Examining the effects of negative affectivity on self- and supervisor ratings of job stressors:

The role of stressor observability

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Abstract

In this study, we investigated job stressor ratings through Lazarus' transactional stress theory and the usefulness of supervisor ratings as an alternative to incumbent self-reports. Based on the finding that negative affectivity (NA) causes incumbents to over-report job stressors, we hypothesized that supervisors may also be affected by their NA when appraising an incumbent's job stressors. Building upon the literatures on judgement processes and social-cognitive information processing, we further hypothesized that stressor observability is an important boundary condition. Specifically, we hypothesized that the impact of NA on both self- and supervisor-reported job stressors should increase as stressor observability decreases. Moreover, we hypothesized that incumbent and supervisor ratings would converge less as stressor observability decreases. Data from 260 incumbent-supervisor dyads showed that stressor observability reduced the impact of supervisor NA on supervisor ratings (but not the impact of incumbent NA on incumbent stressor ratings). Further, as hypothesized, incumbent and supervisor ratings showed less convergence the less observable the stressor was. The results highlight the importance of personal and situational factors in the stressor appraisal process – an issue that advances both research and practice in the field of stressor ratings.

Keywords: job stressors, observability, incumbent ratings, supervisor ratings, negative affectivity

Examining the effects of negative affectivity on self- *and* supervisor ratings of job stressors:

The role of stressor observability

It is a common practice in organizational research to investigate stressor-strain relationships by assessing both stressors and strains with incumbent self-reports (e.g., Hall et al., 2006; Hochwarter, Summers, Thompson, Perrewé, & Ferris, 2010). By using self-reports though, researchers do not assess the objective stressor per se, but the person's subjective perception of it. In terms of Lazarus' transactional stress theory (e.g., Lazarus & Folkman, 1984), this means that the stressor is assessed after it is *appraised* by the incumbent. Self-reports have been severely criticized (e.g., Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) as subjective ratings of stressors and strains might be biased due to factors such as social desirability, acquiescence, and negative affectivity (NA). These potential biasing factors are, in turn, considered sources of common method variance that may lead to an overestimation of the relationships under study (i.e., common method bias, CMB).

In fact, the single-source nature of a study has oftentimes been a reason for its rejection, or at least prejudices on the side of journal editors and reviewers (cf. Campbell, 1982; Pace, 2010). To avoid such problems, job stressors were sometimes assessed entirely objectively (e.g., such as number of work hours to assess workload, Sonnentag & Niessen, 2008). However, due to the fact that only a few stressors can be operationalised in this way, researchers have suggested using others' ratings, such as supervisor ratings as they are held responsible for the work and action of these employees (Semmer, Grebner, & Elfering, 2004; Spector, 1992).

Yet, the above criticism and the call to use supervisor reports have recently been called into question as well. First, it appears that the above-mentioned factors, which have been argued to bias self-reports, do not have uniform effects across different stimuli (e.g., Williams & Anderson, 1994). Instead, it appears that the strength of these effects is dependent on certain other, not yet identified boundary conditions. Second, supervisor reports constitute

a perceived or appraised form of a job stressor as well which means such ratings might be likewise affected by potential biasing factors (e.g., Conway & Lance, 2010). Although the subjectivity of others' ratings has been discussed in several other areas of research such as leadership (e.g., Felfe & Schyns, 2010), performance ratings (e.g., Landy & Farr, 1980), and assessment centre judgements (e.g., Schneider & Schmitt, 1992), it has not been investigated in the field of stress research. Thus, it remains open to see the extent in which both incumbent- and supervisor-perceived job stressors are affected by variables that may act as biasing factors, and which boundary conditions do in fact determine the strength of these potential biasing effects.

In the current study, we seek to investigate the above question and to theoretically explain the underlying mechanisms. Specifically, we examine the effects of NA (i.e., a person's tendency to view the world in negative terms, Watson & Clark, 1984) as a variable that may affect both incumbent self-reported *and* supervisor-rated perceived job stressors. We do so because NA is considered a crucial construct in stress research (e.g., Spector & O'Connell, 1994; Spector, Zapf, Chen, & Frese, 2000) and has been discussed in social-cognitive models on information processing (e.g., Forgas' Affect Infusion Model, 1995). In addition, we examine stressor observability, that is, the availability of visible target-related cues in the judgement process (Brunswick, 1955; Kenrick & Stringfield, 1980), as an important boundary condition of the appraisal process. By linking transactional stress theory (e.g., Lazarus & Folkman, 1984) with theory on judgement processes (cf. Brunswick, 1955; Morgeson & Campion, 1997) and the Affect Infusion Model (Forgas, 1995), we propose that the impact of NA on self- and supervisor-rated perceived job stressors should be stronger for stressors that are difficult to observe. As a practical consequence of this process, we further propose that the convergence between incumbent and supervisor ratings will be smaller the less observable the stressor is.

Our study contributes to the literature in several ways. First, this study extends research on variables that might act as biasing factors on supervisor perceptions of job stressors. Showing that supervisor-perceived job stressors are also susceptible to the effects of potential biasing factors expands previous knowledge on possible sources of non-objectivity in such ratings. Second, this study links the transactional model of stress (e.g., Lazarus & Folkman, 1984) with research in the area of job ratings (e.g., Morgeson & Campion, 1997) and social-cognitive processing (Brunswick, 1955; Forgas, 1995). If stressor observability is indeed an important boundary condition, this knowledge will advance our understanding of the factors that shape the process of stressor appraisal. Third, our study contributes to the CMB debate by helping researchers identify when potential biasing factors may pose a threat to their data. Fourth, as non-objectivity in job stressor ratings may have serious effects on both the organization and the individual (Morgeson & Campion, 1997, 2000), this study benefits companies by identifying when supervisor perceptions of incumbent job stressors may be a useful source of information, and in which cases other approaches might be more appropriate.

In the following, we first explain both incumbent and supervisor stressor perception as an appraisal process in line with Lazarus' (e.g., Lazarus & Folkman, 1984) transactional stress theory. We then clarify the role of person variables, particularly NA, in this process and we explain how a stressor's observability affects the impact that NA has on the appraisal process. Finally, we describe how the mechanisms related to NA and observability further affect the convergence between incumbent- and supervisor-rated job stressors.

