INEQUITY, BURNOUT AND PSYCHOLOGICAL WITHDRAWAL AMONG DUTCH TEACHERS

A DYNAMIC EXCHANGE MODEL

SUMMARY

This study examined the relations among inequity, psychological well-being (burnout), and organizational commitment among a nationally representative longitudinal sample of 920 Dutch teachers. Equity theory provided hypotheses on the mutual effects of inequity experienced in interpersonal and organizational exchange relationships on the one hand, and strain and psychological withdrawal on the other. Following Schaufeli, VanDierendonck, & Van Gorp (1996), differential effects of the inequity variables on the outcomes were predicted. Further, depersonalization towards students and colleagues, and diminished organizational commitment were expected to lead to a more equitable balance between investments in and benefits gained from the corresponding exchange relationships.

Covariance structure modeling was used to analyze data from a sample of 920 Dutch teachers. The distinction among different types of exchange relationships was supported, as was the distinction between different sets of outcome variables. Within time points, inequity resulted in the expected negative work outcomes, but this result was not replicated longitudinally. Interestingly, neither depersonalization towards students or colleagues, nor diminished organizational commitment resulted in a more equitable exchange relationship. Implications of the study are discussed.

INTRODUCTION

Over the previous decade, a small body of research has focused on the relationship between perceived inequity in exchange relationships at work, and a range of work outcomes such as job satisfaction, turnover, organizational commitment, and burnout. At the heart of equity theory lies the assumption that people pursue a balance between what they ‘invest’ in a particular relationship (e.g., time, attention, skills, effort) and the benefits they gain from it, such as status, appreciation, gratitude, and pay (Buunk & Schauffeli, 1999; cf. Adams, 1965). Any disturbance of the balance between investments and benefits is expected to result in negative outcomes. Previous research has generally supported these predictions. For instance, inequity in various types of work relationships has been shown to be associated with job dissatisfaction (Petry, 1993), lack of organizational commitment (Schauffeli et al., 1996), absenteeism and turnover (Cropanzano & Greenberg, 1997; Geurts, Buunk, & Schauffeli, 1994a; Geurts, Schauffeli, & De Jonge, 1998; Geurts, Schauffeli, & Rutte, 1999; Iversen & Roy, 1994; Van Yperen, Hagedoom, & Geurts, 1996), employee theft (Greenberg, 1990; Shapiro, Trevino, & Victor, 1995), and burnout (Van Dierendonck, Schauffeli, & Siuxa, 1994; Van Horn, Schauffeli, & Enzmann, 1999; Van Horn, Schauffeli, & Taris, 2001; Van Yperen, 1998).

Although this evidence would seem impressive, progress in this area is hampered by two related problems. First, equity theory assumes that the stress ensuing from a disturbed balance between investments and outcomes will lead people to attempt to restore this balance (Adams, 1965; Buunk & Schauffeli, 1999; Hartfeld & Sprecher, 1984; Walster, Walster, & Berscheid, 1978). Some of the work outcomes mentioned above can indeed be construed as more or less conscious strategies to obtain a more equitable balance, either by increasing the benefits gained from an exchange relationship (e.g., employee theft), or by decreasing one’s investments in this relationship (e.g., through behavioral withdrawal by leaving the organization, or through psychological withdrawal in the form of diminished commitment to the organization or depersonalization regarding the recipients of one’s services). However, to date researchers have heavily relied on cross-sectional data in examining the relations between inequity and outcome variables, conveniently ignoring the possibility that at least some of the designated ‘outcome’ variables might just as well affect the independent variables in the study. Consequently, little is known about the degree to which withdrawal strategies such as depersonalization and diminished organizational commitment are successful in obtaining and retaining equity in exchange relationships at work. Therefore, one goal of this study is to examine the possibly reciprocal effects between inequity and work outcomes, in the context of a two-wave panel study among a nationally representative sample of 920 Dutch teachers.

Second, the effects of inequity may be studied with regard to qualitatively different exchange relationships (e.g., with customers, patients or students, or, generally speaking, with the recipients of one’s services; with their colleagues; or with the organization they work for) as well as to a wide range of outcome variables. Previous research has shown that the effects of inequity on outcome variables tend to vary with the type of exchange relationship and type of outcome variable (Schauffeli et al., 1996; Van Horn et al., 2001; Taris, Peeters et al., in press). The second goal of the current study is to extend and enhance our understanding of the effects of inequity as experienced in various types of exchange relationships at work on different sets of outcome variables. Based on ideas of Lazarus and Folkman (1984), this study distinguishes between two such sets, namely affective outcomes (strains), and outcomes directed at reducing the effects of occupational stress by withdrawing oneself psychologically from one’s job (a form of coping, cf. Lee & Ashforth, 1996; Taris, Schruers, & Van Iersel-Van Silfhout, in press; Kalimo, Taris, & Schauffeli, 2001).
Lack of reciprocity

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, lack of reciprocity or inequity exists. Note that ‘lack of reciprocity’ and ‘inequity’ are largely interchangeable terms in this conceptualization (Chadwick-Jones, 1976; Schaufeli et al., 1996; Tanis, Peters et al., in press); both involve the comparison of the ratio of own investments and outcomes to that of another party. Pritchard (1969) criticized this way of measuring inequity because it neglects the role of internal standards 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). According to Pritchard, intra-personal comparisons play a crucial role in exchange processes, rather than social comparisons as proposed in classical equity theory. This internal standard is largely based on one’s past experience in exchange relationships. Thus, in a sense ‘intrapersonal’ comparison is a form of interpersonal comparison where the other is replaced with one’s own earlier experiences; previous experience tells one whether a particular input/outcome ratio is equitable or not. A similar stance is implicitly taken in Siegrist’s (1996) Effort-Reward-Imbalance theory, in which workers evaluate their efforts against the rewards they receive from their job, and Hefstfield et al.’s well-used (1984) single-item equity measure, asking workers to evaluate their own inputs in a particular relationship against own outcomes: in neither case reference to others (e.g., one’s co-workers) is included. Following this lead, reciprocity is defined here as the equality of one’s perceived investments in and benefits from an exchange relationship, relative to this person’s internal standards regarding this relationship.

