effects appeared about equally strong. Furthermore, lack of reciprocity with the organization seemed to follow from negative communication about management; the more negative the professionals rated their communication with management the more unbalanced their relationship with the organization. Finally, emotional exhaustion played a mediating role between lack of reciprocity and depersonalization (see Figure 4). Somewhat similar findings were obtained in a longitudinal study among teachers, again using structural equation modeling (Taris, Schaufeli, De Boer, Schreurs & Caljé, 2000): lack of reciprocity with the organization was associated with emotional exhaustion, psychosomatic complaints, poor organizational commitment, and future absenteeism. Furthermore, it was observed among mental retardation staff and among therapists working with mentally disturbed criminal offenders (Van Dierendonck, Schaufeli & Buunk, 1996) as well as among nurses (Van Yperen, 1995, 1998) that lack of reciprocity with the organization is related to emotional exhaustion, but *not* to depersonalization. In short; these result suggest that lack of reciprocity at the organizational level seems to have two major consequences: emotional exhaustion and withdrawal from the organization.

Van Yperen (1998) demonstrated the role of self-efficacy as a moderator that ameliorates the negative effects of poor informational support of maternity nurses on their perceived levels of reciprocity with the organization. That is, particularly nurses with low levels of self-efficacy experienced a lack of reciprocity with the organization when they received little information about organizational goals and policy issues, new equipment, new work processes, and service levels (see Figure 4).

A study among a representative sample of the Finnish working population revealed that lack of reciprocity with the organization (partly) mediated the relationship between past and future downsizing on the one hand, and burnout and health complaints on the other hand (Kalimo, Taris & Schaufeli, 2003). Having experienced downsizing in the past, or the anticipation of downsizing in the future, was associated with a disturbed balance between low work outcomes and high work investments. In its turn, this disturbed balance was associated with elevated levels of exhaustion, health complaints and reduced professional efficacy[4]. In accordance with Geurts, *et al.* (1998) lack of reciprocity affected cynicism indirectly via exhaustion (see Figure 4). Another study using the same sample revealed that, instead of curvilinearly related, lack of reciprocity with the organization was linearly related with burnout (Taris, Kalimo & Schaufeli, 2002). More particularly, the underbenefited group showed the highest burnout scores, whereas the balanced group and the overbenefited group exhibited similar but lower burnout scores. This result differs from the results among human services professionals where the *over*benefited group showed the most elevated burnout (emotional exhaustion) levels (see Figure 2). Hence, instead of a U-shaped relationship, as expected by equity theory and as observed among human services professionals (Van Dierendonck, *et al.*, 1996; 2001), a J-shaped relationship is observed among the general working population: those who felt disadvantaged reported elevated levels of distress, whereas those

4. This study used the MBI-General Survey (Schaufeli, Leiter, Maslach & Jackson, 1996) that is equivalent to the original MBI, except that it also can be used outside the human services. The labels of the three MBI-GS scales have been slightly renamed in exhaustion (emotional exhaustion), cynicism (depersonalization), and professional efficacy (personal accomplishment).

who either felt in balance with their organization or who felt advantaged had lower distress scores.

Last but not least, a series of studies have confirmed the organizational withdrawal hypothesis, showing direct as well as indirect effects of lack of reciprocity with the organization on various organizational outcome measures. For instance, a direct effect was observed on registered (future) absenteeism among mental health professionals (Geurts, Schaufeli & Rutte, 1999), bus drivers (Geurts, Schaufeli & Buunk, 1993), blue collar workers (Geurts, Buunk & Schaufeli, 1994; Van Yperen, Hagedoorn, & Geurts, 1996), and teachers (Taris, *et al.*, 2000). Additional *in*direct effects were observed of a lack of reciprocity at the organizational level on absenteeism via health complaints (Taris, *et al.*, 2000; De Boer, *et al.*, 2002), conflicts with superiors (Geurts et al., 1993) and tolerant absence norms (Geurts *et al.*, 1994). In addition to absenteeism, lack of reciprocity with the organization is also associated with resentment (Geurts, *et al.*, 1999), turnover intention (Van Yperen, 1995; Van Yperen *et al.*, 1996; Geurts *et al.*, 1999), and organizational commitment (Taris *et al.*, 2000). These direct and indirect relationships are depicted at the bottom of Figure 4.

In conclusion: in accordance with equity theory, lack of reciprocity at the organizational level is related to distress (emotional exhaustion and health complaints), as well as to behavioral withdrawal (sickness absenteeism) and psychological withdrawal (turnover intention, poor organizational commitment). In addition, a disrupted balance of give and take with the organization seems to act as a mediator between work stressors (i.e., poor informational support, and past or anticipated downsizing) on the one hand and distress and organizational withdrawal on the other hand. Finally, depersonalization seems either not affected by lack of reciprocity at the organizational level, or indirectly effected via emotional exhaustion.

Reciprocity at various levels of exchange and burnout

The previous results pertain exclusively to lack of reciprocity in the relationship with either recipients *or* with the organization. But how does the picture look when social exchange processes at different levels are investigated simultaneously?

