



Effects of Networking on Career Success: A Longitudinal Study

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Abstract

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Abstract

Previous research has reported effects of networking, defined as building, maintaining, and using relationships, on career success. However, empirical studies have exclusively relied upon concurrent or retrospective designs that rest upon strong assumptions on the causal direction of this relation and also depict a static snapshot of the relation at a given point in time. This study provides a dynamic perspective of the effects of networking on career success and reports results of a longitudinal study. Networking was assessed by six subscales that result from combining the facets of 1) internal vs. external networking and 2) building vs. maintaining vs. using contacts. Objective (salary) and subjective (career satisfaction) measures of career success were obtained for three consecutive years. Multilevel analyses show that networking is related to concurrent salary and moreover, that it is related to the growth rate of salary over time. Networking is also related to concurrent career satisfaction. As satisfaction remained stable over time, no effects of networking on the growth of career satisfaction were found.

Key Words: Networking, career success, career development, social interaction

Effects of networking on career success: A longitudinal study

Many books and articles in the practitioner literature suggest that networking behaviors, such as going for out for drinks to discuss business matters informally, attending conferences, or staying in contact with former colleagues, are essential to career success (e.g., Nierenberg, 2002; Torres, 2005; Welch, 1980). Similarly, scholarly research has shown that networking is positively related to objective and subjective measures of career success (Forret & Dougherty, 2004; Langford, 2000; Michael & Yukl, 1993; Orpen, 1996). Networking is also associated with favorable performance ratings (Sturges, Conway, Guest, & Liefhooghe, 2005; Thompson, 2005) and may be a viable job search strategy (Wanberg, Kanfer, & Banas, 2000). Networking behaviors are used to build and maintain informal contacts that enhance career success (Forret & Dougherty, 2004; Luthans, Rosenkrantz, & Hennessey, 1985; Michael & Yukl, 1993).

To our knowledge, all studies on the relationship between networking and career success have utilized either concurrent or retrospective designs that are not without limitations. Concurrent designs provide a static snapshot of the relation between networking and career success since they show that networkers are more successful than non-networkers at a given point in time. These designs do not provide strong evidence for causality, i.e., that networking has led to career success. Furthermore, concurrent designs do not yield insights into the dynamics of this relation and have ignored effects of networking on the change of career success over time. Popular theorizing typically assumes that networking is associated with accelerated growth in career success, e.g., that the salary gap between networkers and non-networkers increases over time. The examination of this dynamic effect requires the observation of individual trajectories of career success over time and cannot be answered by concurrent research designs. Retrospective designs provide the opportunity to study dynamic

effects since they relate networking to prior career success. For example, Michael and Yukl (1993) assessed the number of promotions an individual had received in his or her career. However, these designs also rely on strong assumptions because they do not take the proper temporal order of variables into account. They implicitly assume that networking leads to career success, but cannot rule out the possibility that it is necessary to resort to networking as one climbs up the career ladder and has to fulfill tasks of higher responsibility and discretion (see e.g., Katz & Kahn, 1978).

The purpose of the present study is to overcome these limitations by investigating the effects of networking on career success using a longitudinal research design. We therefore take the presumed causal order, from networking to career success, into account. Moreover, by examining individual trajectories of career success over time, we do not just examine whether networking is related to career success, but also whether networking is related to accelerated growth in career success. The study contributes to the literature in two aspects. First, we further investigate the causal link between networking and career success and provide stronger evidence for the causal influence of networking on career success. Second, we emphasize the notions of time and change in our study and thus introduce a dynamic perspective into networking research (e.g., Raudenbush, 2001).

Networking

The current research defines networking by behaviors that are aimed at building, maintaining, and using informal relationships that possess the (potential) benefit to facilitate work related activities of individuals by voluntarily granting access to resources and maximizing common advantages (Wolff & Moser, 2006; see also Forret & Dougherty, 2004). The construct is defined on a behavioral level (e.g., Michael & Yukl, 1993; Wanberg et al., 2000; Witt, 2004) and can be considered a “behavior syndrome” (cf. Frese, Fay, Hilburger, Leng, & Tag, 1997), that is, a set of interrelated behaviors that are consistently shown by

individuals. Accordingly, networking measures typically assess how often individuals show networking behaviors, e.g., discussing business matters outside of working hours or using contacts to get confidential advice. Theoretical accounts (e.g., Cohen & Bradford, 1989; Kaplan, 1984; Michael & Yukl, 1993) assume that these behaviors lead to informal, voluntary, and reciprocal relationships that in turn facilitate access to resources such as task related support, strategic information, or career success (Podolny & Baron, 1997; Wolff, Moser, & Grau, in press).

Networking is distinct from the concept of social capital, which refers to a different level of analysis. Networking is an individual level construct and focuses on individual behavior. The concept of social capital refers to a structural level of analysis and focuses on the quality and extent of existing relationship constellations (Adler & Kwon, 2002; Burt, 1992; Seibert, Kraimer, & Liden, 2001). For example, Coleman (1988) states that “social capital inheres in the structure of relations between actors and among actors” (p. S98). It is therefore closely linked to the position of an individual in a network and is typically characterized by specific aspects of network structures such as network size, density, or structural holes. In contrast, networking emphasizes individual actions and assesses to what extent individuals proactively build and develop contacts. Networking can thus be considered one out of several predictors of network structures (Wolff & Moser, 2006). However, social capital also depends on situational opportunities to a high extent (Burt, 1992); for example, holding a supervisory position (Carroll & Teo, 1996) or a position of high workflow criticality (Brass, 1984).