Interpersonal vs. organizational exchange relationships at work

Buunk and Schaufeli (1993) attempted to connect social exchange processes in the context of the work organization with burnout — a psychological syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who work with other people in some capacity (Maslach, 1993). Emotional exhaustion refers to feelings of being emotionally overextended and depleted of one’s emotional resources. Depersonalization involves a negative, indifferent, or overly detached attitude to others. Finally, reduced personal accomplishment refers to a decline of feelings of competence and achievement in one’s work.

Buunk and Schaufeli (1993) started from the assumption that burnout develops primarily within the social and interpersonal context of the work organization. If this is correct, attention should be paid to the way individuals perceive, interpret and construct the behaviors of others at work.

Following Maslach (1982, 1993), Buunk and Schaufeli focused on the demanding interpersonal relationship between a provider of services (e.g., nurses or teachers) and the recipients of these services (patients and students, respectively). This relationship is complementary by definition, in that one party gives, and the other receives. Because provider and recipient enter their relationship with different expectations towards each other, it is difficult to establish an equitable relationship (Maslach, 1982; Roter & Hall, 1991). While this complimentary relationship lies at the heart of the exchange relationship between provider and recipient, the first will continue to look for some rewards from the latter in return for their efforts. For instance, teachers expect their students to show some gratitude, respect, or at least to try to obtain good grades. In practice, however, these expectations may not be met (cf. Maslach, 1982). As a result, over time providers may feel that they continually invest more in the relationship with the recipients of their services than they receive in return. This eventually depletes their emotional resources and, thus, leads to emotional exhaustion (the core component of burnout), depersonalization (as a way of coping with this exhaustion), and feelings of reduced personal accomplishment (Leiter & Maslach, 1988; cf. Cordes, Dougherty, & Blum, 1997; Lee & Ashforth, 1993). This reasoning has been confirmed in several studies among for example general practitioners (Bakker et al, 2010; VanDierendonck et al., 1994), hospital nurses (Schaufeli et al., 1996; Van Yperen, 1998), and teachers (Van Om et al., 1995; Van Om et al., 2001).

Whereas the balance between investments and benefits in the exchange relationship with one’s colleagues may not be as systematically disturbed as the exchange relationship with the recipients of one’s services, it would seem that the effects of inequity in this type of social exchange relationship may be detrimental as well. Previous research has underlined the importance of the quality of the relationship with colleagues and co-workers for work outcomes such as the development of career enhancing strategies (Fej, Whiteley, Perić, & Tanis, 1995), organizational commitment (Mathieu & Zajac, 1990), job strain (Kahn & Byomsier, 1992), and burnout (Leiter & Maslach, 1988), but these studies were usually not framed in a social exchange framework. Yet, Buunk and Hoorens (1992) and Schaufeli et al. (1996) argued that relationships among colleagues at work can be construed in terms of social exchange relationships as well. For instance, there is some evidence that employees keep ‘support bookkeeping’ that is based on the balance between giving and receiving support from others. Given the centrality of the relationships with colleagues for work-related outcomes, it would seem reasonable to expect that inequity in the exchange relationship with one’s colleagues is an important determinant of burnout.
Inequity in an organizational context

It has been argued that burnout should not only be examined in the context of interpersonal relationships at work, but also in the context of the exchange relationship with the organization (cf. Golembiewski & Munzenrider, 1988; O’Dricoll, & Cooper, 1996; Shinn, Rowan, Morch, & Chestnut, 1984). A body of evidence adds some credence to this notion, showing how particular characteristics of the job and the organization are associated with the occurrence of burnout (e.g., Codex & Dougherty, 1993, for a review). However, little research favoring an organizational perspective on burnout has provided a psychological explanation for the development of burnout in the organizational setting.

According to Schaufeli et al. (1996), the notion of a psychological contract between employer and employee (Robinson & Parke, 1994; Rousseau & Parke, 1993) may provide a useful theoretical starting point for such an explanation. The psychological contract is defined as a set of expectations that employees hold about the nature of their exchange with the organization, for instance, concerning work load and pay. The psychological contract reflects the employees’ subjective notion of equity and serves as a baseline, against which own investments and benefits are evaluated. A violation of the psychological contract may result in negative work outcomes, including a higher intention to quit and higher turnover (Robinson & Parke, 1994), absenteeism (Geurts, Schaufeli, & Buunk, 1994a, 1994b), and burnout (Schaufeli et al., 1996; Kalimo et al., 2001). This is consistent with Brill’s (1984) notion of burnout as an “… expectationally mediated, job-related dysphoric and dysfunctional state” (p. 25). Thus, unmet expectations about reciprocity lie at the core of a violation of the psychological contract.

Generic vs. specific outcomes of perceived inequity: Coping with strain and inequity

The distinction between interpersonal and organizational exchange relationships is explicitly recognized in Schaufeli et al.’s (1996) dual-level social exchange model. This model distinguishes between inequity experienced in interpersonal relationships at work, and inequity in the exchange relationship with the organization. Schaufeli et al. showed that both forms of inequity contributed to the occurrence of burnout, whereas only inequity in the exchange relationship with the organization contributed to poor organizational commitment. On the one hand, these findings underline the importance of distinguishing between various types of exchange relationships at work; on the other hand, however, they also point to the need to distinguish among different (sets of) outcome variables, contingent on the type of exchange relationships under study. That is, some outcomes may be generic, in that they are affected by inequity experienced in a variety of exchange relationships, whereas other outcomes could be specific to inequity experienced in one particular type of exchange relationship only.