Using the data of two previously conducted independent studies among student nurses (Van Gorp, Schaufeli & Hopstaken, 1993; Van Dierendonck & Schaufeli, 1993), Schaufeli and Van Dierendonck (1996) successfully tested a dual-level social exchange model. It appeared from structural equation analyses that lack of reciprocity at the organizational level was about equally strongly related to burnout as lack of reciprocity at the patient level. In addition, as expected, when student nurses felt that they put more into the relationship with the hospital compared to what they received in return, their commitment to the hospital was quite low.

The study of Schaufeli and Van Dierendonck (1996) used a latent burnout construct that subsumed all three burnout dimensions so that the differential effects of reciprocity on each of the burnout dimension separately could not be assessed. This was done in a study among a national representative sample of medical specialists by Smets et al. (in press), that in addition to the interpersonal and organizational levels of social exchange also included reciprocity at the team level. Using a series of general linear models, Smets *et al.* (2004) found that lack of reciprocity at the interpersonal level was associated with emotional exhaustion and with depersonalization, whereas lack of reciprocity at team and organizational levels was exclusively related to emotional exhaustion. All relationships between reciprocity and burnout were linear, with only one notable exception: both under- as well as overbenefited medical specialists reported more depersonalization than those who perceived their relationship with patients to be balanced. This result agrees with the prediction of equity theory.

In a somewhat similar vein, using a sample of teachers Van Horn, Schaufeli and Taris (2001) carried out a series of hierarchical linear regression analyses with the three burnout dimensions, organizational commitment, and psychosomatic complaints as

dependent variables. Lack of reciprocity in the relationship with students (recipients), colleagues (team) and the school (organization) were entered as independent variables, while controlling for age, gender, hours employed, and years of teaching experience. It appeared that, as expected; (1) lack of reciprocity with students was associated with *all* three burnout dimensions as well as with psychosomatic complaints; (2) lack of reciprocity with colleagues was associated with emotional exhaustion, and; (3) lack of reciprocity with the school was associated with poor organizational commitment (see Figure 4). The expected association of lacking reciprocity at school level with emotional exhaustion was *not* observed. The study of Van Horn et al. (2001) also assessed the relationships of work stressors with reciprocity at various levels. As expected: (1) stress related to students (i.e. students misbehavior, lack of interest and motivation), stress related to teaching (i.e. inadequate teaching materials, too many hours teaching), and time pressure (i.e. lack of time to coach students or to prepare classes) were related to lack of reciprocity with students; (2) stress related to colleagues who are incompetent or unreliable was related to lack of reciprocity with colleagues, and; (3) stress related to poor school management was related to lack of reciprocity with the school (see Figure 4). All relationships held after controlling for age, gender, hours employed, and years of teaching experience. So, taken together, two important conclusions can be drawn from the study of Van Horn *et al.* (2001). First, lack of reciprocity at each of the three levels – student, colleagues and school – is associated with *specific* stressors that correspond with these levels – explaining between 7% and 19% of the variance. Second, lack of reciprocity at each of the three levels is associated with *specific* outcomes, at least as far as the interpersonal and organizational levels are concerned – explaining between 3% and 8% of the variance.

Using a different sample of teachers and another way of data-analyses – structural equation modeling – Taris et al. (2004) corroborated the results of the previous study as far as the outcome variables are concerned, at least cross-sectionally. However, they failed to replicate the results longitudinally. Instead, and contrary to expectations, some indications were found for *reverse* causation. That is, withdrawal form students

and colleagues seems to *increase* to disturbed balance of give and take. This result suggests that psychological withdrawal – depersonalizing students and colleagues – is not an effective strategy to obtain a more equitable balance between investments and benefits. Rather, it seems that withdrawal further deteriorates the relationship with students, leading to a even greater mismatch. This is compatible with the previously discussed longitudinal study among general practitioners (Bakker *et al.*, 1998).

Equity theory provides an elegant interpretation of this finding, which is depicted as a negative feedback loop at the top of Figure 4. Exchange processes are by definition complementary, meaning that one party's investments are the other party's benefits, and vice versa. This is particularly true in helping relationships. Thus, if the professional decides to lower his or her investments, the recipient will see his or her benefits gained from the relationship decrease. As *both* parties strive to a rewarding exchange relationship, the recipient will decrease the investments in the relationship as well, which makes the relationship even less rewarding for the professional, and so on. If this reasoning is correct, it would seem that psychological withdrawal from an exchange relationship is a particularly effective way to destroy the helping potential of that relationship.

Finally, Van Dierendonck, Schaufeli and Buunk (1998) evaluated an intervention program among mental retardation staff that was designed to reduce the lack of reciprocity resulting from a discrepancy between goals and expectations concerning recipients and organization on the one hand, and the everyday reality of the job on the other hand. Significant intervention effects in the expected direction were observed for lack of reciprocity with the organization, emotional exhaustion, and registered absence duration. Compared to both control groups within and outside the organization, in the experimental group levels of emotional exhaustion and absence duration dropped, whereas perceived reciprocity in the relationship with the organization increased. These positive changes were quite stable and still existed at the one-year follow up.