The Process of Stressor Appraisal

According to transactional stress theory (e.g., Lazarus, 1999), the way a person perceives a stressor is not a direct reflection of any objective characteristics but an interactive process between the person and the environment (see also Perrewé & Zellars, 1999). Specifically, the key to understanding how potential objective stressors are perceived as such

by the person is through the process of appraisal. When cognitively appraising an objective stimulus, people evaluate the relevance of this encounter in an idiosyncratic way. That is, they judge whether the stimulus is threatening and whether it puts their well-being at stake. If this is the case, people further evaluate the availability of resources in order to cope with the stressor (e.g., Lazarus, 1999, 2001). In sum, through the process of appraisal, objective conditions in the environment are transformed into a person's subjective (stressor) perception.

The Role of Person Variables in Shaping the Appraisal Process

Lazarus (e.g., 1999) further argues that a number of antecedent conditions both on the environmental side and on the person side are crucial in shaping a person's appraisal. Among the variables on the person side are *beliefs about the self and the world*, which are argued to "shape our expectations about what is likely to happen in an encounter; what we hope for and fear; and, therefore, what our anticipatory and outcome emotions are likely to be" (p. 71). Within this category, the personality trait NA has received widespread attention in organizational stress research, as research has demonstrated this trait to be crucial in how individuals appraise their environment (e.g., Chen & Spector, 1991; Spector & O'Connell, 1994). In essence, NA describes a person's tendency to experience aversive mood states, such as anger, scorn, fearfulness, or depression (Watson & Pennebaker, 1989). Moreover, people with high NA view themselves and a variety of aspects of the world around them in generally negative terms (Watson & Clark, 1984).

In line with the above reasoning, one can infer that people high in NA are more likely to appraise objective stimuli as threatening (due to their negative world view), and thus experience stressors at a higher level than their low NA counterparts. Related to this, Spector et al. (2000) argued that people high in NA are hypervigilant towards stressful stimuli and they are prone to focusing on negative cues and information in their environment (Levin & Stokes, 1989; Necowitz & Roznowski, 1994). To date, a number of studies have provided

empirical support for the assumption that people high in NA experience stressors at a higher

level (e.g., Höge & Büssing, 2004; Oliver, Mansell, & Jose, 2010).

The Effects of Supervisors' NA in the Appraisal of Incumbent Job Stressors

As noted above, a frequently suggested solution for problems associated with the

exclusive use of self-reports is the use of supervisor ratings (e.g., Semmer et al., 2004).

However, there are at least two reasons why the effects of potential biasing factors, such as

NA in the present case, are likely to generalize to supervisor-reported incumbent stressors.

First, and following Lazarus (e.g., Lazarus & Folkman, 1984), when supervisors rate their

incumbents' job stressors, they are in fact also *appraising* the incumbents' stressors. Albeit

the pathway that links the objective stimulus with the personal appraisal certainly differs

between incumbents and supervisors, both parties do actually perceptually process and

evaluate these stimuli. Whereas incumbents also evaluate the stimulus with regards to their

well-being and available resources, as previously mentioned, supervisors might appraise the

incumbent stressor by also comparing the focal incumbent with his or her earlier behaviour

and other employees he or she supervises. Second, people high in NA not only view certain

aspects around them in negative terms, but are assumed to do so generally (Watson & Clark,

1984). Thus, supervisors are likewise affected by their NA when reporting incumbent

stressors. Hence, the higher a supervisor's NA, the higher his or her perceived level of the

incumbent's stressors should be.

The Issue of Stressor Observability: A Boundary Condition

According to Lazarus' transactional theory and recent arguments in organizational

stress research (e.g., Spector in Brannick, Chan, Conway, Lance, & Spector, 2010; Conway &

Lance, 2010), it appears questionable that NA has uniform effects across all stressors. In

particular, as Lazarus (1999) proposed environmental and person variables to interact in the

appraisal process, the impact of NA on a person's stressor perception should be dependent on

other (environmental) characteristics of the stressor.

Brunswick's (1955) lens model of inferential behaviour provides some insight with regards to which characteristics should play a role. This model which was originally developed in the context of object perception, has since been applied to other areas such as clinical inference and person perception (cf. Hammond, Hursch, & Todd, 1964; Wiggins, 1973). According to Brunswick's lens model, individuals rate a target by perceiving a number of cues regarding the target's personal characteristics. By combining these cues, the observer then makes a judgement about the target. In the context of stressor perception, the model suggests that individuals rely on and combine several cues when rating the level of certain stressors.

Furthermore, Kenrick and Stringfield (1980) reasoned that a central issue within the lens model is the aspect of *observability*, defined as the availability of well visible cues that the rater can rely on in the judgement process. They demonstrated that the more observable a target's cues are, the more salient they are to a rater, and hence more extensively relied on when making a judgment which should make the judgment more accurate (see also Paunonen, 1989). A similar idea about the importance of observability comes from Morgeson and Campion's (1997) framework on non-objectivity in the field of job analysis. The authors argue that the less observable a job characteristic is, the greater is the inferential leap; thus, the inferences involved for both incumbents and other observers in the judgment process are more abstract (see also Morgeson & Dierdorff, 2011). In such a situation, the impact of personal idiosyncrasies in the appraisal process can increase. In a similar vein, Spector (in Brannick et al., 2010; Spector, 2006) argued that biasing factors might be particularly pronounced if researchers assess entities which cannot be accurately reported by employees (for a similar argumentation on the issue of observabilty in the context of assessing coping reactions through others' reports see O'Driscoll, 2013).

As briefly introduced above, Forgas' (1995) Affect Infusion Model (i.e., a social-cognitive model of information processing) offers an explanation regarding how the

environmental variable observability should interact with the person variable NA in the present context of stressor appraisal. The model suggests that in complex situations that demand substantial cognitive processing, affect has a particularly pronounced impact on people's judgments. In other words, as situations become more complex and ambiguous, affect becomes more influential in driving evaluations and responses. Thus, when a stressor is difficult to observe, the greater is the person's inferential leap in the appraisal process, and the greater the role of affect-related variables such as NA are.

Thus, combining the Affect Infusion Model (Forgas, 1995) with Brunswick's (1955) lens model and the ideas put forward by Morgeson and Campion (1997), the impact of a person's NA in the appraisal process should increase as the observability of the stressor decreases. As similarly denoted in the case of NA above, we argue that the effects of stressor observability are similar for both incumbents' self-reports and supervisor reports of the incumbents' job stressors. Although, as mentioned above, the exact inference processes will differ between incumbents and supervisors, the impact of observability should be similar for incumbents' self-reports and supervisor reports of the respective incumbents' job stressors.

