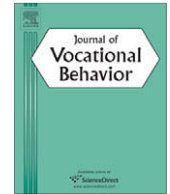




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Protean attitude and career success: The mediating role of self-management

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ABSTRACT

A protean career attitude is considered as an important determinant of career success in the contemporary career era. In this article we test a model in which we specify the relationships between protean career attitude, career self-management behaviors, career insight, and career success outcomes (career satisfaction and perceived employability). A survey was conducted among a sample of 289 employees. The results support the idea that a protean career attitude is a significant antecedent of career success and that this relationship is fully mediated by the development of career insight. The implications of these findings for understanding the process through which career attitude affects individuals' career success are discussed.

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Over the years there has been extensive writing on the changing career environment. While traditional careers tended to be defined in terms of advancement within a limited number of organizations, contemporary careers are viewed as boundaryless (Arthur, Khapova, & Wilderom, 2005). They reflect a “new deal”, in which the psychological contract between employer and employee does no longer automatically include a promise of lifetime employment and steady career advancement (e.g. Arthur & Rousseau, 1996). This new deal implies that employees have to engage in a range of career self-management activities to create career options that allow them to realize their personal career goals and ensure their employability (Hall & Moss, 1998). A changing attitude of employees toward their career development and their own role within this is needed (Briscoe & Hall, 2006).

The concept of “protean career attitude” offers a valid approach to study contemporary careers (Hall & Moss, 1998). A protean career attitude reflects the extent to which an individual manages his or her career in a proactive, self-directed way driven by personal values and evaluating career success based on subjective success criteria (Hall, 2002). Despite the fact that the protean career concept has received widespread attention in the career literature, empirical research is still in its early stages. It is assumed that a protean career attitude is associated with career success, but empirical evidence is scarce. In contrast, over the past decades a wide range of studies have addressed career competencies that are critical for career success in the new career era (e.g. Eby, Butts, & Lockwood, 2003; Kuijpers, Schyns, & Scheerens, 2006). While these studies underscore the importance of proactively managing one's career, they could gain from a stronger embeddedness in the theoretical framework offered by the protean career literature. The conceptualization of the protean career as an attitude reflecting a feeling of personal agency suggests that this attitude will engage individuals in managing their own career. This, in turn, should increase their feelings of career success. By relating the protean career attitude to the development of career insight, career self-management behaviors and career success this study responds to the need for empirical research on the predictive validity of the protean career attitude for understanding practical results (Briscoe, Hall, & DeMuth, 2006).

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1. Career success within the new career era

1.1. Career success

Within contemporary writings on careers, both objective and subjective career success receive considerable attention as important outcomes of individuals' career experiences (Arthur et al., 2005). Career success is defined as "the accomplishment of desirable work-related outcomes at any point in a person's work experiences over time" (Arthur et al., 2005, p. 179). Traditionally career researchers have focused on objective indicators of career success like organizational position or attained promotions (Arthur et al., 2005; Bozionelos, 2004). In the context of boundaryless careers, with a growing emphasis on inter-firm mobility and unpredictability, researchers increasingly speak of the personal meaning of career success as the primary focus for evaluating careers, i.e. subjective career success (Hall, 2002). Subjective career success refers to feelings of satisfaction and accomplishment regarding one's career (Seibert, Crant, & Kraimer, 1999). In this study we address career satisfaction and individuals' perceptions of employability. Career satisfaction is the most common operationalization of subjective career success (Heslin, 2005). In a context of boundaryless careers satisfaction with one's career status, rather than objective position, is viewed as the major indicator of career success (Heslin, 2005; Seibert et al., 1999). In addition to career satisfaction, in an employment context characterized by instability and uncertainty, the extent to which individuals believe to be employable in their current organization or on the external labor market is a relevant dimension of subjective career success (Bird, 1994; Eby et al., 2003; Sullivan, Carden, & Martin, 1998). We therefore address both individuals' feelings of career satisfaction and their feelings about being employable.

1.2. Protean career attitude

The protean career concept encompasses the extent to which an individual demonstrates self-directed and values-driven career orientations in their personal career management (Briscoe & Hall, 2006; Hall, 2002). Individuals with a more traditional career attitude tend to take a more passive role in managing their career and are more likely to seek for direction from the organization. Individuals with a protean career attitude experience greater responsibility for their career choices and opportunities (Hall, 1976, 2002). One important implication for the individual working in a continuously changing organizational context is that he or she must have a clear sense of personal identity that operates as an internal guide for making career decisions (Hall, 2002). Developing a protean career attitude might thus be important for individuals in order to make career choices that lead to subjective career success. As an attitude, it is conceived to set the basis for individual career management initiatives which might include both the development of learning about oneself (acquiring career insight) and taking practical initiatives to manage one's career. As shown in extant research, both career insight and self-management behaviors are important for explaining career success.