Following Lazarus and Folkman (1984), in the current study we distinguish between strains and coping behaviors. Strains, such as emotional exhaustion, may be considered generic outcomes, in the sense that strain will result from a disturbance in any exchange relationship. Coping behaviors, in contrast, will be tightly linked to particular exchange relationships. That is, people will be motivated to restore a disturbed balance, but the actions they take will correspond with the type of relationship in which they perceive a lack of equity. According to Lerner (1984), people are producers of their own environment, rather than passive recipients of the forces that shape this environment. If this is correct, workers experiencing inequity in their exchange relationships can be expected to try to obtain a more equitable balance. Following Adams (1965), Walster et al. (1978) suggested that a lack of reciprocity can be dealt with by decreasing one’s investments in an inequitable relationship. They mention several strategies that people may use to restore a disturbed equilibrium between investments and benefits. Many of these strategies (such as retaliation) are usually inappropriate or impractical within the exchange relationships people maintain at work. As Bakker et al. (2000) suggested, a psychological strategy to restore equity (such as developing negative attitudes towards the recipients of their services, their colleagues or the organization they are working for) may be a more feasible strategy under such circumstances. Precisely such callous, cynical, impersonal and derogatory attitudes constitute the depersonalization dimension of the burnout syndrome.

By responding to the recipients of their services or their colleagues in a depersonalized way instead of expressing genuine empathic concern, people lower their investments in these exchange relationships (Buunk & Schaufeli, 1993, 1999; Schaufeli et al., 1998). In this sense, depersonalization towards colleagues or the recipients of one’s services can be considered as motivational outcomes directed at restoring the disturbed exchange relationship with these colleagues or recipients, respectively, that is, as coping behaviors. Decreasing one’s commitment to the organization would seem to be a similar strategy: by lowering their commitment to the organization, people simultaneously decrease their psychological investments in that organization, resulting in a more equitable balance between investments in and benefits gained from this exchange relationship. Depersonalization and (lack of) organizational commitment may thus be considered as more or less conscious strategies to cope with the stress

A heuristic model for the relations among inequity, strain, and psychological withdrawal

Taken together, the notions outlined above suggest a complex and dynamic model for the relations between lack of reciprocity in exchange relationships on the one hand and work outcomes such as organizational commitment, depersonalization, and emotional exhaustion on the other. Whereas inequity usually coincides with (rather than ‘leads to’, for want of longitudinal studies) high burnout rates and low organizational commitment, it seems plausible to assume that people experiencing inequity in their exchange relationships at work will try to reach a more equitable balance between investments and benefits across time, by lowering their investments in a disturbed exchange relationship (as evidenced by high levels of psychological withdrawal, i.e., high levels of depersonalization and low levels of organizational commitment). This, in turn, might lead to a decrease in feelings of burnout.

Figure 1 presents a heuristic representation of the model to be tested in this study. It is tailored to the sample under study here, that is, a longitudinal sample (two waves) of Dutch primary, secondary and vocational school teachers. The model is based on the theoretical considerations outlined in the preceding sections, and can be considered as a set of explicit hypotheses on the expected relations among the variables in this study. As Figure 1 shows, a distinction is made between three types of exchange relationships (with students, colleagues, and the organization, respectively). Inequity experienced in each of these relationships results in two types of outcomes, namely in strains and withdrawal.

Strain (emotional exhaustion) is the result of the negative affect caused by perceived inequity in any of the three exchange relationships considered here, and is therefore not strongly linked to any exchange relationship in particular. In contrast, the type of psychological withdrawal that occurs is contingent on the type of relationship in which inequity is experienced. For example, inequity in the relationship with one’s students will result in withdrawal (depersonalization) from these students (and not in withdrawal from one’s colleagues). Similarly, inequity in the relationship with one’s colleagues will result in withdrawal from these colleagues (but not from the students). Organizational commitment can also be considered as a form of psychological withdrawal, to the degree that low organizational commitment increases one’s intentions to leave the organization as well as actual turnover (Mathieu & Zajac, 1990). As such, it will be strongly influenced by inequity in the exchange relationship with the organization.

The third component of the burnout syndrome, reduced personal accomplishment, fits the scheme of strain versus coping behaviors less well than the other outcome variables considered here. In principle, personal accomplishment refers to the subjective experience of one’s own competence and achievement in one’s work. Some might hold that this implies that personal accomplishment is a behavioral outcome (cf. Dollard, Winefield, Winefield, & De Jonge, 2000), but equating feelings about own performance to performance itself does seem a bridge too far. Rather, we feel that personal accomplishment is nothing but an affective judgment concerning one’s own competence. Schachter and Singer’s (1962) attribution-of-arousal theory maintained that particular stimuli may result in arousal, and that the person interprets this arousal in the light of the situation as interpreted by the person. In the context of stress at work, people may consider the degree to which they experience stress as a measure of their performance. The fact that maintaining a particular exchange relationship currently leads to stress whereas this may have been different in the past may lead them to conclude that
they perform less well than they used to. If this is correct, there should be a negative association between inequity and levels of personal accomplishment. However, as a teacher’s task consists largely of interaction with students (cf. Van Hon et al., 2001), we expect that only inequity in this particular exchange relationship will have any considerable impact on teachers’ feelings of personal accomplishment.

Finally, Figure 1 includes three ‘feedback’ effects. It is assumed that inequity experienced in a particular exchange relationship leads to psychological withdrawal from that relationship (either in the form of depersonalization, or as diminished commitment), which in time is expected to lead to a more equitable ratio between the investments in and the benefits gained from that relationship.

**METHOD**

The data were collected as part of a two-wave panel study. The study was conducted among a nationally representative sample of 1,309 Dutch teachers (Mage was 43.6 years, SD = 8.0, 51% female, average number of years of teaching experience was 19.1 years, SD = 8.3, 58% were employed in primary schools, 27% in secondary schools and 13% in vocational schools). At the first wave (winter 1996), the participants completed a written questionnaire that addressed psychological and physical well-being, selected work characteristics, inequity, and several biographical variables. The large majority of the sample (998 participants) also cooperated in the second wave of the study (winter 1997), yielding a 76.2% response rate.