In conclusion: it seems that, indeed, three different levels of social exchange can be distinguished that have a *generic* effect when the balance of give and take is disturbed – distress or

emotional exhaustion. In addition, *specific* withdrawal effects are observed: lack of reciprocity with recipients is related to withdrawal from recipients (depersonalization), lack of reciprocity with colleagues is related to withdrawal from colleagues (mental distancing), and lack of reciprocity is related to withdrawal from the organization (poor organizational commitment). However, it seems that instead of restoring the balance of give and take, withdrawal leads to a further disruption. Finally, the balance of give and take with the organization can be improved by a group-based intervention program that leads to concomitant positive changes in levels of emotional exhaustion and sickness absenteeism.

The measurement of reciprocity

Throughout the current article different operationalizations of reciprocity have been used (see above). But what do we know about their concurrent validity? That is, to what extent do these measures overlap or produce different results?

A broad distinction can be made between reciprocity measures that are based on *inter*personal comparisons with relevant others versus *intra*personal reciprocity measures that are exclusively based on one's own internal standards. The correlations between both types of measures do *not* suggest that they are identical; the average correlation across four samples is.58, ranging from.35 to.73 (Smets *et al.*, 2004; Van Dierendonck *et al.*, 1996; Taris, *et al.*, 2004). Although both types of measures share between 12% and 53% of their variance, they produce quite comparable estimations of proportions of professionals who feel balanced, over- or underbenefited at various levels of social exchange (see Appendix 1). For instance, in one study among therapists intrapersonal and interpersonal measures produced *exactly* the same results (Van Dierendonck *et al.*, 1996), whereas in another four cases quite similar estimates were obtained (Van Dierendonck et al., 1996; Smets *et al.*, in press)[5]. Although in the remaining three cases more or less substantial differences were found (Smets *et al.*, 2004; Kalimo *et al.*, 2003)[5], the relative distribution across the

5. Both studies include estimations at various levels of social exchange: recipients, colleagues, and organization.

three categories (i.e., balanced, over-, and underbenefited) remained similar irrespective of the measure that was used. It can therefore be concluded that – by and large – intrapersonal and interpersonal measures of reciprocity produce similar estimated proportions of (lacking) reciprocity.

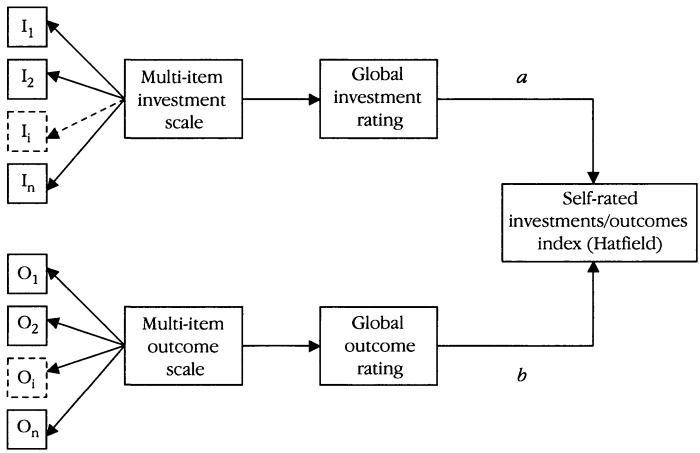
Two studies were carried out that allow to assess the concurrent validity of interpersonal and intrapersonal measures of reciprocity vis-à-vis burnout. Basing themselves on classical equity theory, Taris *et al.* (2002) set out to test the hypothesis that interpersonal measures of reciprocity are superior to intrapersonal measures. However, their study revealed that both measures produced remarkably *similar* results, both in terms of linear and non-linear effects, as well as in terms of strength of associations with outcomes variables such as burnout, sickness absence, and health complaints. The authors conclude that, given these similarities, their hypothesis is *not* confirmed so that that it would be impossible to prefer either of the measures above the other. However, they also noted that the interpersonal measure is conceptually more complex than the intrapersonal measure because it includes a comparison with others. Obviously, the inclusion of this extra information about the perceived investments and outcomes of others does *not* result in a better measure of reciprocity. Even more so, Smets *et al.* (2004), found that intrapersonal measures performed *better* than interpersonal measures. In their study, lack of reciprocity at three levels of social exchange (i.e., patients, colleagues, and hospital) explained 6%, 2%, and 2% of the variance in emotional exhaustion, depersonalization, and reduced personal accomplishment, respectively when intrapersonal measures were used, against only 3%, 1%, and 1%, respectively when interpersonal measures were used.

Taken together, it seems that interpersonal measures of reciprocity are by no means superior to the conceptually more simple intrapersonal measures. Either interpersonal measures produce similar results as intrapersonal measures (Taris *et al.*, 2002), or results are inferior to intrapersonal measures (Smets, *et al.*, 2004).