Networking and Career success

Career success is defined as the “positive psychological or work-related outcomes or achievements one has accumulated as a result of one’s work experiences” (Judge, Cable, Boudreau, & Bretz, 1995 p. 486). In accordance with other studies (e.g., Gattiker & Larwood,

1989; Judge et al., 1995; Seibert et al., 2001), we distinguish objective career success from subjective success. Objective career success refers to observable career accomplishments that can be reliably judged by others, such as pay and ascendancy. Subjective career success is more concerned with individual appraisals of one's career success. This subjective judgment is not only influenced by objective criteria but also by individual aspiration levels, social comparisons to relevant others, and situational constraints such as opportunities for advancement in a profession (e.g., Arthur, Khapova, & Wilderom, 2005; Gattiker & Larwood, 1989).

Several studies show that networking is related to both objective and subjective career success (Forret & Dougherty, 2004; Langford, 2000; Michael & Yukl, 1993; Orpen, 1996). For example, Michael and Yukl (1993) found that networking is related to the number of promotions an individual has received in her or his career, and Langford (2000) showed that networking is related to perceived career success. Unfortunately, these studies have all used either concurrent or retrospective designs that suffer from the limitations described in the introduction section. They only provide limited support for causal evidence and ignore the dynamics of career success over time.

We therefore argue that a dynamic perspective on the relation between networking and career success is necessary. Theories linking networking to career success assume that networking is a way to *get ahead* (of others), which not only implies static differences in career success but also accelerated growth of career success. We use a longitudinal design to disentangle the concurrent (i.e., static) effects from growth (i.e., dynamic) effects of networking over time. We assume that networking is related to concurrent career success, thus replicating results from concurrent research designs. Furthermore, extending prior research, networking should also be related to the prospective growth of career success. We will use salary, the most prominent indicator of objective career success (see, e.g., the meta-

analysis by Ng, Eby, Sorensen, & Feldman, 2005) as a measure of objective success. In addition, we will also examine individuals' career satisfaction to assess subjective career success (Judge et al., 1995; Ng et al., 2005; Seibert et al., 2001). If networking leads to objective career success as well as accelerated growth of success, this should also result in increased satisfaction with one's career. Career satisfaction may even be enhanced as networking leads to a broad network of contacts with more opportunities to compare one's individual accomplishments with those of other individuals.

Hypothesis 1: Networking is related to concurrent objective career success.

Hypothesis 2: Networking is related to growth of objective career success.

Hypothesis 3: Networking is related to concurrent subjective career success.

Hypothesis 4: Networking is related to growth of subjective career success.

Method

Participants and Procedure

The study used a panel design with three survey waves and was conducted in Germany. In October 2001, we collected addresses from 455 employed individuals that we asked to participate in a longitudinal study on predictors of career success. To evade problems of restricted sampling range, we used several means to recruit participants; e.g., we were able to include invitations to participate in our study in official letters to participants of (non-university based) night school training classes as well as to university alumni. We also approached participants at official events, e.g., an alumni party, and asked personal contacts to approach employees in their company. We mailed questionnaires to these 455 individuals, of which 279 were returned, for a response rate of 61.3 %. Respondents' mean age was 32 years ($SD = 6.5$), 60.4% were male, and 42% had a college degree. Participants came from a wide range of industry sectors, the most frequent were the service industry (42%), manufacturing (30%), and trade organizations (14%). Questionnaires were mailed to all

addresses again in November 2002 and December 2003, where 227 (81.7% of 279 participants) and 202 (72.4%) questionnaires were returned, respectively. Following Goodman and Blum (1996), we conducted dropout analyses by regressing dichotomous indicators of missingness for Waves 2 and 3 on our study variables. Analyses showed no systematic dropout at Wave 2. However, females and individuals from larger organizations were significantly less likely to participate in the third wave. While this does indicate systematic dropout at Wave 3, it is important to note that this dropout is only related to control variables, but dropout does not depend on networking or career success (Menard, 1991).

Three substantive criteria were used to select participants for the analyses. First, we only included predominantly working respondents who worked more than 20 hours per week and earned more than €5000 (roughly US\$ 5000 in the observation period) per year. Second, we included only those respondents who were permanently employed during the observation period, excluding participants for a variety of reasons (e.g., maternity leave, spells of unemployment, or severe illness). While analyses for these participants would be of interest, their small number and their highly specific situations rendered a substantive analysis impossible (e.g., three women took maternity leave during the study period). Finally, participants with missing values at Wave 1 in control variables, networking, or career success variables were excluded.

We also included participants with partially missing data in the dependent variables at Waves 2 and 3 in our analyses. One advantage of the multilevel analyses we used is that participants with missing data in the dependent variable at some survey waves can be included in the analyses (i.e., information from participants who provided data at Wave 1 and Wave 2, but not Wave 3 can be included). This method provides better estimates of regression coefficients than the usual listwise deletion method (Maas & Snijders, 2003;

Schafer & Graham, 2002). Therefore, our sample size for multilevel analyses is $N = 235$, which is higher than the number of subjects who responded at Wave 3 (i.e., $N = 202$).

Measures

Networking. Networking was measured with a German 44-item measure developed by Wolff and Moser (2006).¹ Similar to other networking measures (e.g., Forret & Dougherty, 2001; Michael & Yukl, 1993), this measure is multidimensional and is based upon two theoretically derived facets: 1) a structural facet of internal vs. external networking and 2) a functional facet of building vs. maintaining vs. using contacts. Crossing these facets leads to six scales, building internal contacts (6 items, e.g., “I use company events to make new contacts” $\alpha = .76$), maintaining internal contacts (8 items, e.g., “I catch up with colleagues from other departments about what they are working on” $\alpha = .69$),² using internal contacts (8 items, e.g., “I use my contacts with colleagues in other departments in order to get confidential advice in business matters” $\alpha = .75$), building external contacts (7 items, e.g., “I accept invitations to official functions or festivities out of professional interest” $\alpha = .82$), maintaining external contacts (7 items, e.g., “I ask others to give my regards to business acquaintances outside of our company” $\alpha = .76$), and using external contacts (8 items, e.g., “I exchange professional tips and hints with acquaintances from other organizations” $\alpha = .76$). All items were answered on a 4-point Likert scale ranging from 1 (never/very seldom) to 4 (very often/ always). In three studies, Wolff and Moser (2006) have provided evidence for the validity of these scales and also for their differential validity, for example, they show that *generalized* trust expectations (i.e., Interpersonal Trust) are more closely related to building contacts than to maintaining or using contacts, where *specific* trust expectations concerning specific relations become more important.