Determining Stressor Observability

In the context of this study, we contrast three job stressors that we propose follow a descending rank order in terms of their degree of observability. In descending order of observability, these stressors are: *time pressure, social stressors,* and *job insecurity*. According to large surveys (e.g., American Psychological Association, 2011; European Agency for Safety and Health at Work, 2009), the aforementioned stressors belong to the major causes of work stress among respondents from diverse occupations.

To start with, *time pressure* is a job stressor which should be relatively easy to observe for both incumbents and supervisors, as there are several visible cues available that can be used. According to Sackett and Laczo (2003), the most fundamental distinction in job analysis is between work-oriented or activity descriptors (i.e., the performed work itself) vs. worker-

oriented or attribute descriptors (i.e., the worker's characteristics for the successful

performance of a particular job). As implied by these authors, time pressure can be regarded

as a work-oriented descriptor, as it refers to the job itself. Descriptors encompass the various

features of work that can be examined (Brannick, Levine, & Morgeson, 2007). In this sense,

work-oriented descriptors have a clear set of visible cues, which should leave less room for

interpretation and are therefore less susceptible to inference processes (Morgeson & Campion,

1997). For example, if a person experiences time pressure, the incumbent and others, such as

the supervisor, may notice that the respective incumbent has a high number of tasks to finish

(e.g., amount of dossiers on the desk).

The second stressor category that we focus on is *social stressors* at work. Social

stressors include social animosities, conflicts with co-workers and supervisors, unfair

behaviour, and a negative group climate (e.g., Dormann & Zapf, 2002; Frese & Zapf, 1987).

In essence, these stressors result from negative relationships with others at work. In contrast

to time pressure, the cues that people can use in the case of social stressors are somewhat less

easy to observe. Although social stressors lack a work-related focus, they can be indirectly

inferred from behaviour such as withdrawal from interactions with certain people or unkind

remarks or comments about and against other people.

Finally, *job insecurity* refers to the likelihood that a person might lose his or her job

(e.g., Sverke, Hellgren, & Näswall, 2002) and constitutes a stressor that is difficult to observe.

This is due to the fact that this stressor lacks those highly visible cues mentioned above. More

specifically, when both an incumbent and a supervisor rate the job insecurity of the respective

incumbent, they might take into account cues such as the respective incumbent's education or

training. These cues might be helpful in judging the incumbent's risk of job loss *relative* to

his or her co-workers. However, there are additional cues which are much more difficult to

determine for both incumbents and supervisors (such as company performance, number of

competitors in the same industry, cf. Debus, König, & Kleinmann, 2014), but which are

relevant indicators of the *overall* risk of job loss. In combination, both types of cues are relevant for the overall assessment of an incumbent's job insecurity. Finally, despite the fact that stressor perception is generally a subjective appraisal, the issue of subjectivity in job insecurity perceptions has been particularly highlighted by researchers (De Witte, 2005; Klandermans, Klein Hesselink, & Van Vuuren, 2010). Thus, based on what has been argued before, the three stressors (i.e., time pressure, social stressors, and job insecurity) should reflect a descending rank order in terms of their level of observability.

Research Hypotheses

In sum, we propose that in addition to incumbent self-reports, supervisor reports of the respective incumbent's job stressors are also the result of a subjective appraisal process. Accordingly, we argue that the biasing effects of NA, which have been found for self-reported job stressors, also apply to supervisor reports. Consistent with Brunswick's (1955) lens model, Morgeson and Campion's framework (1997) and Forgas' (1995) Affect Infusion Model, we further propose that there is an important boundary condition to this mechanism. When a job stressor is less observable, fewer visible cues are available, and, thus, more abstract inferences are made when judging that job stressor. Consequently, NA will have a greater impact in the judgment process the less observable the stressor is.

Hypothesis 1: The positive relationship between an incumbent's NA and his or her self-reported job stressors will differ as a function of stressor observability, such that the relationship will be stronger for less observable stressors.

Hypothesis 2: The positive relationship between a supervisor's NA and his or her ratings of the incumbent's job stressors will differ as a function of stressor observability, such that the relationship will be stronger for less observable stressors.

Moreover, the issue of stressor observability should also matter for the actual convergence between incumbent- and supervisor-rated job stressors. As argued above, outside factors such as personality play a greater role in the appraisal process the less observable the

stressor is. Thus, both incumbents' and supervisors' stressor perceptions should be more strongly driven by personal idiosyncrasies in the case of low vs. highly observable stressors. As a consequence, we propose that incumbent- and supervisor-rated job stressors will converge less, that is, they will differ more strongly the less observable the stressor is. Thus:

Hypothesis 3: Convergence between incumbent- and supervisor-rated job stressors will be smaller the less observable the job stressor is.

Method

Pre-test

We conducted a pre-test to examine whether the three chosen stressors (i.e., time pressure, social stressors, and job insecurity) reflect the proposed descending rank order in terms of observability. To confirm this order, we assessed both incumbents' and supervisors' perceptions of observability for the three stressors (for a similar approach in the context of person perception see Kenrick & Stringfield, 1980; Paunonen, 1989). In the incumbent sample, we told participants that we were interested in their work stressors, particularly whether they judge the work stressors to be difficult or easy to observe. In the supervisor sample, we told participants to imagine they would rate the work stressors of one of their subordinates. We asked them to rate these work stressors as difficult or easy to observe. In both samples, we gave participants a short definition of the respective stressors. We defined job insecurity as the likelihood of losing one's job, social stressors as having conflicts with others at work, and time pressure as having little time to accomplish one's work tasks (the original items are available from the first author). Participants rated the degree of perceived observability on a seven-point scale, ranging from 1 = *very easy to observe* to 7 = *very difficult to observe*. Data were re-coded prior to analysis, such that higher values indicated a higher degree of perceived observability.

We sampled 107 participants in the incumbent sample and 111 participants in the supervisor sample, all of whom were currently working (this sample is different from the sample used in the main study). In the incumbent sample, participants' age ranged from 19 to 68 years ($M = 41.2$, $SD = 12.0$), and 45.5% were male. In the supervisor sample, participants' age ranged from 20 to 67 years ($M = 43.2$, $SD = 10.5$), and 55.9% were male. Participants were first asked whether they currently supervised other people at work. If they did, participants were presented with the supervisor questionnaire. If participants did not supervise other people at work, they were presented with the incumbent questionnaire.