A second issue concerns the use of ratio scores that are calculated by researchers, versus measures of reciprocity that are

completed by respondents themselves. Again, the question rises; which type of measure is superior? Among Dutch teachers (Van Horn, *et al.*, 2001) significant associations with stressors or outcomes were observed with Hatfield's Global Measure (Hatfield, *et al.*, 1985) but *not* with ratio-scores that were calculated by the researchers themselves. In a similar vein, Van Horn and Schaufeli (1996) failed to show a relationship between lack of reciprocity with students and burnout using a calculated investment/outcome ratio score, whereas in a replication study Peeters *et al.* (1998) observed the expected relationship using Hatfield's Global Measure. This superiority of the Global Measure might be explained by the fact that teachers base their self-rated level of reciprocity – as tapped by Hatfield's measure – on the global assessment of their investments and of their outcomes (as measured by a single rating), and in turn, these global assessments seem to be based on the assessment of specific investments and outcomes (as measured by multi-item scales). This complex structure of give and take (see Table 3) was successfully tested using structural equation modeling for each of the three social exchange relationships (i.e., students, colleagues and school) separately (Van Horn *et al.*, 2001).

Figure 3: The structure of the balance of give and take.



Note: Adapted from Van Horn, Schaufeli & Taris (2001; p. 204); $I_{1...}I_n$ = Specific investment items; $O_1...O_n$ = Specific outcome items; for paths *a* and *b* see text.

The authors conclude that – in terms of convergent validity – reciprocity is adequately and comprehensively represented in the global, self-rated reciprocity index as proposed by Hatfield et al. (1985). Interestingly, it appeared that compared to global investments (Figure 3, path *a*), global outcomes (path *b*) contribute about twice as much to the self-rated reciprocity index of Hatfield (Van Horn *et al.*, 2001). This agrees with Taris *et al.* (2001), who reported similar findings in another teacher sample, using multiple-item scales for investments and outcomes. It seems, therefore, that the self-rated balance between give and take is more affected by one's perceived outcomes or rewards than by one's perceived investments or efforts.

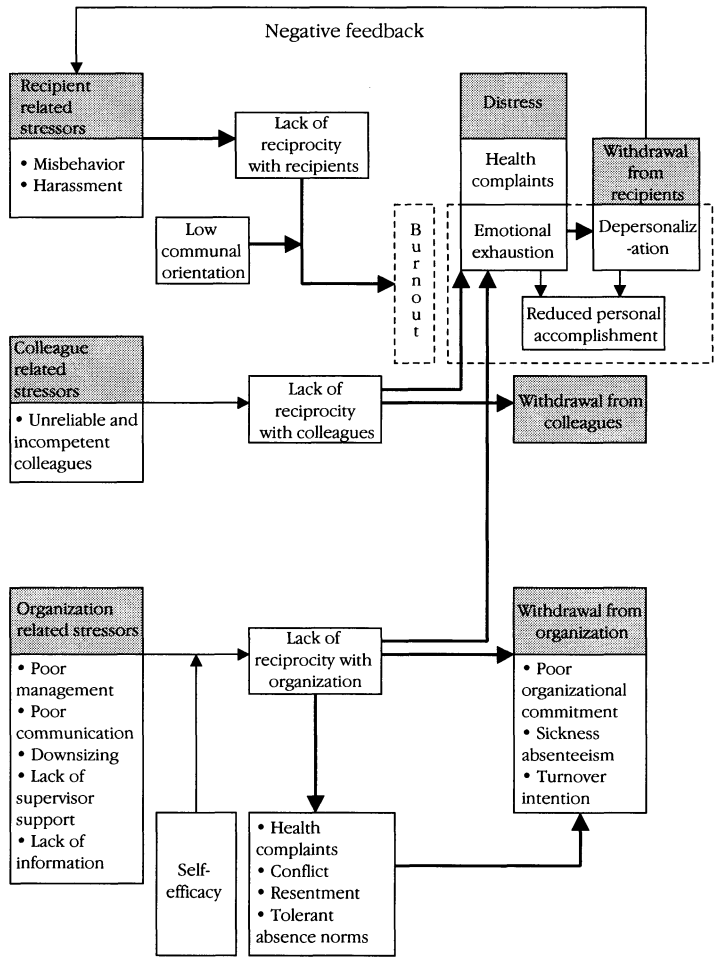
In conclusion: although interpersonal and intrapersonal measures of reciprocity are not identical, they produce similar results with respect to proportions of respondents who feel balanced, over- or underbenefited, and as well as with correlations with other variables. Nevertheless, results on the concurrent validity of both types of measures reveal that interpersonal measures are *not* superior to intrapersonal measures; instead the latter perform equally well or even better than the former. Therefore, the conceptually simpler intrapersonal measures of reciprocity are to be preferred. Furthermore, since investment/outcome ratio-scores that are calculated by researchers do hardly add anything beyond a self-rated single-item reciprocity index, the use of the latter is recommended. Finally, it appears that this single-item measure is stronger influenced by outcomes than by investments.

Integration of research findings and conclusions

The main research findings of the research program on burnout and social exchange are summarized and integrated in Figure 4. For reasons of readability no reference is made in the text below to particular studies; these can be found in the previous sections. The thick arrows in Figure 4 indicate relationships that have been convincingly demonstrated in various independent studies, whereas the thin arrows indicate relationships that are either equivocal or are demonstrated only in a single study. Needless to say that in the majority of cases these arrows do not represent

causal relations because they are based on findings from cross-sectional research. This calls, of course, for additional longitudinal research that should be conducted in the near future.