To provide further evidence on the construct validity of the scale, we conducted several confirmatory factor analyses using item parcels due to the high number of items in

relation to subjects. To avoid “data snooping” (Little, Cunningham, Shahar, & Widaman, 2002 p. 161) we followed the suggestion of Little et al. and used the same item parcels that had been used by Wolff and Moser (2006) in a similar analysis. Results show satisfactory fit for a correlated six factor model ($\text{Chi}^2 (174) = 246.15$; $\text{RMSEA} = 0.040$; $\text{CFI} = 0.98$). In addition, this model provided better fit to the data than other models; for example, models distinguishing either the structural (i.e., two factors: internal/ external networking; $\text{Chi}^2 (188) = 1005.65$; $\text{RMSEA} = 0.120$; $\text{CFI} = 0.79$; two vs. six factor model: $\Delta\text{Chi}^2 (14) = 759.5$; $p < .01$) or the functional facet (i.e., three factors: building/ maintaining/ using contacts; $\text{Chi}^2 (186) = 670.78$; $\text{RMSEA} = 0.096$; $\text{CFI} = 0.87$; three vs. six factor model: $\Delta\text{Chi}^2 (12) = 424.6$; $p < .01$), or a one factor model ($\text{Chi}^2 (194) = 1225.17$; $\text{RMSEA} = 0.144$; $\text{CFI} = 0.70$; one vs. six factor model: $\Delta\text{Chi}^2 (20) = 979.0$; $p < .01$).

Objective career success. Following Judge et al. (1995), participants were asked to report their gross yearly salary including bonuses, stock options, and other forms of cash compensation. At Wave 1, participants reported their year 2000 salary in German Marks (DM) that we use as a measure of concurrent salary. At Waves 2 and 3 participants specified their annual salary either in DM or Euro (€), as Germany changed its currency from German Marks (DM) to Euro (€) on Dec. 31st, 2001. All data were converted to Euro using the official exchange rate of 1.95 DM to 1 €. In addition, participants were asked to provide information on annual salaries for two years at Waves 2 and 3. At Wave 2, in 2002, we asked participants to recall their salary from the previous year and also asked participants to estimate their annual salary for the present year. Similarly, at Wave 3 we asked respondents to recall their 2002 salary and to estimate their 2003 salary. As the questionnaires were mailed close to the end of the year, we assumed that participants could reliably estimate their annual salary for the present year. We tested this assumption for the 2002 salary where two measures assessed one year apart from each other were available: One salary estimate provided at the end of

2002 (Wave 2), and one estimate recalled in 2003 (Wave 3). The correlation between these two estimates was $r = .96$ with a small and insignificant mean difference of €1532.48 ($t(116) = 0.52, p = .61; d = -0.06$). As this indicates that participants can reliably estimate their salary at the end of the year, we decided to use the estimate for 2003 as a fourth measure of salary, i.e., salary estimates were available for 2000, 2001, 2002, and 2003. Due to deviations from the normal distribution, we used the natural logarithm of salary in our analyses (see Judge et al., 1995).

Subjective career success. We used the translation-backtranslation method to obtain a German version of the career satisfaction scale by Greenhaus, Parasuraman, and Wormley (1990) to measure subjective career success. The scale consists of five items (e.g., “I am satisfied with the success I have achieved in my career”) and participants indicated their agreement on a five-point scale ranging from 1 (do not agree at all) to 5 (fully agree). Confirmatory factor analysis of the data from the first wave showed that a single factor model fits the data well ($\chi^2(5) = 9.17, p = .08; RMSEA = 0.059; CFI = 1.00$). Career satisfaction was assessed at each of the three waves. The reliability of this scale was $\alpha = .84$ at each survey wave.

Control variables. Several additional variables were included in the study to control for factors that might confound the relationship between networking and career success (Becker, 2005). We assessed two organizational variables, organizational size and whether participants were in a supervisory position at the beginning of the study (0 = no, 1 = yes) because these variables may influence opportunities to network (Forret & Dougherty, 2001) as well as career success. In addition, three human capital variables, education, job experience, and organizational tenure, were used. Education is related to network size (Carroll & Teo, 1996) and also salary. Ng et al. (2005) have shown that experience and tenure are related to salary and may also influence networking behavior (e.g., Kram &

Isabella, 1985). Also, we controlled for two demographic variables that have been reported to correlate with career success (Ng. et al., 2005), gender (1 = female, 2 = male), and relationship status (1 = having a partner, 2 = single). Finally, in regressing career satisfaction on the networking scales, we controlled for the natural logarithm of salary (e.g., Judge et al., 1995). To preserve a meaningful intercept, we centered salary in this analysis. This did not affect other regression coefficients.