1.3. Career self-management

To realize the potential of the new career, an individual must develop new competencies related to the management of self and career (Eby et al., 2003; Hall & Moss, 1998). Inherent to the notion of protean careers is that the individual employee is the primary responsible for managing his or her career and that a strong sense of identity and values are important for guiding career decisions. (Briscoe & Hall, 1999; Briscoe & Hall, 2006; Hall, 2002). Career self-management refers to the proactivity employees show with respect to managing their careers (King, 2004; Kossek, Roberts, Fisher, & Demarr, 1998; Orpen, 1994). It includes employees' efforts to define and realize their personal career objectives, which can or cannot correspond with the organization's objectives. A review of the literature on career self-management reveals a wide range of cognitions and behaviors being studied, as well as a wide variety of terms used to label "career self-management" (e.g. proactive career behavior, individual career management, career competencies) (King, 2004; Kuijpers et al., 2006; Sturges, Guest, Conway, & Mackenzie Davey, 2002; Sturges, Guest, & Mackenzie Davey, 2000). Together these studies indicate that two components of career self-management can be discerned, i.e. a reflective and a behavioral component. While the former refers to the insights individuals develop into their own career aspirations, the latter refers to the behaviors they initiate with the aim of managing their career.

Several studies address the importance of career insight as an antecedent of career success (e.g. Arthur, Inkson, & Pringle, 1999; Defillippi & Arthur, 1994; Eby et al., 2003; Kuijpers et al., 2006). This suggests that, in addition to career self-management behaviors, it is important for individuals to develop career insight that allows them to make meaningful choices.

The behavioral component of career self-management builds on the notion of proactivity and it refers to the concrete actions (e.g. networking, self-nomination, creating opportunities) undertaken by employees to realize their career goals (King, 2004; Noe, 1996; Sturges et al., 2000; Sturges et al., 2002). These actions can focus on improvement in one's current job or on movement within or outside the company (Kossek et al., 1998; Sturges et al., 2002). Several authors have studied the relationship between career self-management behaviors enacted by individuals and career-related outcomes. These studies reveal the importance of a wide range of self-management behaviors, such as collecting information about existing or possible career opportunities, searching for feedback about one's performance and competencies, and creating career opportunities through networking and actions aimed at enhancing one's visibility (e.g. Claes & Ruiz-Quintanilla, 1998; King, 2004; Orpen, 1994; Seibert, Kraimer, & Crant, 2001; Sturges et al., 2000; Sturges et al., 2002).

1.4. Protean career attitude and career self-management

The protean career concept offers a relevant framework for understanding the relationship between both components of career self-management and career outcomes given its conceptualization as a values-driven, self-directed career attitude important for realizing career success (Hall, 2002). Based on the conceptualization of the protean career as an attitude reflecting a feeling of personal agency (Briscoe et al., 2006), we expect that it will positively relate to the extent to which individuals develop career insight, and to the extent to which they take concrete initiatives to manage their own career.

Hypothesis 1: A protean career attitude relates positively to the development of career insight.

Hypothesis 2: A protean career attitude relates positively to career self-management behaviors.

1.5. Career self-management and career success

Over the years, many studies have investigated individual and organizational factors that facilitate career success (Ng, Eby, Sorensen, & Feldman, 2005). Both career self-management behaviors and more cognitive indicators of career self-management (e.g. career competencies) have been examined as antecedents. First, evidence shows that individuals who reflect more actively about their career goals and who have a stronger insight in what they want to attain during their career, report a higher level of career success. Second, it is assumed that self-managing individuals more actively strive to obtain their desired career goals which in turn should make them feel more successful in their career (e.g. Arthur et al., 2005; Ng et al., 2005). Seibert et al. (1999) found evidence for their hypothesis that proactive individuals select, create and influence work situations that increase the likelihood of career success. In this sense, career self-management cannot only result in a higher level of satisfaction about one's current career status, but also in increased perceptions of employability because it increases employees' options for employment, development and the extent to which they can negotiate about job changes (Claes & Ruiz-Quintanilla, 1998).

Hypothesis 3a: There is a positive relationship between career insight and career satisfaction.

Hypothesis 3b: There is a positive relationship between career insight and perceived employability.