Figure 4: Integration of research findings on burnout and social exchange.



Most importantly, Figure 4 distinguishes between three levels of social exchange. First and foremost, social exchange between recipient and professional. A disrupted balance between give and take is positively associated with *all* three dimensions of burnout, whereby its effect is buffered by a low level of communal orien-

tation – a weak desire to give and receive benefits in response to the needs of others. Lack of reciprocity with recipients seems to stem from particular recipient-related stressors such as students misbehavior and time pressure among teachers, and harassment by patients among physicians.

At the level of exchange with colleagues, lack of reciprocity is particularly associated with distress (emotional exhaustion and health complaints) as well as with psychological withdrawal from them, which takes the form of depersonalization – a callous, detached, and cynical attitude. It seems that, at least for teachers, working with unreliable and incompetent colleagues disrupts their perceived balance of give and take.

Lack of reciprocity with the organization is associated with distress (emotional exhaustion and health complaints) as well as with behavioral withdrawal (sickness absenteeism) and with psychological withdrawal from the organization (poor organizational commitment and turnover intention). The relationship between reciprocity and withdrawal at this level is mediated by health complaints, conflicts, feelings of resentment, and tolerant absence norms. For instance, lack of reciprocity fosters feelings of resentment and induces conflicts with one's supervisor, which in their turn may lead to sickness absence. Lack of reciprocity with the organization might stem from such organizational stressors as poor management, including lack of supervisory support, poor communication, and lack of information, as well as from past or anticipated downsizing. Some indications were found that high levels of self-efficacy might buffer the negative effect of particular organizational stressors on feeling underbenefited.

Hence, it seems that in accordance with the predictions from equity theory (Adams, 1965), lack of reciprocity at *all three levels* of social exchange is associated with both distress and withdrawal. Moreover, it appears that the object of withdrawal is *specific* to each particular level of social exchange involved: in social exchange relationships with recipients professionals withdraw from recipients; in social exchange relationships with colleagues they withdraw from colleagues; and in social exchange relationships with the organization they withdraw from the organization.

But contrary to what equity theory predicts, withdrawal from recipients does *not* seem to be an effective strategy to restore the balance of give and take. Instead of a positive feedback loop, a negative feedback loop seems to exist that fuels a vicious circle: withdrawal from recipients à deterioration of the relationship à lack of reciprocity à exhaustion à withdrawal from recipients. It has been pointed out before that equity theory might explain this negative feedback loop because, when the caregiver withdraws from the helping relationship with the recipient, the gains for the recipient from this relationship diminish. This, in its turn, will motivate the recipient to also invest less in the relationship so that it further deteriorates and makes the caregiver feel even more disadvantaged. The apparent contradiction that equity can be used to explain both a positive *as well* as a negative feedback loop stems from the fact that unlike many other relationships the caregiver-recipient relationship is complementary: what one party invests in the helping relationship is gained by the other party, and vice versa.

Finally, it seems that emotional exhaustion plays a mediating role in the relationship between lack of reciprocity at various levels and withdrawal from recipients (depersonalization). This agrees with other studies on burnout that showed that various stressors have an indirect impact on depersonalization via emotional exhaustion (e.g., Leiter, 1993). From a somewhat broader perspective this also illustrates that rather than a unitary construct burnout is a multi-faceted phenomenon that consists of various elements that each play a different role (Maslach, Schaufeli & Leiter, 2001)

In addition to the research findings on various social exchange processes and burnout as depicted in Figure 4, the research program also produced three interesting results on the nature and the measurement of reciprocity. First, although a curvilinear relationship between reciprocity and burnout was observed, its shape was rather unexpected. Instead of feeling underbenefited, feeling overbenefited appeared to be more strongly related to burnout (see Figure 2). According to Truchot and Badré (2006), this seems to be typical for health care settings where the medical helping model prevails. Moreover, instead of a U-shaped relationship between reciprocity and burnout (emotional

exhaustion), a J-shaped relationship was observed in a representative sample of Finnish workers (Taris, *et al.*, 2002): those who felt underbenefited had more elevated exhaustion scores compared to those who either felt balanced or overbenefited in the relationship with the organization. This result also points to the fact that the shape of the relationship between reciprocity and burnout seems to depend on the sample under study.