Analyses

In the present analyses, measurement occasions are nested within participants. We therefore used multilevel analysis (Bryk & Raudenbush, 2002; Snijders & Boskers, 1999). This type of analysis allows for estimation of a trajectory of individual change in career success and for differentiation between concurrent career success and the change of success over time. As recommended for analyses with few measurement occasions, we used a linear growth model (Bryk & Raudenbush, 2002) and coded time using consecutive integers starting from zero.³ In this model, the intercept coefficient of the level 1 equation depicts concurrent career success and the level 1 slope coefficient provides an estimate of linear change over time, i.e., the growth of career success. In predicting career satisfaction, we entered annual salary as a time varying level 1 control variable into the multilevel model. All other control variables as well as the networking scales represent level 2 variables in our model.

As shown in the measures section, we obtained a correlated factors solution for the networking scales. Therefore, multicollinearity may pose a problem and the interpretation of multilevel regression estimates in a “parameter-by-parameter fashion must proceed with caution” (Shieh & Fouladi, 2003 p. 956). Partial redundancy of predictors may yield few significant parameters, and in generalizing these results, sample to sample variation may lead to different results with regard to the significance of particular predictors in other studies

(Shieh & Fouladi, 2003). To avoid these problems, we based our interpretation upon two procedures. First, we used a hierarchical approach in our analyses and examined the difference in deviance (Δ deviance, see e.g., Bryk & Raudenbush, 2002) to determine if the six networking scales improved model fit *as a variable set* (Cohen, Cohen, Aiken, & West, 2003).

Second, to examine the relative importance of each scale, we calculated relative weights following a procedure by Johnson (2000; see also LeBreton, Harpis, Griepentrog, Oswald, & Ployhart, 2007). This procedure is based on the calculation of a full principal components solution from the original variables, where the components are rotated to an orthogonal solution as similar as possible to the original variables (i.e., each variable has a high loading on only one component). The orthogonal components resemble linear transformations of the original networking scales; that is, together they carry the same amount of information as the original variables. These components are then used as predictors in the multilevel model – as they are orthogonal, multicollinearity is no concern in this analysis. The relation between the orthogonal components and the original variables is established by a regression of the original variables on the orthogonal components. Relative weights are calculated by summing the product of the squared regression coefficients between a) original variables and orthogonal components and b) orthogonal components and the dependent variables from the multilevel model.⁴ Relative weights are transformed into proportions by dividing them by the sum of the total effects, which yields a proportional contribution of each original variable (e.g., Johnson, 2000).

To further examine relative weights, we used a bootstrapping procedure with 1000 bootstrap samples to construct confidence intervals for the relative weights (Johnson, 2004). As suggested by Johnson, we used the empirically derived confidence intervals from the bootstrap (i.e., $\alpha/2$ percentiles), because the distribution of the weights deviated from the

normal distribution. In addition, we tested whether the relative weights differed significantly from zero. As Johnson (2004) notes, relative weights are proportions and thus confidence intervals around relative weights will never include zero. To test the significance of a relative weight Tonidandel, LeBreton, and Johnson (2008) suggest adding a random variable to the bootstrapping procedure and then test for significant differences between substantive relative weights and the relative weight of the random variable. For this test, we constructed confidence intervals of the difference between each substantive and the random relative weight. If a confidence interval includes zero, the difference is not significant. For this analysis, we conducted an additional bootstrap with 1000 samples and included a random variable. As we tested six substantive weights against the weight of the random variable, we used a Bonferroni correction for our one-sided tests (overall $\alpha = .05$; α per comparison = .008).

Results

Table 1 reports means, standard deviations, reliabilities, and correlations among the variables. Correlations between networking subscales vary between .15 and .60 with a median correlation of $r = .34$. Table 1 also shows that four of the six networking scales, referring to building and maintaining internal as well as external contacts, are significantly related to salary and career satisfaction at most survey waves. The other two scales, using either internal or external contacts, are not substantively related to career success indicators.

Table 2 depicts multivariate results for the multilevel regression of salary on networking to test hypotheses 1 and 2. We examined four hierarchically nested models following suggestions by Bryk and Raudenbush (2002). Model 1 is the unconditional model with parameters for the level 1 intercept and slope only. The significant fixed effect for the slope indicates an increase in salary over measurement occasions. The significant random effect of the slope indicates individual differences in trajectories of salary growth over time.

In model 2, we add control variables. Further, we add the effect of networking in Models 3 and 4. Model 3 tests the effect of networking on concurrent salary. Adding the six scales as a variable set leads to an improvement in model fit above control variables as indicated by the significant reduction in deviance, showing support for hypothesis 1. Table 2 also shows that maintaining external contacts has a significant effect on concurrent salary.

Table 4 shows the relative weights according to Johnson (2000) as well as the regression weights of the six networking scales, when each scale was added to the control variables alone. This latter coefficient reflects the contribution of a variable when redundancy between predictors is ignored and it is shown here for comparison purposes. With regard to these coefficients, four networking scales, referring to building and maintaining contacts, have a significant impact on concurrent salary when entered into the multilevel regression alone. Maintaining external contacts ($RW = 45\%$) and building internal contacts ($RW = 24\%$) obtained the highest relative weights. Results from the Bootstrap procedure show that all weights are significantly different from zero. This indicates that all six networking scales contribute to the significant effect of the scales as a variable set. However, note that the relative weights for using internal as well as external contacts are also significant, even though their regression weights are not significant when they are entered into the multilevel equation alone (cf. Table 4). Also, the bivariate correlations between the two using contacts scales and salary are not significant. This indicates a potential suppressor relation between these two and the remaining networking subscales. Also note that confidence intervals for relative weights overlap considerably indicating that we can not establish significant differences between substantive relative weights.

To test hypothesis 2, we added the effect of networking on salary growth in model 4 of Table 2. In support of hypothesis 2, model fit improves significantly when the networking scales are entered as a variable set. Parameter estimates show that maintaining internal

contacts has a significant positive impact on salary growth, obtained the highest relative weight ($RW = 49\%$, see Table 4), and differs significantly from zero.