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**Measures**

Levels of burnout were assessed using a Dutch adaptation of the Maslach Burnout Inventory — Educators Survey (MBI-ES, Maslach & Jackson, 1986; Van Hon & Schaufeli, 1998). The MBI-ES consists of three subscales, emotional exhaustion, depersonalization, and (reduced) personal accomplishment, respectively. Previous research has shown that the intercorrelations among the three subscales of the (human services version of) the MBI are moderately high, whereas they retain different patterns of relations with other variables (Lee & Ashforth, 1996; Schaufeli, Doamen, & Van Mierlo, 1994; cf. Taris, Schreurs, & Schaufeli, 2000). Consistent with these findings, confirmatory factor analysis revealed that in the current study the relations among the items of the three subscales were at both occasions best accounted for by an oblique three-factor solution (i.e., a model in which the items of the three subscales all load on the expected latent dimension, whereas the three latent dimensions are mutually correlated; chi-square (166, N = 920) = 999.65, RMR = .061, NNI = .90, CFI = .91). The latent correlations among the three dimensions ranged from .41 to .49, all p’s < .001. Further, the three subscales all loaded on the same latent second-order factor, with standardized factor loadings ranging from .62 to .74 (p’s < .001). These results show that (a) the three scales are only moderately correlated, whereas (b) they still tap the same underlying construct.

**Emotional exhaustion** refers to feelings of being emotionally overextended and depleted of one’s emotional resources (Maslach, 1993). Typical items are “I feel emotionally drained from my job” and “I feel used up at the end of a work day” (0 = ‘never’, 6 = ‘everyday’). The reliability of this 8-item scale (Cronbach’s alpha) was .91 and .92 for time one and time two, respectively.

**Depersonalization regarding one’s students** refers to a negative, overly detached, and indifferent attitude to one’s students. This concept was tapped by a 7-item scale. Typical items were “I worry that this job is hardening me emotionally”, and “I feel that I treat some students indifferently” (0 = ‘never’, 6 = ‘everyday’). In comparison to Maslach and Jackson’s (1986) MBI-ES, two items were added to this scale to improve its reliability. These items were “In my work people bother me with personal problems I don’t want to be bothered with”, and “I try to keep away from personal problems of my students”. The reliabilities of this scale were .86 and .85 for time one and time two, respectively.

**Depersonalization regarding one’s colleagues** refers to a negative, overly detached, and indifferent attitude to one’s colleagues. This self-constructed scale roughly paralleled the depersonalization scale for the students and consisted of 8 items, including “I really do not care about what happens to my colleagues”, “I avoid my colleagues as much as possible”, and “I like working with my colleagues” (reversed, 0 = ‘never’, 6 = ‘everyday’). The reliabilities of this scale were .87 and .89 at both time points.

**Personal accomplishment** refers to a decline of feelings of competence and successful achievement in one’s work. It is measured by an 8-item scale (reliabilities were .88 and .87 at time one and time two, respectively). Typical items were “I feel I am positively influencing other people’s lives...”
through my work”, and “I think I know how to deal with my students’ problems effectively” (0 = ‘never’, 6 = ‘everyday’).

**Organizational commitment** was a six-item Dutch adaptation of Mowday, Porter, and Steers’s (1979) Organizational Commitment Questionnaire (OCQ). According to Mowday et al., the OCQ taps “… the relative strength of an individual’s identification with and involvement in a particular organization” (p. 241). Typical items are “I tell my friends that this school is a fine organization to work for”, and “I feel that this school offers a challenging work climate”. The reliabilities for this scale were .91 and .93 at time one/two, respectively.

**Inequity**. Inequity was assessed for three exchange relationships, namely with students, colleagues, and the organization. Two measures were available for each relationship. The first of these was a variation on Hatfield, Traupmann, Sprecher, and Hargis’s (1985) well-used single-item equity measure (cf. Van Dierendonck et al., 1996). For the relationship with the students, this item was “When I compare the investments in the work relationship with my students to the benefits that result from this relation, I receive … than I invest” (1 = ‘much less’, 5 = ‘much more’). For the two other relationships, ‘students’ was replaced with ‘colleagues’ and ‘school management’, respectively.

The second item was computed as the ratio of the scores on two other items. The first of these tapped the subjective investments in a particular relationship: ‘How much do you invest in the work relationship with your students?’ (1 = ‘very little’, 5 = ‘very much’). The second item measured the perceived benefits of this relationship: “How much do you receive in return in this relationship?” (1 = ‘very little’, 5 = ‘very much’). Similar questions were asked for the other two relationships. The distributions of the resulting three ratio variables were rather skewed (skewnesses exceeding 2.00), implying that the application of statistical techniques that require normally distributed variables (such as covariance structure modeling) was not warranted. In order to obtain more normally distributed variables, the natural logarithm of the scores on the three ratio variables was taken. This resulted in variables that were approximately normally distributed (skewnesses < 1.50). All items were coded such, that a high score indicated high inequity.

The correlation between the two measures varied from .56 to .71 (see Appendix, all p’s < .001) for each of the three exchange relationships across both time points (median correlation .64). Separate confirmatory factor-analyses revealed that for each time point a three-factor model could be retained, with the latent factors corresponding with inequity in the relationship with the students, colleagues, and school, respectively.

### Table 1

**Means and standard deviations for the variables employed in this study** (full sample, N = 920)

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>TIME 1 M</th>
<th>TIME 1 SD</th>
<th>TIME 2 M</th>
<th>TIME 2 SD</th>
<th>T*</th>
</tr>
</thead>
<tbody>
<tr>
<td>inequity students</td>
<td>3.34</td>
<td>.78</td>
<td>3.36</td>
<td>.77</td>
<td>ns</td>
</tr>
<tr>
<td>imbalance students</td>
<td>.19</td>
<td>.28</td>
<td>.18</td>
<td>.27</td>
<td>ns</td>
</tr>
<tr>
<td>inequity colleagues</td>
<td>3.21</td>
<td>.54</td>
<td>3.23</td>
<td>.59</td>
<td>ns</td>
</tr>
<tr>
<td>imbalance colleagues</td>
<td>.09</td>
<td>.22</td>
<td>.09</td>
<td>.23</td>
<td>ns</td>
</tr>
<tr>
<td>inequity organization</td>
<td>3.81</td>
<td>.77</td>
<td>3.83</td>
<td>.77</td>
<td>ns</td>
</tr>
<tr>
<td>imbalance organization</td>
<td>.57</td>
<td>.51</td>
<td>.57</td>
<td>.50</td>
<td>ns</td>
</tr>
<tr>
<td>emotional exhaustion</td>
<td>1.86</td>
<td>1.14</td>
<td>2.00</td>
<td>1.20</td>
<td>4.96**</td>
</tr>
<tr>
<td>depersonalization (students)</td>
<td>1.22</td>
<td>.87</td>
<td>1.29</td>
<td>.87</td>
<td>2.52*</td>
</tr>
<tr>
<td>depersonalization (colleagues)</td>
<td>1.97</td>
<td>.58</td>
<td>2.01</td>
<td>.58</td>
<td>2.45*</td>
</tr>
<tr>
<td>personal accomplishment</td>
<td>4.13</td>
<td>.84</td>
<td>4.11</td>
<td>.83</td>
<td>ns</td>
</tr>
<tr>
<td>organizational commitment</td>
<td>3.49</td>
<td>.82</td>
<td>3.46</td>
<td>.81</td>
<td>ns</td>
</tr>
</tbody>
</table>