In the incumbent sample, perceived observability of time pressure was on average rated as 5.5 ($SD = 1.4$), perceived observability of social stressors was rated as 4.7 ($SD = 1.6$), and perceived observability of job insecurity was rated as 4.4 ($SD = 1.9$). A one-way ANOVA with repeated measures was used to assess the effect of perceived stressor observability (i.e., time pressure vs. social stressors vs. job insecurity observability). The analysis yielded a significant effect [$F(2, 212) = 18.74$, $p < .001$, $\eta^2 = .15$] and thus indicates that there is a difference among the means. A subsequent linear contrast analysis demonstrated the hypothesized trend to the data [$F(1, 106) = 34.50$, $p < .001$, $\eta^2 = .25$]. That is, perceived observability significantly decreased among the three stressors.

In the supervisor sample, perceived observability of time pressure was on average rated as 5.2 ($SD = 1.4$), perceived observability of social stressors was rated as 5.0 ($SD = 1.3$), and perceived observability of job insecurity was rated as 4.5 ($SD = 1.5$). Again, an ANOVA with repeated measures yielded a significant effect, $F(1.90, 205.22) = 9.39$, $p < .001$, $\eta^2 = .08$ (using Greenhouse-Geisser, 1959, corrected degrees of freedom due to departure from sphericity). A subsequent linear contrast analysis also demonstrated that there was the hypothesized trend to the data [$F(1, 110) = 14.50$, $p < .001$, $\eta^2 = .12$]. In sum, our pre-test demonstrated that time pressure, social stressors, and job insecurity reflected the proposed descending rank order in terms of perceived observability.

Procedure and Sample

Data for the main study were collected among incumbent-supervisor dyads from public service organizations within the German-speaking part of Switzerland. We approached organizations by phone and informed them about the study. After an organization had given consent, we approached supervisors via company mail and invited them to register for study participation with one of their subordinates. To ensure that subordinates were randomly selected by their supervisors, we asked supervisors to register the one subordinate whose surname appeared first in the alphabet. Additionally, we ensured that both supervisors and incumbents (in case they had a supervisor position as well) only registered for the study once.

In total, 340 incumbent-supervisor dyads (out of 671 contacted public-service organizations) had originally registered for study participation. Of these, 80 dyads provided either no or only one completely answered questionnaire and thus were excluded from analyses. Thus, the final sample consisted of 260 dyads, representing a response rate of 76%. On average, supervisors were 45.3 years old ($SD = 10.3$ years), while incumbents were on average 35.4 years old ($SD = 11.7$ years). Of the supervisors, 76.8% had a full time position, while this was the case for 64.3% of the incumbents. In total, 71.2% of supervisors and 67.3% of incumbents were male; on average, supervisors had been working for 11 years ($SD = 9.8$ years), while incumbents had been working for 5.2 years ($SD = 5.0$ years) for the respective organization. On average, supervisor-incumbent dyads had been working together for 3.8 years ($SD = 3.8$ years). In return for their participation, organizations received a summary of the results and some practical tips on how to reduce typical work stressors.

Measures

Negative affectivity was measured with ten items from the Positive and Negative Affect Schedule (PANAS, Watson, Clark, & Tellegen, 1988) in its German trait version (Krohne, Egloff, Kohlmann, & Tausch, 1996). All items were adjectives to be rated on a five-point scale ranging from 1 = *not at all* to 5 = *extremely*. Participants were asked how well the

items describe their affective state *in general*. Sample items are "distressed," "upset," and "irritable." Cronbach's alpha was .78 (.80 for incumbents and .73 for supervisors).

Incumbent-rated job insecurity was measured with four items from the frequently used measure by Staufenbiel and König (2010). The scale was originally developed in German. A sample item is: "My job is secure." All items were measured on a seven-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* (reverse-scored). Cronbach's alpha was .81.

Incumbent-rated social stressors were measured with five items from Frese and Zapf's (1987) measure. The scale was originally developed in German. A sample item is: "It is difficult to find agreements with colleagues." All items were measured on a five-point scale ranging from 1 = *does not apply* to 5 = *applies*. Cronbach's alpha was .81.

Incumbent-rated time pressure was assessed with a five-item scale developed by Semmer (1984) and Zapf (1993). The scale was originally developed in German. Sample items are "How often do you work under time pressure?" and "How often does it happen that you have to work faster in order to get your work done?" Items were rated on a five-point scale ranging from 1 = *rarely/never* to 5 = *very often*. Cronbach's alpha was .83.

Supervisor-rated job insecurity was measured with the four items above, adapted accordingly (e.g., "His/her job is secure", reverse-scored). Cronbach's alpha was .80.

Supervisor-rated social stressors were measured with the five items above, adapted accordingly (e.g., "It is difficult to find agreements with his/her colleagues"). Cronbach's alpha was .71.

Supervisor-rated time pressure was assessed with the corresponding observer version. Sample items are "How often does he/she work under time pressure?" and "How often does it happen that he/she has to work faster in order to get his/her work done?" Cronbach's alpha was .76.

To assess whether our measures of negative affectivity, job insecurity, social stressors, and time pressure constituted four different constructs, we ran confirmatory factor analyses (CFA) for both incumbent and supervisor ratings (using the Mplus software, Muthén & Muthén, 1998-2010). We tested the assumed 4-factor model against a 1-factor model (in which all measures loaded on one factor) and against a 2-factor model (in which the three stressors loaded on one factor and NA on the other). As stressor ratings were not normally distributed, we obtained the Satorra-Bentler scaled χ^2 for each model (i.e., the normal-theory chi-square statistic is divided by a scaling correction to better approximate the chi-square distribution under non-normality, Satorra & Bentler, 1994). To test our hypotheses, models were then compared via the Satorra-Bentler scaled χ^2 difference test (Satorra & Bentler, 1999). To estimate the overall model fit for each of the models separately, the root mean square error of approximation (RMSEA; Steiger, 1990), the standardized root mean square residual (SRMR; Bentler, 1995), and the comparative fit index (CFI; Bentler, 1990) were utilised.