Hypothesis 3 states that networking is related to concurrent career satisfaction and hypothesis 4 states that networking is also related to the growth of career satisfaction. To examine these hypotheses, we calculated three models (see Table 3). Model 1 is again the unconditional model containing parameters for the intercept and slope only. The slope parameter ($b = -0.031$) is not significantly different from zero, showing that career satisfaction remains stable across time. Moreover, the slope variance is not significantly different from zero, indicating no individual differences in trajectories of career satisfaction. In model 2, control variables are entered and we test the effect of networking scales on concurrent career satisfaction in model 3. The significant difference in deviance between models 2 and 3 indicates that entering the networking scales as a variable set improve model fit. Thus, hypothesis 3 is supported. Regression parameters show that maintaining internal contacts has a significant effect on concurrent career satisfaction. Relative weights as well as the insignificant regression coefficients of external networking scales when they were entered alone into a multilevel model (cf. Table 4) indicate that internal networking is of more importance in predicting career satisfaction. According to the bootstrap procedure, relative weights for all networking scales, but using external contacts are significantly different from zero. Hypothesis 4, predicting a growth effect of the networking scales is not supported. Adding the growth effect did not improve model fit (Δ deviance [6] = 5.3; $p > .10$). This is also evident from the insignificant slope variance in the models that indicates the absence of differential growth trajectories. The growth model is therefore not shown in Table 3. As career satisfaction remains stable over time, we find no support for hypothesis 4.

Discussion

The present study is the first to examine the effects of networking on career success using a longitudinal research design. We found that networking is related to concurrent salary level, replicating prior findings (e.g., Forret & Dougherty, 2004). Going beyond prior studies, our results suggest that networking behaviors can contribute to differential salary growth over time. In line with the practitioner literature, networking can be considered an investment that pays off in the future.

Networking was also positively related to concurrent subjective career success, again replicating prior findings (e.g., Forret & Dougherty, 2004; Langford, 2000). Individuals who engage in networking behaviors are more satisfied with their careers. Our results further indicate that internal networking seems to be of higher importance for career satisfaction than external networking. As career satisfaction remained stable over time, we were unable to find an effect of networking on changes in career satisfaction. While this finding is not in line with our assumptions, we believe it is of interest in itself. This unexpected finding shows some similarities to research on both job and life satisfaction. Studies have shown that satisfaction is related to stable, dispositional characteristics, such as core self evaluations or negative and positive affectivity (Diener & Lucas, 1999; Dormann, Fay, Zapf, & Frese, 2006). If career satisfaction is also in part determined by dispositional characteristics, changes may be more difficult to detect. In a similar vein, set point theory of life satisfaction suggests that individuals possess a specific level of satisfaction (i.e., the set point) that remains relatively stable over time. While events may lead to a change of this set point, many of these changes are temporary and these events lose their impact after three to six months. Only dramatic events such as unemployment alter the set point (Fujita & Diener, 2005). Further research should examine whether this theory also applies to career satisfaction and which events lead to enduring changes of career satisfaction.

Theoretical and practical implications

The present study shows that longitudinal designs provide important insights into the relationship between networking and career success. An intriguing finding is that networking scales were differentially related to concurrent salary level and salary growth. Our analyses indicated that all six networking scales were important in the prediction of concurrent salary, whereas only maintaining internal contacts was an important predictor of salary growth. This might indicate that individuals with higher salaries can be expected to network as a part of their job requirements and may in fact point to the possibility that some reverse causation exists, that individuals may have to resort to specific networking behaviors in order to accomplish their job. These results also suggest that even though building and using contacts are essential parts of networking, individuals are well advised to maintain their (internal) contacts in order to reap the benefits of these acquired contacts in the future. A strong focus on building contacts may lead to many superficial contacts, but may fail to establish relations with a minimum amount of trust that is necessary to obtain resources from these contacts. A focus on using contacts may provide benefits at present, but concurrent use may already be reflected in concurrent salary and be therefore of less importance for the subsequent progression of salary growth.

Our findings concerning the importance of maintaining internal contacts for salary growth may also qualify results obtained by Forret and Dougherty (2004). These authors did not find a relationship between concurrent salary and their networking scale *socializing*, which is comparable to our maintaining internal contacts scale (i.e., theirs includes attending organizational social functions, going out for drinks after work). While these authors discuss that socializing may be mainly directed to “peers who tend to have little influence on one’s compensation” (Forret & Dougherty, 2004 p. 431), our findings indicate that in spite of the

lack of an effect of socializing on the *concurrent* salary level, an effect on salary growth might nevertheless exist.

Using external contacts had in sum the weakest importance for career success in our analyses and the significant relative weight indicates that it may even act as a suppressor in the relation of networking with concurrent salary. A possible explanation for this finding is that the frequent use of external contacts can be interpreted as a lack of competence, which might pose a threat to an individual's reputation. This suggestion might have to be qualified with regard to particular resources. It may be especially valid for individuals who often seek task advice and may not apply to strategic information that individuals seek from their external contacts (Podolny & Baron, 1997). As our networking scales do not distinguish between the types of resources obtained future research should investigate whether this assumption is viable.

Future research should also attempt to delineate exactly how networking enhances career success. The present research has shown that networking leads to salary increases, and other research (e.g., Thompson, 2005) has shown that networking leads to higher performance ratings by supervisors. However, it remains unclear whether these outcomes are achieved by higher work performance or, for example, higher skills in impression management. Theory on the resources attainable by networking points to both mechanisms (Wolff et al., in press): As networking yields task related support, it should in turn enhance work performance and thus performance ratings and salary. However, higher performance ratings can also be due to higher reputation and higher power as a result of networking. Also, future research should attempt to assess the joint contribution of individual level networking behavior and structural level social capital on career success. Social capital and networking may possess distinct contributions to career success, or social capital may be a mediator of

the relationship between networking and career success. Reverse causality is also a plausible mechanism, e.g., the social capital an individual has acquired may in turn ease networking.