*a The error term of these comparisons has 918 df.

* = p < .05, ** = p < .001.
Statistical analysis

The data were analyzed by means of covariance structure modeling (Jöreskog & Sörbom, 1993). The variables in such models can be latent (i.e., they are functions of two or more observed indicator variables) or manifest (there is only one indicator for a particular construct). Covariance structure modeling marries factor analysis to regression analysis, in that this technique allows for a simultaneous estimation of a measurement (factor) model (representing the relations among the observed indicator variables and the latent variables) as well as a structural (regression) model (for the relations among the latent variables). In the current study inequity in each of the three exchange relationships was measured by two indicators at both occasions. There was a one-to-one relationship between the observed and the latent variables for the remaining variables.

Model fit was assessed using several fit indexes, including the chi-square test, the Root Mean Square Error of Approximation (RMSEA), and the Adjusted Goodness-of-fit Index (AGFI). Marsh, Balla, and MacDonald (1988) demonstrated that these fit indexes are rather sensitive to variations in sample size, such that in large samples models seldom fit the data, even if the difference between the ‘true’ model and the specified model is negligibly small. Therefore, we also took into account Bentler and Bonett’s (1980) Non-normed Fit Index (NNFI) and the Comparative Fit Index (CFI). The latter is also recommended for model comparison purposes (Goffin, 1993).

For cross-validation purposes, the current sample (including 920 participants) was split into two subsamples of 460 participants each. On each subsample an independent analysis of the null model was performed. The results for each sample were then compared to obtain an impression of the degree to which capitalization on chance presented a threat to the validity of the study (cf. Cudeck & Browne, 1983; MacCallum, Roznowski, & Necowitz, 1992). The correlations among the variables are presented in the Appendix.

RESULTS

The model presented in Figure 1, complemented with the expected longitudinal effects, was fitted to both data sets. As the fit indexes in Table 2 show, the null model fitted the data well across both data sets (AGFI, NNFI and CFI all exceeding .90, chi-square/df ratio 1.68 or better). However, inspection of the parameter estimates and the corresponding T-values revealed that several effects were not significantly different from zero.

These effects were omitted. The fit of the models, however, remained virtually unchanged.

Table 3 presents the standardized parameter estimates for the final models. It is convenient to discuss these results in three separate sets of effects. The first of these concerns the relations among the variables within time points only (i.e., how well accounts the model presented in Figure 1 for the data collected at each of the two time points, considered as two cross-sections). The second set of results applies to the longitudinal extension of the model presented in Figure 1 (i.e., can the effects found within time points be replicated across time). Finally, the third set of results refers to the effects of the three withdrawal/coping-variables (depersonalization regarding students and colleagues, and lowered organizational commitment) as measured at time one on the inequity-variables measured at time two (i.e., does psychological withdrawal from a relationship result in a more equitable ratio between investments and returns for this relationship).

Cross-sectional results. In the introduction to this paper we distinguished between strains and variables reflecting psychological withdrawal. Strain (i.e., emotional exhaustion) was expected to be affected by all three types of exchange relationships, whereas the withdrawal variables (depersonalization with regard to one’s students and depersonalization with regard to one’s colleagues, and organizational commitment) were assumed to be related to one type of exchange relationship in particular, and not to the other types. Table 3 reveals that these expectations were largely supported within each cross-section and across samples. Increases in emotional exhaustion were indeed predicted by increases of inequity in all three exchange relationships. Inequity in the exchange relationships with students and in the relationship with the organization were most consistently related to exhaustion (effects ranging from .21 to .34 for the students, and from .08 to .30 for the organization, all effects p < .01 or better). The effects of inequity in the

| TABLE 2 |
| COMPARISON OF THE FIT OF THE NULL MODEL AND THE FINAL MODEL FOR EACH SUBSAMPLE |

<table>
<thead>
<tr>
<th>SAMPLE 1 (N = 460)</th>
<th>DF</th>
<th>$\chi^2$</th>
<th>AGFI</th>
<th>RMSEA</th>
<th>NNFI</th>
<th>CFI</th>
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<td>245.34</td>
<td>.97</td>
<td>.047</td>
<td>.99</td>
<td>.99</td>
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<tr>
<td>fitted model</td>
<td>176</td>
<td>253.28</td>
<td>.97</td>
<td>.048</td>
<td>.99</td>
<td>.99</td>
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<th>SAMPLE 2 (N = 460)</th>
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<th>$\chi^2$</th>
<th>AGFI</th>
<th>RMSEA</th>
<th>NNFI</th>
<th>CFI</th>
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<td>.97</td>
<td>.051</td>
<td>.98</td>
<td>.98</td>
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<td>fitted model</td>
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<td>295.10</td>
<td>.97</td>
<td>.051</td>
<td>.98</td>
<td>.98</td>
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### Table 3

Standardized Least Squares Estimates for the Fitted Models (Structural Effects Only, Upper Estimate Sample A, Lower Estimate Sample B)