In the case of incumbent ratings, results showed that the four-factor model had a better fit to the data than the one-factor model ($\Delta\chi^2 = 401.64$, $\Delta df = 6$, $p < .001$; fit indices for the one-factor model were as follows: RMSEA = .13, SRMR = .13, CFI = .40) and the two-factor model (stressors vs. NA: $\Delta\chi^2 = 12.80$, $\Delta df = 5$, $p < .05$; fit indices for the two-factor model were as follows: RMSEA = .12, SRMR = .13, CFI = .50). The fit indices for the four-factor model were: RMSEA = .07, SRMR = .07, CFI = .85.

In the case of supervisor ratings, results showed that the four-factor model had a better fit to the data than the one-factor model ($\Delta\chi^2 = 673.61$, $\Delta df = 6$, $p < .001$; fit indices for the one-factor model were as follows: RMSEA = .12, SRMR = .12, CFI = .22) and the two-factor model (stressors vs. NA: $\Delta\chi^2 = 218.68$, $\Delta df = 5$, $p < .001$; fit indices for the two-factor model were as follows: RMSEA = .10, SRMR = .11, CFI = .44). The fit indices for the four-factor

model were: RMSEA = .05, SRMR = .06, CFI = .84. In sum, the analyses showed that our

measures reflected four different constructs.

Data Analysis

Hypotheses 1 and 2 were analyzed with a modified version of the actor-partner

interdependence model (APIM, Kenny, Kashy, & Cook, 2006), a model that allows for testing

dyadic relationships. The model distinguishes between actor effects (i.e., intra-individual

relationships linking a person's predictor variable with his or her own dependent variable/s)

and partner effects (i.e., inter-individual relationships linking a person's predictor variable

with his or her partner's dependent variable/s). As we were interested in whether incumbents'

and supervisors' NA affected their stressor ratings, we only estimated actor effects in our

analysis. In the APIM, the dyad is treated as the unit of analysis; in our case supervisor- and

incumbent NA constitute the independent variables, and the stressor ratings (i.e., three per

dyad member) constitute the dependent variables. Non-independence is accounted for by

creating correlated error terms between the dyad members (Kenny et al., 2006). We analyzed

our data by conducting a path analysis (using the Mplus software, Muthén & Muthén, 1998-

2010), as suggested by Kenny et al. (2006). Since the magnitude of the respective path

coefficients can only be compared on the basis of unstandardized path coefficients (Kenny et

al., 2006), we transformed all dependent variables to the same 7-point scale. Figure 1 displays

the analytical model.

Insert Figure 1 about here

Hypotheses 1 and 2 were then tested in two conditional steps. In the *first step*, we

tested several constrained APIM models against an unconstrained APIM model. We started

by evaluating an unconstrained model (Model 1) in which all path coefficients were allowed

to vary. This model assumed that the impact of NA on the three respective stressor ratings

differed for both incumbents and supervisors, respectively. We then estimated three

constrained models (Models 2, 3, and 4). In Model 2, incumbent paths were set to equal,

meaning that incumbent NA was assumed to identically affect all three self-reported stressors.

If this model fits the data as well as Model 1, Hypothesis 1 is rejected. In Model 3, supervisor

paths were set to equal, meaning that supervisor NA was assumed to identically affect all

three supervisor ratings of the respective incumbent stressors. If this model fits the data as

well as Model 1, Hypothesis 2 is rejected. As an additional test of Hypotheses 1 and 2, we

estimated Model 4 in which both incumbent paths and supervisor paths were set to equal. If

this model fits the data as well as Model 1, both Hypothesis 1 and 2 are rejected. If

Hypotheses 1 and 2 are not rejected, we can proceed with the second step.

In the *second step,* we examined whether the pattern of the respective path coefficients

of the best fitting model matched our initial propositions. To descriptively assess the overall

model fit for each of the models and to compare them, the RMSEA, the SRMR, and the CFI

were used again. As with the CFAs mentioned above, we obtained the Satorra-Bentler scaled

χ^2 for each model and tested our hypotheses by comparing the models via the Satorra-Bentler

scaled χ^2 difference test (Satorra & Bentler, 1999). To test Hypothesis 3, we computed

absolute difference scores between incumbent and supervisor-rated job stressors and

inspected whether these difference scores reflected the postulated ascending order.

Results

Means, standard deviations, and zero-order correlations are displayed in Table 1.

In the *first step* of our analyses, the unconstrained Model 1 (in which all paths from

NA to the respective stressors were allowed to vary) showed satisfactory fit ($\chi^2 = 34.9$, $df =$

18, $p < .01$; CFI = .91, SRMR = .07, RMSEA = .06). Model 2 (in which we constrained the

incumbent paths to be equal) fitted the data worse than Model 1 ($\Delta\chi^2 = 6.52$, $\Delta df = 2$, $p < .05$).

The fit indices for Model 2 were: $\chi^2 = 41.4$, $df = 20$, $p < .01$; CFI = .89, SRMR = .08, RMSEA

= .06. Model 3 also fitted worse than Model 1 such that constraining the supervisor path

coefficients to be equal significantly worsened the model fit ($\Delta\chi^2 = 6.35$, $\Delta df = 2$, $p < .05$).

The fit indices for Model 3 were as follows: $\chi^2 = 41.0$, $df = 20$, $p < .01$; CFI = .89, SRMR =

.08, RMSEA = .06. Likewise, Model 4 fitted the data worse than Model 1 such that

constraining the three incumbent path coefficients to be equal and constraining the three

supervisor path coefficients to be equal also significantly worsened the model fit ($\Delta\chi^2 = 12.98$,

$\Delta df = 4$, $p < .05$). The fit indices for Model 4 were: $\chi^2 = 47.6$, $df = 22$, $p < .01$; CFI = .87,

SRMR = .08, RMSEA = .07. Hence, Model 1, in which all path coefficients were allowed to

vary freely, provided the best fit to the data.

As Hypotheses 1 and 2 were not rejected in the first step, we examined the respective

path coefficients of the best fitting model, that is, Model 1 in the *second step*. Overall,

incumbent NA significantly predicted all three self-reported stressors; the unstandardized path

coefficients were .42, $p < .001$, for time pressure, .53, $p < .001$, for social stressors, and .23, p

$< .05$, for job insecurity. As can be seen, the respective path coefficients did not show the

postulated order: Against our predictions, social conflicts were most strongly affected by

incumbent NA, whereas job insecurity was least affected. Thus, Hypothesis 1 was not

supported.