Additionally, future research might consider the opportunities individuals have due to their life situation outside of work. The present study focused on the work domain, but family duties such as caring duties for children or elder relatives may also influence networking behavior, e.g., individuals might have to forgo an opportunity to have drinks after work because they have to take care of their children. While we controlled for relationship status, other variables from the family domain might function as confounders or suppressors of the relation between networking and career success. Likewise, while networking pays off with regard to career success, costs may be incurred in the family domain, e.g., individuals may not have much time for their children or may rely on a non-working spouse in order to network outside their working hours.

As our research underscores the potential benefits of networking, the present findings may also be useful for career counseling and coaching. For example, conceptualizations of protean careers suggest that the responsibility to manage a career has shifted from a predominantly organizational responsibility to the responsibility of individuals (e.g., Hall, 1996). Hall and others have suggested that networking is one means by which individuals can shape their own careers (Forret & Dougherty, 2004; Sturges et al., 2005) and the present findings lend further support to this assumption. Employees are well advised to maintain their internal contacts. It is noteworthy internal networking seems to be of higher importance than external networking in furthering one's career.

Limitations

The present study also has some limitations. First of all, even though our longitudinal design provides further evidence that networking leads to increases in salary, we cannot

prove a causal relation between the two variables. Alternatively, third variables may influence networking as well as career success. By controlling for potentially confounding variables, e.g., education or job experience, we eliminated the effect of several alternative explanations. A related concern is that we focus on one measurement of networking at Wave 1 to predict career success, but do not consider networking at subsequent waves. Arguably, networking behaviors change over time even though empirical findings show that networking is stable over time (i.e., Sturges, Guest, Conway, & Davey, 2002 report a one year stability of $r_{tt} = .56$ that amounts to $r_{tt} = .76$ corrected for unreliability). Changes in networking behavior, e.g., by training of networking skills, might have influenced career success. In this vein, our analyses provide conservative estimates of the effect of networking on career success because the impact of changes in networking is not taken into account. This argument also highlights the importance of choosing the right time frame to observe the effects of networking. We suggest that it takes some time to convert networking behavior into career success, and thus networking at Wave 1 is of major importance. We thus have provided further, albeit not definite, evidence for the link between networking and career success.

Second, with regard to the effects of the networking subscales on career success, our study should be replicated. Shieh and Fouladi (2003) note that parameters of correlated predictors show sample to sample variation in multivariate analyses that may limit the generalizability. However, note that these generalizability concerns are limited to the effect of specific scales, but not to networking scales as a variable set. Also, our additional analyses using relative weights do shed some further light on the importance of the networking scales and we consider their use a strength of the present study. A comparison of the significance of regression weights and relative weights indicates that multicollinearity may indeed result in too conservative estimates of the importance of correlated predictors. In a similar manner, our discussion of the importance of maintaining and using internal contacts must be considered in

the light of the economic recession in Germany during the time of the study. From 2001 to 2003 unemployment rates rose from 9.4% to 10.5% and the number of job openings decreased by roughly 30%, from 507,141 to 350,762 (Statistisches Bundesamt, 2004). It is possible that respondents who focused on maintaining their internal contacts might have had better chances of increasing their salary due to the decreasing availability of external job opportunities. Therefore, our study may underestimate the benefits of external networking behaviors, especially in times of economic upturns. Also, the study has been conducted in Germany and results may reflect cultural specifics. In Germany, employment security is comparably high, as federal legislation restricts dismissal of employees to a higher extent than, for example, in the US. It is possible that Germans are therefore less inclined to build and maintain external contacts to enhance their career success and focus on internal networking to a higher extent. In addition, although the networking measures are based upon theories from international research, our scales might be considered emic (as opposed to etic, see Brislin, 1976) measures of networking and the particular networking behaviors we assess may not enhance career success in other cultures. For example, Bozionelos and Wang (2007) did not find a relationship between a (European) measure of network resources and career success in China, in spite of the strong emphasis on informal Guanxi relations in the Chinese culture. Future studies should thus attempt to replicate our results in different cultures and examine the contingent value of specific networking behaviors.

A third limitation is that we did not include information on career transitions, such as promotions or employer changes, in our analyses. We therefore do not have information concerning whether increases in salary were in part achieved by promotions and/ or changes of employer. While these career transitions describe important steps of the career ladder, their analysis is not without problems. For example, promotions have often been used as a measure of career success (see Ng et al., 2005), but they raise problems of comparability (cf. Judge et

al., 1995), as respondents in our sample came from a variety of firms and industries. The meaning of a promotion is influenced by a variety of firm specific factors, e.g., yearly promotions are common in many consulting firms, or firm size can influence the opportunities for promotion. Therefore, salary is considered a “better measure of objective success than the number of promotions because the latter variable is partly confounded with organizational structure and unmeasured mobility patterns” (Judge et al., 1995 p. 511). In a similar manner, job changes can occur for a variety of reasons. Open ended comments from respondents in our sample showed that reasons for a change of employer were mostly related to career progress (e.g., new challenge, more responsibility), but also to other factors, e.g., child birth, relocation of spouse, layoffs, or firm bankruptcy. We chose salary, the most frequently used indicator of objective career success, because it better reflects the economic value an organization assigns to employees and their performance. In addition, salary growth incorporates effects of career transitions that are accompanied by an increase in salary, i.e., if a promotion or change of employer is accompanied by a pay raise, this effect is also reflected in our salary measure.