Second, interpersonal reciprocity and intrapersonal reciprocity only partly overlap. For empirical reasons and because of parsimony, intrapersonal measures of reciprocity are to be preferred. Potentially, the finding that the intrapersonal reciprocity measures performed better than the more complex interpersonal reciprocity measures is of great theoretical importance. Our results revealed that the incorporation of the comparison with similar others either did *not* improve the prediction of the outcome variables (Taris *et al.*, 2002), or lead to *inferior* results as compared to intrapersonal measures (Smets, *et al.*, 2004). Obviously, in work settings intrapersonal approaches to measuring reciprocity are more appropriate than interpersonal approaches. Professionals might well compare themselves with other colleagues, but the difference between one's own and other's outcomes will we rather limited because all perform the same tasks in the same team of the same organization. If so, the outcomes are likely to be quite similar for the professional, as well as for the comparison other in terms of pay, work schedule, caseload, relation with supervisor, and so on. In that case, a comparison with similar others will add little to measures that include own investments and outcomes only. If this is correct, the interpersonal approach to reciprocity would be nothing more but a complicated variation of the intrapersonal approach, and should therefore be discouraged – at least in work contexts. Another explanation for the fact that information about other's investments and outcomes hardly matters might be that the investments and outcomes are not very visible to others. This might be particularly the case for professionals, who, like teachers or physicians, work with recipients in relative isolation.

Third, and in a somewhat similar vein, a simple, single-item, global measure of reciprocity that is completed by respondents is to be preferred above investment/outcomes ratio-scores that are

calculated by researchers. The latter do not add much over and above the former when it comes to explaining variance in stressors and outcomes such as burnout. Obviously, respondents are cognitively capable of using a comprehensive reciprocity index that includes both investments as well as outcomes – as is illustrated in Figure 3. However, also a statistical explanation can be given why more complex measures like Adam's (1965) classical equity formula, are less successful compared to more straightforward measures such as Hatfield's *et al.* (1985) Global Measure. It is likely that subtracting independent ratio-scores has a negative effect on the reliability of the measure, which diminishes the statistical power and therewith the possibility of finding significant relationships.

Final remarks

As is usual with any research program, some questions have been answered but also some new issues emerged that call for further investigation. As noted before, there remains a need for longitudinal research, particularly on the unexpected finding that psychological withdrawal seems to be counterproductive in restoring the balance of give and take. Another major issue that, so far, has not received attention in our research program is the role of procedural justice. For instance, Randall & Mueller (1995) found in nurses that the effect of procedural justice evaluations on several outcomes (e.g., job satisfaction, organizational commitment, turnover) is stronger than that of distributive justice evaluations. In other words, in addition to the balance of give and take (a distributive justice evaluation) the way outcomes are allocated (procedural justice evaluation) may have an impact on burnout.

Nevertheless, after a decade of systematic research on the role that lack of reciprocity plays in the development of burnout it is clear that the balance of give and take matters. When professionals believe that their investments exceed their outcomes they experience distress and withdraw themselves from stressful social exchange relationships. In other words, lack of reciprocity seems to play a crucial role in explaining the underlying psychological mechanism that is responsible, not only for the

development of burnout, but likewise for detachment from colleagues, sickness absenteeism, turnover intentions, and reduced organizational commitment. This means that a theoretical perspective from social exchange is indeed fruitful in understanding the nature of burnout, and other related organizational behaviors.

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Appendix 1: Proportion of reciprocity with respect to recipients, colleagues (team), organization, and job (%)

Sample	N	Measure	Under-benefited	Balanced	Over-benefited	Reference
Recipients						
Representative sample of medical specialists	1435	Interpersonal reciprocity: Adam's classical equity formula for colleagues	16	77	7	Smets, Visser, Oort, Schaufeli, De Haes (2004)
		Intrapersonal reciprocity: ratio of investments (1 item) and benefits (1 item)	37	57	7	
Teachers	249	Intrapersonal reciprocity: ratio of investments (1 item) and benefits (1 item)	41	54	5	Van Horn & Schaufeli (1996)
Therapists from a forensic psychiatric center	114	Interpersonal reciprocity: Adam's classical equity formula for inmates	84	10	6	Van Dierendonck, Schaufeli & Buunk (1996)
		Interpersonal reciprocity for inmates (1 item)	84	10	6	
Mental retardation staff	189	Interpersonal reciprocity: Adam's classical equity formula for inmates	58	29	13	
		Interpersonal reciprocity for inmates (1 item)	60	32	8	
Intensive care nurses from 12 European countries	2090	Intrapersonal reciprocity: ratio of investments (1 item) and outcomes (1 item)	65	30	5	Schaufeli & Le Blanc (1997)
Colleagues (team)						
Intensive care nurses from 12 European countries	2090	Intrapersonal reciprocity: ratio of investments (1 item) and outcomes (1 item)	42	54	4	Schaufeli & Le Blanc (1997)
Representative sample of Dutch medical specialists	1435	Interpersonal reciprocity: Adam's classical equity formula for colleagues	20	74	6	Smets, Visser, Oort, Schaufeli, De Haes (2004)
		Intrapersonal reciprocity: ratio of investments (1 item) and benefits for colleagues (1 item)	25	71	4	