In the case of supervisor-reported job stressors, supervisor NA significantly predicted

the job stressor ratings in the postulated ascending order: Time pressure (i.e., the stressor that

was most observable) was not significantly affected by supervisor NA (unstandardized path

coefficient = -.02, n.s.); supervisor-rated social stressors were significantly affected by

supervisor NA in the predicted direction (unstandardized path coefficient = .17, $p < .05$), and

supervisor-rated job insecurity was most strongly affected by supervisor NA (unstandardized

path coefficient = .34, $p < .001$). Hence, Hypothesis 2, positing that supervisor NA will have a

stronger impact on stressor ratings the more difficult the stressor is to observe, was supported.

Computing the absolute difference scores (based on the transformed data) between

incumbent and supervisor-rated job stressors revealed the order postulated in Hypothesis 3.

Incumbent and supervisor ratings had an average absolute difference score of 0.05 ($SD =$ 0.82) in the case of time pressure (high observability); a score of 0.14 ($SD = 0.68$) in the case of social stressors; and a score of 0.39 ($SD = 0.82$) in the case of job insecurity (low observability). A one-way ANOVA with repeated measures (using Greenhouse-Geisser, 1959, corrected degrees of freedom due to departure from sphericity) yielded a significant effect, $F(1.94, 501.66) = 13.60$, $p < .001$, $\eta^2 = .05$, thus indicating that there is a difference among the three means. A subsequent linear contrast analysis also demonstrated the hypothesized trend to the data, $F(1, 259) = 21.39$, $p < .001$, $\eta^2 = .08$. Thus, Hypothesis 3 was supported – convergence between incumbent and supervisor-rated stressors was smaller the less observable the stressor was. On average, incumbent stressor ratings were higher than supervisor ratings for all three stressors.

Discussion

This study revealed several effects that arise in the context of incumbent and supervisor-rated job stressors due to rater NA, stressor observability, and the interplay between rater NA and stressor observability. First, this study shows that supervisors' ratings of their incumbents' job stressors are susceptible to the supervisors' NA. Thus, a supervisor's NA is of central importance when he or she appraises an incumbent's job conditions. Second, our study identifies an important boundary condition to this finding – the more difficult a stressor is to observe, the more strongly supervisor ratings are affected by the supervisor's NA. Contrary to our predictions, we did not find the same effects for incumbent ratings. In the case of incumbents, all stressor ratings were significantly affected by incumbent NA suggesting that the impact of an incumbent's NA on his or her ratings was not affected by stressor observability. Finally, our study shows that stressor observability also predicts the convergence between supervisor and incumbent ratings: The less observable a stressor, the lower is the convergence between supervisor and incumbent ratings of the respective incumbent's job stressors.

Given these findings, our study makes a number of contributions to the literature. First, this study unites the transactional stress literature (e.g., Lazarus, 2001; Lazarus & Folkman, 1984) with research on the (job characteristics) rating process (Brunswick, 1955; Morgeson & Campion, 1997, 2000) and Forgas' (1995) information processing model. In doing so, our results make clear that any such job stressor ratings (be they from the incumbent or from the respective supervisor) constitute the result of a stressor appraisal process that is affected by both, personal characteristics such as the rater's NA and environmental characteristics such as stressor observability, as well as their possible interaction. Thus, whereas the issue of personality variables, especially NA, has received enormous attention in the context of self-reports (e.g., Thoresen, Kaplan, Barsky, Warren, & de Chermont, 2003), this issue has been heretofore neglected in the context of others' ratings. In sum, our findings demonstrate that the impact of NA is not restricted to self-report only, but is also relevant for supervisor reports.

In addition, our data provide support for the assumption that judging less observable stressors is more susceptible to sources of non-objectivity, an aspect that has been generally theorized about in the literature on rating inaccuracy (Dierdorff & Morgeson, 2007, 2009; Morgeson & Campion, 1997), but has never been tested in the context of personality's impact on stressor appraisal. In other words, the less observable the stressor, the more outside observers (in our case, supervisors) are prone to be influenced by their NA when appraising other people's job stressors. Therefore, this study also contributes to a more nuanced understanding of the effects of NA, a call that has been put forward by Spector (in Brannick et al., 2010; Spector, 2006). Instead of viewing a person's NA as a variable that may act as a universal biasing factor, he argued that NA might particularly affect those organizational variables which cannot be accurately reported by people. Although our propositions were supported in the supervisor sample only, the present study constitutes the first empirical test

of Spector's (in Brannick et al., 2010; Spector, 2006) assumption, coupled with an argument for the underlying theoretical mechanism.

Taken together, the findings of this study also make an important contribution to a more nuanced CMB debate. CMB particularly arises if potential biasing factors (such as NA) are shared, that is, if such a factor affects the predictor and criterion variable to a similar extent (e.g., Spector, 2006). If researchers are interested in the relationship between stressors and strains, they should first consult prior research or theoretical arguments to see whether NA might qualify as a shared biasing factor in their set of variables. If this is indeed the case, researchers would then be well advised to find alternative ways of assessing either of these variables. According to our findings on rating convergence, supervisors constitute a valid source of information in the case of highly-observable stressors. On the side of the criterion variable, researchers could alternatively use physiological indicators (such as a person's cortisol awakening response as an indicator of well-being and exhaustion, e.g., Clow, Hucklebridge, Stalder, Evans, & Thorn, 2010) or ratings of significant others, such as the incumbent's spouse (e.g., Ilies, Schwind, Wagner, & Johnson, 2007).

A further strength of our study is related to the analyses on supervisor-incumbent dyads instead of separate samples for both supervisors and incumbents. This approach enabled us to examine the same stressors from two perspectives. As both stressor ratings referred to the same job, we could directly compare the respective effects on the same stressors with each other. Hence, we can rule out biased results due to specific sample differences between supervisors and incumbents.