To summarize, this study’s goal was to forge a better understanding of the relationship between networking and career success. We showed that networking is not only related to concurrent salary and career satisfaction, but also to salary growth over time. Our study also suggests that a closer examination of temporal changes in career satisfaction is advisable.

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Footnotes

¹ The full scale is available from the first author upon request.

² The reliability estimate of the maintaining internal contacts scale fell slightly below the “magic threshold” of 0.70. As Cronbach’s alpha for this subscale was above this threshold in previous studies by Wolff and Moser (2006, i.e., $\alpha = .75$, $\alpha = .71$, $\alpha = .73$ in three studies, respectively) and possessed adequate stability, we assume that the true reliability of this scale is close to the threshold of .70 and attribute this minor deviation to sampling fluctuation.

³ This results in two noteworthy consequences. First, the intercept captures the salary level at Wave 1 and the slope captures changes that occur over later waves. Second, since we used the natural logarithm of salary as our dependent variable, a linear effect of time on log salary implies exponential change in salary over time. To investigate the effect of this implication, we also estimated the models for salary using log time, which implies a linear effect on salary. Comparing the unconditional models, we found that the linear effect of time provided the best fit to the data. We therefore decided to use this latter coding.

⁴ Note that the calculation of relative weights has been described by Johnson (2000) for ordinary least squares regression, but is also possible for multilevel analysis (Johnson, personal communication, May 29th, 2008; LeBreton personal communication, May 28th, 2008). Johnson suggests using his approach in structural equation modeling (SEM) and our multilevel models can be depicted as SEM models (Curran, 2003). The level 2 coefficients of the networking scales represent fixed effects that are similar to path coefficients in SEM and OLS regression coefficients (Curran, 2003; Willet, 1997). Even though Johnson (2000) as well as LeBreton et al. (2007) emphasize the relation of relative weights to R^2 in OLS Regression, calculations do neither include nor rely on the unequivocal existence of an R^2 measure.

Table 1
Means, standard deviations, and correlations of study variables.

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
1. Gender^A	1.37	0.48	-																		
2. Education^B	1.43	0.50	-.08																		
3. Partnership status^C	1.40	0.49	.18**	-.11																	
4. Job experience	6.74	5.24	-.06	-.19**	-.17**																
5. Tenure	5.64	5.44	-.02	-.08	-.15*	.56**	.														
6. Supervisor function^D	0.46	0.50	-.19*	.10	-.14*	.15*	.12														
7. Organizational size^E	2.02	0.79	-.09	.16*	.06	-.04	-.03	-.06													
8. Internal building	2.45	0.61	-.03	.13	-.05	-.06	-.01	.16*	-.05	(.76)											
9. Internal maintenance	2.65	0.46	-.04	.21**	-.13	-.03	.01	.11	-.11	.32**	(.69)										
10. Internal using	2.40	0.49	.08	.08	.09	-.18*	-.14*	-.08	.11	.21**	.35**	(.75)									
11. External building	1.95	0.59	-.13	.18**	-.12	.02	.03	.16*	.04	.47**	.34**	.23**	(.82)								
12. External maintenance	2.06	0.51	-.06	.19**	-.08	-.07	-.15*	.04	.10	.42**	.42**	.46**	.60*	(.76)							
13. External using	1.89	0.47	.05	.05	.09	-.18**	-.24**	-.12	-.06	.15*	.22**	.46**	.23**	.47**	(.76)						

	M	SD	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
career satisfaction																					
14. T1	3.65	0.69	-.10	.09	-.07	.02	.04	.35**	.07	.28**	.21**	.07	.11	.13	.03	(.84)					
15. T2	3.63	0.68	-.08	.06	-.11	.16	.09	.40**	.04	.27**	.23**	.03	.16	.12	.01	.70** (.84)					
16. T3	3.62	0.72	.02	.06	-.02	.10	.09	.41**	.07	.22**	.36**	.16	.22**	.24**	.08	.64** .66** (.84)					
Annual Salary (€)																					
17. 2000	50498.58	43817.21	-.10	.29**	-.20**	.17**	.12	.26**	.13	.17*	.24**	.02	.32**	.29**	-.05	.26**	.24**	.32**			
18. 2001	58907.42	57830.55	-.03	.24**	-.21**	.38**	.26**	.26**	.10	.17*	.32**	.10	.26**	.30**	-.09	.34**	.32**	.39**	.83**		
19. 2002	63326.82	65175.79	-.02	.21**	-.20**	.33**	.25**	.23**	.08	.17**	.33**	.12	.23**	.26**	-.04	.30**	.32**	.36**	.74**	.97**	
20. 2003	75198.74	94881.97	.02	.14	-.17	.28**	.26**	.22**	.06	.17	.39**	.17	.28**	.34**	-.03	.30**	.30**	.36**	.77**	.91**	.95**

Note: 129 < N < 235. T1 = Time 1; T2 = Time 2; T3 = Time 3.

^A 1 = female, 2 = male.

^B 1 = no college education, 2 = college education.

^C 1 = in steady relationship 2 = single.

^D 0 = no 1 = yes.

^E 1 = 1 – 500 empl., 2 = 501 – 10000 empl., 3 = more than 10000 employees.

* $p < .05$.

** $p < .01$.

Table 2

Effects of Networking on Salary.