Sample	N	Measure	Under-benefited	Balanced	Over-benefited	Reference
Organization						
Teachers	249	Intrapersonal reciprocity: ratio of investments (1 item) and benefits (1 item)	76	21	3	Van Horn & Schaufeli (1996)
Representative sample of medical specialists	1435	Interpersonal reciprocity: Adam's classical equity formula for colleagues	25	57	16	Smets, Visser, Oort, Schaufeli, De Haes (2004)
		Intrapersonal reciprocity: ratio of investments (1 item) and benefits for colleagues (1 item)	52	42	5	
Therapists from a forensic psychiatric center	114	Interpersonal reciprocity: Adam's classical equity formula for the organization	82	18	0	Van Dierendonck, Schaufeli & Buunk (1996)
		Interpersonal reciprocity for (1 item) the organization	71	19	6	
Mental retardation staff	189	Interpersonal reciprocity: Adam's classical equity formula for the organization	77	15	8	Van Dierendonck, Schaufeli & Buunk (1996)
		Interpersonal reciprocity for the organization (1 item)	77	20	3	
Job						
Representative sample of the Finnish working population	1297	Intrapersonal reciprocity: ratio of investments (1 item) in and outcomes (3 items) from the job	85	9	6	Kalimo, Taris & Schaufeli (2003)
		Interpersonal reciprocity: Adam's classical equity formula for colleagues	51	25	24	Taris, Kalimo & Schaufeli (2002)

Note: If not mentioned otherwise, the sample is Dutch.

Appendix 2: Perceived lack of reciprocity with recipients and burnout (Pearson's r)

Sample	N	Reciprocity measure	EEX	DEP	RPA	Study
Psychiatric nurses	142	Lack of reciprocity (3 items)	0.40	0.25	0.28	Van Gorp, Schaufeli & Hopstaken (1993)
Hospital nurses	183	Lack of reciprocity (3 items)	0.36	0.39	0.32	Schaufeli & Janzcur (1994)
Polish hospital nurses	200	Lack of reciprocity (3 items)	0.33	0.29	0.13	
General practitioners	567	Lack of reciprocity (3 items)	0.47	0.33	0.22	Van Dierendonck, Schaufeli & Sixma (1994)
Correctional officers	79	Lack of reciprocity (3 items)	0.51	0.45	0.51	Schaufeli, Van den Eynden & Brouwers (1994)
Hospice nurses	170	Lack of reciprocity (6 items)	0.18	0.13	0.27	Van Yperen (1995)
Student nurses	220	Lack of reciprocity (2 items)	0.18	0.23	0.16	Schaufeli, Van Dierendonck & Van Gorp (1996)
Intensive care nurses from 12 European countries	2090	Intrapersonal reciprocity: ratio of investments (1 item) and outcomes (1 items)	0.18	0.11	0.05	Schaufeli & Le Blanc (1997)
Mental retardation staff (Time 1)	149	Interpersonal reciprocity: Adam's classical equity formula for recipients	0.06	0.09	0.17	Van Dierendonck, Schaufeli & Buunk (1998)
Mental retardation staff (Time 2)	149		0.02	0.02	0.07	
Mental retardation staff (Time 3)	149		0.15	0.03	0.04	
Teachers	249	Intrapersonal reciprocity: ratio of investments (1 item) and outcomes (1 item)	0.26	0.15	0.24	Van Horn, Schaufeli & Enzmann (1999)
Police officers	358	Intrapersonal reciprocity (1 item)	0.31	0.24	0.06	Kop, Euwema & Schaufeli (1999)
Teachers	154	Intrapersonal reciprocity: ratio of investments (6 items) and outcomes (6 items)	0.37	0.24	0.32	Bakker, Schaufeli, Demerouti, Van der Hulst & Brouwer (2000)
General practitioners (Time 2)[a]	207	Lack of reciprocity (3 items)	0.49	0.36	0.23	Bakker, Schaufeli, Sixma, Bosveld &Van Dierendonck (2000)

Sample	N	Reciprocity measure	EEX	DEP	RPA	Study
Teachers	260	Intrapersonal reciprocity: ratio of investments (5 items) and outcomes (4 items)	0.15	0.04	0.02	Van Horn, Schaufeli & Taris (2001)
		Intrapersonal reciprocity: ratio of investments (1 item) and outcomes (1 item)	0.30	0.23	0.28	
		Intrapersonal reciprocity (1 item)	0.27	0.22	0.29	
Human services professionals (Time 1)	245	Interpersonal reciprocity: Adam's classical equity formula for recipients	0.08	0.03	0.10	Van Dierendonck, Schaufeli & Buunk (2001)
Human services professionals (Time 2)	245	Interpersonal reciprocity Adam's classical equity formula for recipients	0.09	0.08	0.04	
Caregivers of cancer patients	103	Perception of underbenefit (7 items)	0.57	0.69	0.36	Ybema, Kuijer, Hagendoorn & Buunk (2002)
Caregivers of multiple sclerosis patients	88		0.54	0.69	0.36	
Medical specialists	1435	Interpersonal reciprocity: Adam's classical equity formula for colleagues	0.07	0.05	0.00	Smets, Visser, Oort, Schaufeli & De Haes (2004)
		Intrapersonal reciprocity: ratio of investment (1 item) and benefit (1 item)	0.14	0.11	0.00	
French nurses and social workers	148	Interpersonal reciprocity for recipients: 3 items	0.06	0.06	0.27	Truchot & Deregard (2001)
Teachers	920	Interpersonal reciprocity for students (1 item)	0.25	0.24	0.24	Taris, Van Horn, Schaufeli & Schreurs (2004)
		Intrapersonal reciprocity: ratio of investment (1 item) and benefit (1 item)	0.24	0.20	0.21	

Note: If not mentioned otherwise, the sample is Dutch; [a] Time 1 data are included in Van Dierendonck, Schaufeli & Sixma (1994); EEX = emotional exhaustion; DEP = depersonalization; RPA = reduced personal accomplishment.