Our findings also raise the question of why stressor observability does not show the expected differences for incumbent reports. Although it has been theoretically suggested that stimulus observability is crucial for both self- and others' reports (Morgeson & Campion, 1997), our data could not confirm this assumption. We provide several possibilities for this finding. First, when perceiving and appraising an incumbent's stressor, supervisors can only

base their judgment on cues that are visible to them (to reach their final judgment, supervisors could then possibly compare this information to other subordinates or to the incumbent's past behaviour). In contrast, when incumbents rate their job stressors, they are likely to draw on more information in addition to stressor observability. Transactional stress theory (Lazarus & Folkman, 1984) highlights that stressor perception is an interactive process between the person and the environment. Thus, when incumbents appraise and rate their own job stressors, they might also take into account their potentially negative feelings, thoughts, and reactions about certain stressors – that is, aspects that can themselves be affected by a person's general disposition to view the world (cf. Spector, Zapf, et al., 2000). In such a case then, it is likely that personality variables such as NA have a relatively greater impact, thereby "overriding" more factual information about different stressors. Furthermore, it might also be the case that in order to maintain (cognitive) consistency between their attitudes and their behaviour, incumbents with unfavourable job attitudes might rate their job conditions as being worse compared to those with more favourable attitudes (cf. Festinger, 1957; for a similar idea see Zapf, 1989). Hence, it is possible that stressor observability plays a less important role in incumbents' judgment process. As the results of our pre-test showed, incumbents were fully able to recognize differences in observability. However, due to the processes described above, the impact of stressor observability might decrease while the impact of incumbent NA increases. Future research might delve into greater detail concerning the different sources of information used by supervisors and incumbents, and the subsequent cognitive integration processes that take place.

Limitations and Directions for Future Research

There are also some limitations to this study. First, we employed a cross-sectional design, which precludes longitudinal inferences. In fact, one could imagine an alternative explanation for our self-report findings, namely, that high levels of job stressors may cause people to exhibit higher levels of NA (Spector, Zapf, et al., 2000). However, our findings in

the supervisor sample clearly speak against this explanation. If this alternative explanation were true, we would not have found any effects of supervisor NA on his or her ratings of the incumbent's stressors. In other words, one would not assume that incumbents' work stressors affect the respective supervisors' NA. Second, it might be the case that high NA employees cause their own unfavourable job conditions due to their behaviour – a mechanism that Spector and colleagues (2000) termed "stressor creation" (for empirical support see Spector, Chen, & O'Connell, 2000). Moreover, it could well be that this effect crosses over such that due to their high NA, supervisors may create unfavourable working conditions for their employees. Interestingly, prior research has demonstrated that the effects of NA are not solely restricted to stressors, but that NA also affects people's reactions to stressors (i.e., NA constitutes a moderator of the stressor-strain link, e.g., Moyle, 1995; Spector, Zapf, et al., 2000). Thus, future research might benefit from applying a longitudinal and dyadic approach (as was the case in this study) to examine the extent of stressor creation and crossover effects.

Second, we focused on the observability of a stressor's cues in the present study. However, there might be additional available and potentially salient cues, which can provide an indication about a stressor's factual level – both for incumbents and their supervisors. In the case of job insecurity, for example, an incumbent's level of education, his or her expert status, or the standing of the company are important cues that surely drive a person's job insecurity perception. As such, future studies should also take into account cues which are not well, or even not at all, observable but which individuals take into account when judging the level of a respective stressor.

A further limitation concerns our sample of public service employees, which might limit the generalizability of our findings. According to the 5th European Working Conditions Survey (Eurofound, 2012), employees working in the public administration sector report lower stressor levels in terms of job insecurity and time pressure (social stressors were not assessed in that survey) compared to other industry sectors. Hence, it might be that for sectors

that are already characterized by very high stressor levels in terms of job insecurity, social stressors, and time pressure, possible "biasing" effects of NA might be lower due to ceiling effects. Additional studies might therefore examine whether the results differ for high stressor sectors. A further issue arising from the context of public service organizations with low levels of job insecurity is that there might be no objective cues to foresee impending layoffs. In that case, the sensitivity to any kind of potentially negative cue that is associated with high NA may drive the supervisor's job insecurity rating to an especially high degree. Future research should pay more attention to the study's setting or the respective industry. For example, researchers might investigate more heterogeneous samples and/or statistically model the respective industry type as a boundary condition.

Finally, there might be more advanced ways to operationalise stressor observability compared to the ones employed in this study. On the one hand, this approach has been applied in much the same way in related studies on observability, such as in the context of person perception (e.g., Kenrick & Stringfield, 1980; Paunonen, 1989). On the other hand, the propositions of observability within the lens model (Brunswick, 1955) would suggest that more direct, cognitively-oriented methods could provide a useful alternative. For example, researchers might focus more on the cues that are used as a basis for rating a target. As cues are argued to be more salient the more observable they are (cf. Kenrick & Stringfield, 1980), one option might be to measure a person's response latency when listing characteristic cues (cf. Fazio, 1990); another feasible option might be to compute agreement measures between different judges when naming characteristic cues. By applying such an approach it might be the case that differences in observability between different stressor categories could become even more pronounced.

Although our study indicates that highly observable job stressors are not affected by supervisor NA, there might be other sources for personal idiosyncrasies in supervisor ratings, even for stressors that are relatively easy to observe. For example, supervisor ratings could

even be intentionally biased for political reasons (i.e., some supervisors may want to present a certain picture about the level of particular stressors in their unit, see Morgeson, Delaney-Klinger, Mayfield, Ferrara, & Campion, 2004, for self-presentation processes in incumbent-reported job characteristics) or due to self-protective reasons (i.e., supervisors may downplay stressors in order to avoid the implication that they should do something about them). Accordingly, future research is needed to identify potential additional sources of non-objectivity in supervisor ratings.

The findings of this study have a number of implications for future research in the field of work-related stress, which is characterized by two opposing perspectives (cf. Perrewé & Zellars, 1999). The first perspective centres on objective work characteristics and their assessment; personal idiosyncrasies are considered subsidiary processes that create error variance. The second perspective, on the other hand, considers exactly these cognitive and emotional processes related to a person's stressor appraisal as the key to understanding how people react to and cope with organizational stress (cf. Mackey & Perrewé, 2014). Since each perspective has a different focus (i.e., work environment vs. the person within that environment), both perspectives are equally valid. If researchers are particularly interested in assessing environmental conditions as objectively as possible (in order to derive recommendations that can be widely generalized, such as in the case of common job design recommendations), a potential avenue might be to have two incumbents with the same job rate the respective stressors together (for a similar idea in which incumbents have rated their work stressors independently of each other see Semmer, Zapf, & Greif, 1996; see also Silla & Gamero, 2014). Although empirical research into this issue is still lacking, using common ratings might limit the impact of personality, such as NA in the present case. However, if researchers are interested in the above-mentioned personal idiosyncrasies within the stress process, the results of our study demonstrate the need to explicitly model these processes. Only by modelling these variables are we able to understand the underlying mechanisms and

to derive recommendations for designing person-centred interventions (cf. Spector, Zapf, et al., 2000). Despite the fact that this study only focused on perceptual processes due to NA and observability, the literature and our elaborations above point to the additional ways in which personality might affect the stress process.