	Model 1		Model 2		Model 3		Model 4	
	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>
Fixed effects								
Intercept (β_{00})	10.582**	.034	9.956**	.172	9.598**	.243	9.804**	.255
Slope (β_{10})	0.080**	.007	0.087**	.008	0.087**	.008	-0.062	.054
Gender (β_{01})			-0.110	.061	-0.097	.058	-0.099	.058
Relationship status (β_{02})			-0.169**	.059	-0.137*	.057	-0.138*	.057
Education (β_{03})			0.433**	.063	0.380**	.061	0.381**	.061
Job Experience (β_{04})			0.025**	.008	0.021**	.008	0.021**	.008
Org. Tenure (β_{05})			-0.005	.007	-0.001	.007	-0.001	.007
Org. Size (β_{06})			0.080*	.033	0.080*	.033	0.078*	.033
Supervisor position (β_{07})			0.184**	.060	0.167**	.058	0.166**	.058
Networking: Concurrent effects								
Internal building (β_{09})					0.089	.051	0.066	.055
Internal maintenance (β_{0A})					0.062	.070	-0.006	.076
Internal using (β_{0B})					-0.127	.069	-0.165*	.074
External building (β_{0C})					-0.041	.062	-0.029	.067
External maintenance (β_{0D})					0.248**	.084	0.303**	.090
External using (β_{0E})					-0.065	.071	-0.071	.076

	Model 1		Model 2		Model 3		Model 4	
	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>
Networking: Growth effects								
Internal building (β_{11})							0.017	.015
Internal maintenance (β_{12})							0.051*	.020
Internal using (β_{13})							0.028	.020
External building (β_{14})							-0.008	.016
External maintenance (β_{15})							-0.042	.023
External using (β_{15})							0.005	.020
Random effects								
Level 2								
Intercept (τ_{00})	0.234**	.024	0.141**	.018	0.124**	.017	0.124**	.017
Slope (τ_{11})	0.004**	.001	0.004**	.001	0.004**	.001	0.003**	.001
Cov (intercept, slope, τ_{01})	-0.003	.004	-0.002	.004	-0.002	.003	-0.002	.003
Level 1 error (σ^2)	0.018**	.002	0.019**	.002	0.019**	.002	0.019**	.002
Deviance (npar)	128.5 (6)		38.8 (13)		17.3 (19)		4.0 (25)	
Δ Deviance (df)			99.7** (7)		21.5** (6)		13.3* (6)	

Note. $N = 235$. Dependent variable is natural logarithm of salary.

* $p < .05$.

** $p < .01$.

Table 3

Effects of Networking on Career Satisfaction.

	Model 1		Model 2		Model 3	
	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>
Fixed effects						
Intercept (β_{00})	3.681**	.058	3.481**	.251	2.368**	.354
Slope (β_{10})	-0.032	.025	-0.064*	.029	-0.058	.029
log Salary (β_{20})			0.205**	.045	0.193**	.046
Gender (β_{01})			0.085	.084	0.072	.080
Relationship status (β_{02})			0.050	.083	0.052	.080
Education (β_{03})			-0.112	.093	-0.164	.090
Job Experience (β_{04})			0.002	.011	0.005	.010
Org. Tenure (β_{05})			-0.011	.010	-0.011	.010
Org. Size (β_{06})			0.039	.046	0.057	.045
Supervisor position (β_{07})			0.432**	.083	0.384**	.080
Networking: Concurrent effects						
Internal building (β_{09})					0.117	.070
Internal maintenance (β_{0A})					0.294**	.097
Internal using (β_{0B})					0.113	.094
External building (β_{0C})					0.019	.083
External maintenance (β_{0D})					-0.221	.116
External using (β_{0E})					0.124	.098

	Model 1		Model 2		Model 3	
	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>	<i>B</i>	<i>Se</i>
Random effects						
Level 2						
Intercept (τ_{00})	0.361**	.087	0.333**	.098	0.313**	.096
Slope (τ_{11})	0.014	.015	0.022	.018	0.023	.018
Cov (intercept, slope, τ_{01})	-0.026	.033	-0.057	.039	-0.061	.039
Level 1 error (σ^2)	0.155**	.019	0.159**	.022	0.157**	.022
Deviance (npar)	900.4 (6)		674.7 (14)		653.0	
Δ Deviance (df)			225.7** (6)		21.7** (6)	

Note. $N = 235$.

* $p < .05$.

** $p < .01$.

Table 4

Regression Coefficients and Relative Importance of the Six Networking Subscales.

	Salary				Career Satisfaction	
	Concurrent		Growth		Concurrent	
	β (se)	RW (95% CI)	β (se)	RW (95% CI)	β (se)	RW (95% CI)
Internal building	0.139** (.046)	24%* (4% - 62%)	0.016 (.013)	10% (1% - 46%)	0.163* (.065)	17%* (2% - 45%)
Internal maintenance	0.140* (.064)	11%* (2% - 32%)	0.045** (.017)	49%* (7% - 76%)	0.323** (.086)	49%* (20% - 73%)
Internal using	0.002 (.059)	8%* (2% - 35%)	0.031+ (.016)	20% (2% - 43%)	0.212** (0.79)	14%* (2% - 31%)
External building	0.109* (.048)	8%* (4% - 21%)	-0.005 (.013)	4% (2% - 20%)	0.063 (.067)	4%* (2% - 14%)
External maintenance	0.198** (.055)	45%* (7% - 60%)	-0.003 (.016)	14% (3% - 35%)	0.074 (.080)	6%* (3% - 23%)
External using	0.029 (.061)	4%* (1% - 16%)	0.009 (.017)	2% (1% - 27%)	0.164+ (.083)	10% (1% - 26%)

Note. $N = 235$. Regression coefficients represent estimates where each of the six scales was added

by itself to control variables in a multilevel regression model. Columns labeled concurrent and growth show effects of level 2 regression coefficients on the intercept (concurrent effect) and

slope (growth effect), respectively. Estimation Confidence intervals and significance test of relative weights were conducted using empirical intervals from 1000 bootstrap samples. A Bonferroni correction was used in testing significance of relative weights (overall $\alpha = .05$; α per comparison = .008).

⁺ $p < .10$.

$p < .05$.

^{**} $p < .01$.