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<td>Inequity students</td>
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<td>.15***</td>
<td>-.24***</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>.30***</td>
<td>.15***</td>
<td>-.24***</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>Inequity colleagues</td>
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<td>.21***</td>
<td>-.28***</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Inequity colleagues</td>
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<tr>
<td>Inequity organization</td>
<td>-.16*</td>
<td>ns</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

| Inequity students | -.15* | ns | -.19* | - | - | - | - | - | - | - | - | - | - |
| Inequity colleagues | -.16* | - | - | ns | - | - | - | - | - | - | - | - | - |
| Inequity organization | -.28** | - | - | - | - | - | - | - | - | - | - | - | - |

| R² | .67 | .38 | .53 | .54 | .72 | .57 | .29 | .40 | .20 | .06 | .11 | .04 | .20 |

| a This effect was constrained to be equal across occasions. b Standardized loadings vary between .72 and .89, median loading .78, all p’s < .001. * = p < .05, ** = p < .01, *** = p < .001. ns = effect was hypothesized but not significant (p > .05), and thus omitted.
relationship with the colleagues were somewhat weaker and less consistent across samples (effects of .13 and .14 in sample A, effects ns in sample B).

As regards the three ‘specific’ outcome variables, we found that feelings of depersonalization in relation to the students were predicted exclusively by perceived inequity in the exchange relationship with the students (effects of -.15 to -.25, p’s < .001). Similarly, feelings of depersonalization in relation to one’s colleagues were predicted by perceived inequity in the exchange relationship with these colleagues (effects of -.14 to -.10, p’s < .001), but not by other variables. Finally, lowered levels of organizational commitment were associated with higher levels of inequity as experienced in the relationship with the organization (effects of -.40 to -.46, p’s < .001).

We expected lack of personal accomplishment to be especially strongly related to inequity experienced in the relationship with the students. This reasoning was confirmed by effects ranging from -.24 to -.33 (p’s < .001), supporting the idea that teachers use the levels of stress resulting from inequitable relationships with students as an indication of their performance.

Whereas these results are consistent with the ideas advanced in the introduction to this study, it should be noted that they are based on cross-sectional data. Thus, while these results suffice to show that one may distinguish among various types of exchange relationships (as evidenced by differential patterns of relationships with other variables), these relationships cannot be interpreted in causal terms. The next set of results focuses on the longitudinal implications of this model.

Longitudinal effects of inequity on the outcome variables. Table 3 shows that the direct lagged effects of the Time 1 inequity variables on the outcome variables as measured at Time 2 were not significantly different from zero in 7 out of 14 cases. If they were significant, the magnitude of these effects was quite small (effects ranging from -.15 to -.32, median value .19, p’s < .05), and as a rule they did not replicate across samples. Interestingly, whenever an effect was found, its direction was contrary to what was expected. For example, within each cross-section inequity in the exchange relationship with the organization was negatively related to commitment to that organization (effects of -.40 to -.46, p’s < .001, cf. Table 3). However, the corresponding longitudinal effect was positive (effects were .30 and .32, p’s < .01). This finding is even more noteworthy as the corresponding across-time correlation coefficients underlying this effect were also negative (r’s ranging from -.11 to -.25, p’s < .001, cf. Appendix). Similar findings apply to the longitudinal effects of the inequity variables on other outcome variables. The least that can be concluded from these findings is that there is no longitudinal support for the model presented in Figure 1. Although teachers who experienced much inequity in their exchange relationships at time one also experience more negative work outcomes at time two, these effects were largely indirect (via time one work outcomes and time two inequity), rather than via direct effects of time one inequity on the time two outcome variables.

Feedback-effects of the withdrawal-variables on lack of reciprocity. Finally, it was hypothesized that psychological withdrawal from a particular exchange relationship (in terms of depersonalization with regard to one’s students and colleagues, and diminished commitment to the organization, respectively) would result in a more equitable balance between investments in and benefits gained from that relationship. Table 3 shows that these ideas were not supported by the data. Rather, there was some evidence that teachers who obtained high scores on the withdrawal-variables at time one experienced less equity in the corresponding exchange relationships at time two. For example, in both samples high depersonalization with regard to one’s students was associated with more feelings of inequity in this relationship at time two (standardized effects of .23 and .11, p’s < .05). Similarly, in one sample high depersonalization regarding one’s colleagues at time one was related to more feelings of inequity in the relationship with one’s colleagues at time two (an effect of .08, p < .05). These results suggest that psychological withdrawal from an exchange relationship is not an effective strategy to obtain a more equitable balance between investments and benefits. Rather, it seems that psychological withdrawal from a disturbed exchange relationship fosters a deterioration of the balance between investments and rewards.

DISCUSSION

The current study examined the relations among perceived inequity in three types of exchange relationships (with students, colleagues, and the organization, respectively) on several outcome variables (organizational commitment, emotional exhaustion, depersonalization with regard to students and colleagues, and personal accomplishment) in the context of a longitudinal study among 920 Dutch teachers. Following Lazarus and Folkman (1984), we expected that it would be possible to distinguish between two sets of outcome variables, namely strains (which would be affected by feelings of inequity, irrespective of the type of exchange relationship in which it was experienced), and withdrawal or coping variables (which would be linked to one type of exchange relationship in particular). Further, we examined
whether the expected cross-sectional effects could be replicated longitudinally. Finally, we examined whether (and if so, how) psychological withdrawal from an exchange relationship (in terms of depersonalization regarding one’s students or colleagues, or a diminished commitment to the organization) would positively affect the balance between investments in and benefits gained from that relationship.

The results provided good support for the distinction among the three exchange relationships. Each of these relationships retained different patterns of effects on the outcome variables, both within and across students, depersonalization regarding one’s colleagues — inequity regarding the relationship with one’s students, depersonalization regarding one’s colleagues — inequity regarding the relationship with one’s colleagues, and personal accomplishment — inequity regarding the relationship with one’s students). These results confirm and enhance the findings reported by Schaufeli et al. (1996).