Additionally, future studies might also assess typical strain measures, such as irritation and health problems (Goldberg & Hillier, 1979; Mohr, Mueller, Rigotti, Aycan, & Tschan, 2006). While we focused on stressor ratings of both incumbents and their respective supervisors in the present study, assessing strain measures would allow examining whether correlations between supervisor ratings of stressors and subordinate strain might be affected by supervisor NA. Instead of focusing on the stressor-appraisal part of Lazarus' (Lazarus & Folkman, 1984) transactional stress model, such studies would also allow examining the reaction part of this model.

Practical Implications

Practically, our study provides important information about when supervisor ratings might be a useful source of job stressor information, and in which cases these ratings should be treated with caution. In cases where researchers or companies are interested in ratings of highly observable stressors, supervisor ratings are a good source of information because such ratings are not affected by supervisor personality. In fact, in that case, supervisor ratings may be more objective than incumbents' self-ratings of stressors which are significantly affected by the incumbent's NA despite high stressor observability. Our study demonstrated that supervisor and incumbent ratings of the same stressor show higher convergence when stressor observability is high. Thus, due to this "shared perception" between supervisors and incumbents, there might be fewer disagreements between both parties or other company representatives when job changes or interventions are initiated based upon such ratings. Additionally, using supervisor ratings (for highly observable job stressors) as job descriptive information for planned interventions tends to be more efficient and cost-effective than hiring

trained observers. However, as our study has shown, supervisor ratings of more difficult-to-observe stressors are, indeed, affected by the supervisor's NA and convergence between supervisor and incumbent ratings decreases. In this case, as was proposed above, it might be helpful to gather ratings of two or more incumbents that hold the same job. In that way, personal idiosyncrasies in the rating process could be reduced.

Conclusion

In sum, our study combines previous findings about NA and stressor ratings with more general theory on self- and supervisor-rater effects. Our findings suggest important differential effects and boundary conditions of these phenomena, and confirm the importance of nuanced research on personality and environmental effects on ratings of job stressors.

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Table 1

Means, Standard Deviations, and Zero-Order Correlations of the Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7
Incumbent ratings									
1. Incumbent's negative affectivity	1.52	0.47							
2. Incumbent-rated time pressure	2.80	0.77	.29**						
3. Incumbent-rated social stressors	1.67	0.67	.40**	.23**					
4. Incumbent-rated job insecurity	2.55	1.08	.16*	.11	.13*				
Supervisor ratings									
5. Supervisor's negative affectivity	1.45	0.38	.03	.01	.11	.06			
6. Supervisor-rated time pressure	2.74	0.67	.08	.36**	.16**	.07	-.01		
7. Supervisor-rated social stressors	1.52	0.53	.07	.21**	.38**	.10	.17**	.26**	
8. Supervisor-rated job insecurity	2.01	0.97	.05	.06	.05	.38**	.20**	.01	.12

Note. N = 260; M and *SD* refer to the the masures before rescaling.
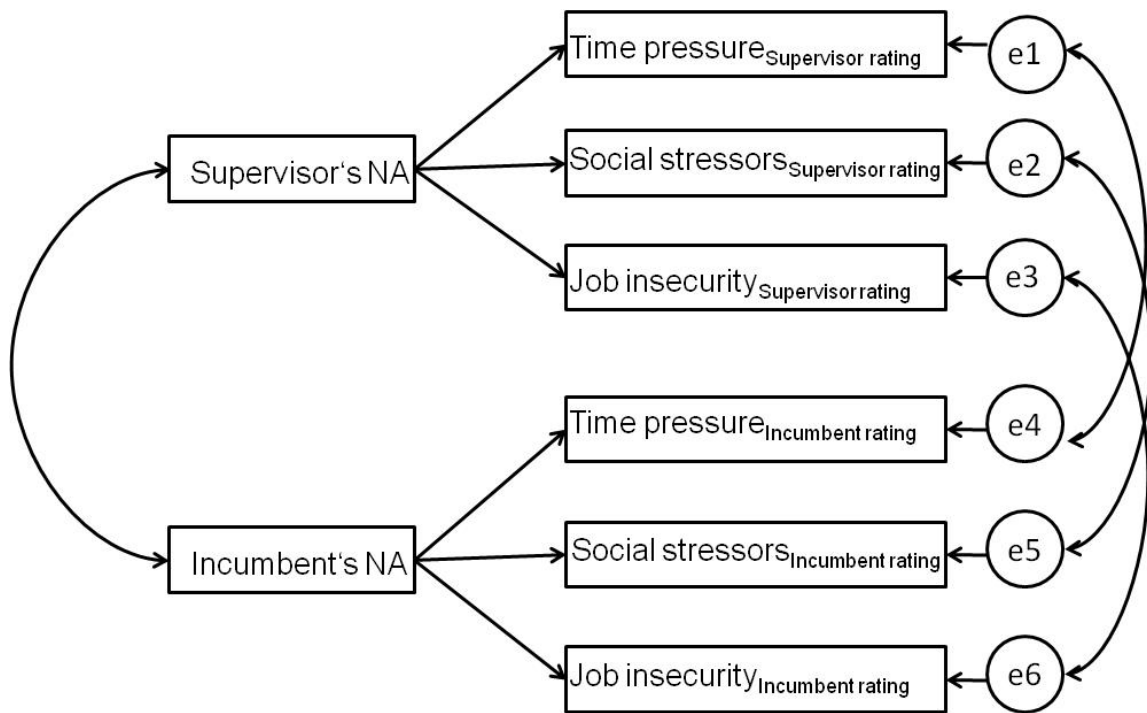
*p <.05, **p <.01 (two-tailed)

Figure caption list

Figure 1. Analytical model.

Note. NA = Negative affectivity.