Appendix 3: Perceived lack of reciprocity with one's colleagues (the team) and burnout (Pearson's r)

Sample	N	Reciprocity measure	EEX	DEP	RPA	Reference
Hospice nurses	170	Intrapersonal reciprocity (6 items)	0.48	0.18	0.06	Van Yperen (1995)
Intensive care nurses	2090	Intrapersonal reciprocity: ratio of investments (1 item) and outcomes (1 item)	0.16	0.07	0.03	Schaufeli & Le Blanc (1997)
Maternity nurses	114	Lack of reciprocity (6 items)	0.50	-	0.31	Van Yperen (1998)
Police officers e	358	Intrapersonal reciprocity (1 item)	0.21	0.23	0.14	Kop, Euwema & Schaufeli (1999)
Teachers	260	Intrapersonal reciprocity: ratio of investments (5 items) and outcomes (4 items)	0.16	0.02	0.01	Van Horn, Schaufeli & Taris (2001)
		Intrapersonal reciprocity: ratio of investments (1 item) and outcomes (1 item)	0.20	0.02	0.05	
		Intrapersonal reciprocity (1 item)	0.01	0.02	0.01	
Teachers	920	Interpersonal equity (1 item)	0.10	0.05	0.12	Taris, Van Horn, Schaufeli & Schreurs (2004)
		Intrapersonal equity: ratio of investment (1 item) and benefit (1 item)	0.08	0.01	0.15	
Medical specialists	1435	Interpersonal equity: Adam's classical equity formula for colleagues	0.09	0.01	0.02	Smets, Visser, Oort, Schaufeli & De Haes (2004)
		Intrapersonal equity: ratio of investments (1 item) and outcomes (1 item)	0.17	0.06	0.09	

Note: All samples are Dutch; EEX = emotional exhaustion; DEP = depersonalization; RPA = reduced personal accomplishment.

Appendix 4: Perceived lack of reciprocity with the organization and burnout (Pearson's r)

Sample	N	Reciprocity measure	EEX	DEP	RPA	Reference
Psychiatric nurses	142	Interpersonal reciprocity (3 items)	0.18	0.13	0.10	Van Gorp, Schaufeli & Hopstaken (1993)
		Intrapersonal reciprocity (7 items)	0.41	0.31	0.26	
Student nurses	220	Lack of reciprocity (2 items)	0.31	0.18	0.23	Schaufeli, Van Dierendonck & Van Gorp (1996)
Mental retardation staff (Time 1)	149	Interpersonal reciprocity: Adam's classical equity formula	0.21	0.09	0.02	Van Dierendonck, Schaufeli & Buunk (1998)
Mental retardation staff (Time 2)			0.28	0.08	0.03	
Mental retardation staff (Time 3)			0.11	0.05	0.04	
Mental health professionals	208	Perceived lack of reciprocity (3 items)	0.54	0.30	-	Geurts, Schaufeli & De Jonge (1998)
Police officers	358	Intrapersonal reciprocity (1 item)	0.11	0.27	0.23	Kop, Euwema & Schaufeli (1999)
Teachers	260	Intrapersonal reciprocity: ratio of investments (3 items) and outcomes (4 items)	0.08	0.01	0.04	Van Horn, Schaufeli & Taris (2001)
		Intrapersonal reciprocity: ratio of investments (1 item) and outcomes (1 item)	0.10	0.02	0.03	
		Intrapersonal reciprocity (1 item)	0.01	0.02	0.01	
Medical specialists	1435	Interpersonal reciprocity: Adam's classical equity formula for colleagues	0.11	0.01	0.04	Smets, Visser, Oort, Schaufeli & De Haes (2004)
		Intrapersonal reciprocity: ratio of investments (1 item) and outcomes (1 item)	0.15	0.07	0.06	
Teachers	920	Interpersonal reciprocity (1 item)	0.15	0.06	0.19	Taris, Van Horn, Schaufeli & Schreurs (2004)
		Intrapersonal equity: ratio of investments (1 item) and outcomes (1 item)	0.20	0.07	0.21	
Representative sample of Finnish working population [a]	1297	Intrapersonal reciprocity: ratio of investments (1 item) in and outcomes (3 items) from the job	0.38	0.36	0.17	Kalimo, Taris & Schaufeli (2003)
		Interpersonal reciprocity: Adam's classical equity formula	0.22	0.19	0.11	

Note: If not mentioned otherwise, the sample is Dutch; [a] MBI-GS (Exhaustion, Cynicism, Professional Efficacy); EEX = emotional exhaustion; DEP = depersonalization; RPA = reduced personal accomplishment.