Personal accomplishment — the third dimension of Maslach and Jackson’s (1986) burnout measure — fitted the framework outlined above rather less well. Following Schachter and Singer’s (1962) attribution-of-arousal theory, we proposed that the stress resulting from maintaining an inequitable exchange relationship with one’s students (which was expected to be the potentially most stressful exchange relationship, cf. Van Holm et al., 2001, Study 1) would lead teachers to infer that they perform inadequately. This reasoning was cross-sectionally confirmed by negative effects of inequity on the exchange relationship with one’s students on personal accomplishment.

Within each cross-section, the expected effects between the three inequity variables and the outcome variables were fully confirmed. That is, the more inequity one perceived in a particular exchange relationship, the higher the likelihood that negative work outcomes would occur. However, this pattern of effects was not replicated longitudinally. Rather than to replicate the cross-sectional effects longitudinally (thus providing support for a causal interpretation of the effects of inequity on work outcomes), we either found effects that were not significantly different from zero, or effects that ran contrary to our expectations. For example, whereas the cross-sectional evidence showed that teachers who experienced much inequity in the relationship with their students had a high risk to become emotionally exhausted, the corresponding longitudinal effect was negative — even though the corresponding underlying correlation coefficients were positive. Similar findings were obtained for other longitudinal effects.

Such findings are often interpreted as suppressor effects (Snyder & Mangrum, 1996). Although such effects are often considered as statistical artifacts that do not deserve much attention (cf. Lea & Ashforth, 1993), they are not necessarily void of meaning. These negative effects suggest that people have access to ‘coping strategies’ that allow them to handle the potentially harmful consequences of prolonged exposure to highly inequitable exchange relationships (cf. Lerner, 1984; Whaley et al., 1993). Psychological withdrawal (in the form of diminished commitment to the organization, or depersonalization with regard to students or colleagues) can be considered as one such strategy (but see below); however, one may apply other strategies as well. For example, teachers who feel that they invest too much in and receive too little from a particular exchange relationship may engage in cognitive re-appraisal of these investments and benefits. At least one successful program for the treatment of burned-out workers is based on such a re-appraisal principle (VanDierendonck, Buunk & Schaufeli, 1998). Alternatively, people may choose to leave their organization; a change of environment may improve their work situation as well (but see Tors, Bok, & Calf, 1998, who found that depressive workers who took on another job were on average less likely to improve their work situation longitudinally than those who stayed in the organization or non-depressed workers who found another job).

Coping with inequity: Psychological withdrawal. One final goal of the current study was to examine whether psychological withdrawal from disturbed exchange relationships (in the form of depersonalization with regard to one’s colleagues and students, or a diminished organizational commitment) would result in a more equitable balance (cf. Adams, 1965). The results presented here show that this is not the case; rather, they to restore the balance between investments and benefits, psychological withdrawal seemed to increase the disbalance. Post-hoc analyses revealed that time one psychological withdrawal did not only result in lower investments in a particular exchange relationship at time two (as would be expected), but in lower benefits gained from that relationship as well. The average correlation between the three psychological withdrawal variables and the investments in the corresponding exchange relationship was -.26, computed across all three relationships; the average correlation between the three withdrawal variables and the benefits gained from the corresponding relationship was -.32, all p’s < .001. Thus, lower investments were compensated by lower returns.

Equity theory provides an elegant interpretation of this finding. Exchange processes are per definition dyadic processes. One party’s investments are often the other party’s benefits, and vice versa. Thus, if one party decides to
lower their investments in a relationship, the other party will see their benefits gained from this relationship decrease. As both parties strive to a rewarding exchange relationship, this other party will decrease their investments in the relationship as well — which makes the relationship even less rewarding for the first party, and so on (cf. Bakker et al., 2000).

If this reasoning is correct, it would seem that psychological withdrawal from an exchange relationship is a particularly effective way to destroy this relationship, and certainly not one that is to be included in a counseling program designed for employees experiencing high inequity in their exchange relationships. Indeed, this result questions the common practice of teaching medical students an attitude of ‘detached concern’ towards their patients (Lief & Fox, 1963), as this may well have counterproductive effects on the quality of the relationship between caregiver and recipient.

**Limitations and directions for future research.** Three important limitations of this study must be acknowledged. First, the current study was conducted among teachers. Although the findings were replicated across two statistically independent samples, replication across different occupations would have been more informative concerning the generalizability of the findings. Second, the study included only self-report measures, meaning that the correlations among the variables may have been inflated by common method variance, ‘halo’-effects, or the tendency of respondents to provide answers that are consistent with previous answers (e.g., Kasl, 1998). Although such processes cannot be precluded, their effects would seem less consequential for the longitudinal findings presented here. Finally, one important limitation of this study derives from the fact that the withdrawal behaviors included in this study represented a rather select set of actions. Individuals may have access to a more varied set of coping strategies, and in practice they may use strategies that are more successful in restoring a disturbed balance between investments in and returns from a relationship. Indeed, the psychological withdrawal variables included in this study would seem to represent the ‘passive’ pole of a continuum ranging from ‘passive’ to ‘active’ coping strategies. It would seem important to study the effects of other coping strategies in follow-up research.

**Implications of the study.** In spite of the limitations outlined above, we believe that this study presents interesting and important new insights in the relation among inequity, burnout, and psychological withdrawal behavior of employees. Contrary to earlier work, the general theoretical framework presented here allows for the deduction of hypotheses on the effects of inequity experienced in diverse types of exchange relationships on various sets of outcome variables. Although much work remains to be done (involving more and more diverse types of outcome variables, to be studied in other occupational groups), the distinction between strains and coping behaviors seems potentially valuable for future research.

From a practical point of view it is important to note that psychological withdrawal from a disturbed exchange relationship is unsuccessful in restoring an equitable balance for this relationship. One in this respect possibly more successful strategy is cognitive re-appraisal of the investments in and benefits gained from a particular exchange relationship (van Dierendonck et al., 1998). Furthermore, the results presented here suggest that burnout (or negative work outcomes in general) may result from a variety of inequitable exchange relationships, underlining that the work situation contains many possible sources of negative work outcomes. In order to prevent such undesirable outcomes, it may not be sufficient to improve only one aspect of the work situation if other problematic aspects are not simultaneously dealt with. For instance, we found that among teachers inequity in the relationship with the students had the strongest effects on burnout (i.e., exhaustion, depersonalization, and diminished personal accomplishment), while inequity in the relationship with the organization was a strong precursor of lowered organizational commitment (cf. Schaufeli et al., 1996, for similar results among nurses). Improving the exchange relationship with the students, therefore, may enhance teacher well-being, but will have little impact on teacher turnover. Thus, strain and withdrawal are two aspects of working life that reflect the outcomes of two different processes that should be dealt with accordingly: measures targeted to improve the first may have little effect on the second, and vice versa.
### Correlation Matrix for the Variables in Sample A (Above the Diagonal; N = 460) and Sample B (Below the Diagonal; N = 460) for Time 1 and Time 2

| Variable | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  | 21  | 22  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| **Time 2** |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 1. EE    |     | .45 | .33 | -.33| -.41| .16 | .24 | .10 | .06 | .18 | .27 | .78 | .37 | .33 | -.21| -.34| .22 | .29 | .09 | .12 | .25 | .24 |
| 2. DPS   | .41 |     | .43 | -.37| -.39| .15 | .23 | .06 | .00 | .09 | .14 | .35 | .60 | .41 | -.31| -.34| .20 | .26 | .05 | .12 | .13 | .10 |
| 3. DPC   | .32 | .33 |     | -.22| -.48| .05 | .05 | .17 | .09 | .14 | .12 | .26 | .43 | .71 | -.30| -.40| .15 | .18 | .13 | .13 | .08 | .04 |
| 4. PA    | -.36| -.32| -.25|     | -.42| -.32| -.24| .01 | .07 | -.02| .03 | .24 | .35 | -.34| .20 | .26 | .05 | .12 | .13 | .08 | .04 | .01 |
| 5. COM   | -.38| -.31| -.44| -.41|     | .16 | -.12| -.19| -.36| -.31| -.27| .30 | .40 | .46 | .04 | .75 | .16 | .21 | -.04| .15 | .25 | .20 |
| 6. EQS   | .32 | .32 | .14 | -.38| -.28|     | .59 | .05 | .00 | .15 | .12 | .17 | .15 | .07 | .10 | .13 | .46 | .37 | .02 | .02 | .07 | .06 |
| 7. BALS  | .28 | .20 | .07 | -.29| -.20| .56 |     | .00 | .00 | .09 | .15 | .20 | .20 | .06 | .02 | -.11| .43 | .45 | .03 | .04 | .09 | .07 |
| 8. EQC   | .12 | .01 | .20 | .06 | .18 | .10 | .00 |     | .61 | .22 | .17 | .07 | .09 | .14 | -.19| -.10| .10 | .08 | .29 | .26 | .16 | .19 |
| 9. BALC  | .12 | .00 | .19 | .05 | .23 | .02 | .07 | .57 |     | .15 | .11 | .03 | .01 | .00 | -.24| -.05| .08 | .12 | .31 | .30 | .14 | .20 |
| 10. EQM  | .16 | .06 | .05 | -.06| -.28| -.22| .22 | .14 | .25 | .10 | .64 | .14 | .06 | .11 | .32 | .23 | .10 | .10 | .05 | .06 | .39 | .33 |
| 11. BALM | .19 | .05 | .03 | -.01| -.17| .13 | .17 | .19 | .17 | .64 |     |     |     |     |     |     |     |     |     |     |     |     |
| **Time 1** |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 12. EE   | .74 | .32 | .27 | -.29| -.31| .24 | .22 | .09 | .14 | .14 | .10 |     | .36 | .31 | -.19| -.36| .27 | .33 | .12 | .16 | .28 | .29 |
| 13. DPS  | .39 | .52 | .33 | -.36| -.26| .19 | .13 | -.04| .00 | .05 | .07 | .41 |     | .48 | -.31| -.39| .22 | .27 | .06 | .13 | .14 | .04 |
| 14. DPC  | .29 | .28 | .65 | -.20| -.36| .14 | .07 | .16 | .13 | .10 | .08 | .29 | .34 |     | -.27| -.48| .13 | .17 | .15 | .18 | .12 | .07 |
| 15. PA   | -.35| -.24| -.25| .68 | .35 | .23 | -.17| .02 | .00 | .07 | -.02| -.35| -.37| -.20 |     | .41 | -.31| -.24| -.01| .04 | -.02| .03 |
| 16. COM  | -.33| -.27| -.33| .31 | .74 | -.25| -.21| -.16| -.19| -.24| -.18| -.37| -.24| -.36 | .36 |     | .22| -.24 | -.14| -.15| -.32| -.22 |
| 17. EQLS | .31 | .15 | .08 | -.28| -.19| .45 | .38 | .01 | -.01| .14 | .12 | .35 | .17 | .12 | -.28| -.23 | .64 | .10 | .10 | .20 | .14 |
| 18. BALS | .32 | .18 | .06 | -.25| -.18| .42 | .51 | .01 | .09 | .13 | .09 | .35 | .19 | .08 | -.25| -.19| .64 | .07 | .20 | .19 | .21 |
| 19. EQC  | .08 | .01 | .15 | -.03| -.15| .14 | .11 | .35 | .45 | .04 | .07 | .16 | .02 | .15 | -.02| -.20| .14 | .08 | .68 | .15 | .14 |
| 20. BALC | .12 | .04 | .12 | .00 | -.11| .07 | .12 | .33 | .45 | .04 | .09 | .19 | .01 | .10 | -.02| -.17| .07 | .07 | .70 | .10 | .13 |
| 21. EQM  | .18 | .05 | .07 | -.05| -.28| .12 | .14 | .17 | .19 | .44 | .42 | .25 | .03 | .03 | -.08| -.30| .21 | .17 | .24 | .16 | .63 |
| 22. BALM | .18 | .03 | .04 | .00 | -.23| .08 | .15 | .12 | .18 | .44 | .48 | .22 | .05 | .02 | .00| -.26| .09 | .12 | .09 | .09 | .71 | .12 |
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