Hypothesis 4a: There is a positive relationship between career self-management behaviors and career satisfaction.

Hypothesis 4b: There is a positive relationship between career self-management behaviors and perceived employability.

1.6. Mediation hypotheses

Given the conceptualization of the protean career attitude as a general attitude towards one's career, we propose that the impact of a protean career attitude on career success will be indirect, operating through career self-management. More specifically, we predict indirect effects of protean career attitude on career satisfaction and on perceived employability.

Hypothesis 5a: Career insight mediates the relationship between protean career attitude and career satisfaction.

Hypothesis 5b: Career insight mediates the relationship between protean career attitude and perceived employability.

Hypothesis 6a: Career self-management behaviors mediate the relationship between protean career attitude and career satisfaction.

Hypothesis 6b: Career self-management behaviors mediate the relationship between protean career attitude and perceived employability.

The model we have developed to this point describes the impact of a protean career attitude on career satisfaction and perceived employability as being fully mediated by career insight and career self-management behaviors. Although this full mediation is plausible, theoretical work on the protean career attitude suggests that this attitude also has a direct impact on subjective career outcomes (e.g. Hall, 2004; Hall & Moss, 1998). On the basis of this thinking, we also assess the plausibility of partial mediation.

2. Method

2.1. Sample and procedure

A survey was conducted among 297 Belgian employees, who had participated in career counseling. After having received formal approval from their clients, 12 counseling centers provided us with the list of their clients having received counseling during a pre-specified reference period (January 2005–February 2006). In total, contact details from 866 persons were obtained. From this list, only those individuals were retained that had finished the counseling process at least six months be-

fore this study took place. From this group a stratified sample was drawn, taking into account the following criteria: (1) representation of all counseling centers according to their number of clients; (2) representative proportion of men and women, age categories, educational level, ethnic origin, and region of living. Based on these criteria, a list of 300 individuals was retained who were contacted for a telephone interview by trained interviewers. If a person refused to cooperate or could not be contacted, another person with the same profile in terms of stratification criteria was selected from the list. Finally 297 respondents participated in the survey. After deletion of cases with missing values, 289 respondents were retained for inclusion in the analyses. Of these, 60.6% are women. The majority (64.4%) is between 30 and 45 years old and has the Belgian nationality (95.2%). 52.7% holds a degree of secondary education or lower. Respondents were working in a wide range of occupations and industries.

2.2. Measures

Protean career attitude ($\alpha = .83$) was measured using the eight items from the Self Directedness subscale of the Protean Career Attitude scale developed by Briscoe and Hall (in Briscoe et al., 2006). Respondents indicated on a 5-point Likert scale to what extent they considered themselves as the primary responsible for managing their career in an independent way (e.g. "I am in charge of my own career"). The reliability of this scale is comparable to reliabilities found in earlier studies reported by Briscoe et al. (2006).

Career insight was measured with fourteen items that were adapted from the Career Insight Scale developed by London (1993) and the Career Decision-making Difficulties Questionnaire (CDDQ) developed by Gati, Krausz, and Osipow (1996) ($\alpha = .87$). Using a 5-point Likert scale, respondents indicated to what extent they felt the career counseling had given them a better insight into their own career aspirations, skills and personality (e.g. "I have obtained a better insight into what I find important in my career"). To the five items of the Career Insight Scale we added nine items from the CDDQ to have a more extensive assessment of this variable. The CDDQ includes a number of items relating to an individual's lack of insight in the self and in the career decision-making process. These items are closely related to the reflective component of career self-management. We therefore selected these items to include them in our assessment of career insight, but using a positive wording instead of the "lack of information" operationalization used in the CDDQ. The reliability of our scale is comparable to the reliabilities based on both self-ratings and supervisor ratings as reported by London (1993) and Osipow and Gati (1998).

Career self-management behaviors ($\alpha = .71$) were assessed using six items from the Individual Career Management scale developed by Sturges et al. (2000, 2002). We used those items that are generally considered as two important indicators of career self-management behaviors and that relate to networking behavior and to visibility behavior. Using a 5-point Likert scale, respondents indicated to what extent they had practiced these behaviors since they had participated in the career counseling (e.g. "I make contacts with people who can influence my career"). The reliability of this scale is comparable to the reliability reported for these scales by Sturges et al. and to the reliability of .86 reported in a recent study by Verbruggen, Sels, and Forrier (2007).

Career satisfaction ($\alpha = .87$) was assessed using the career satisfaction scale developed by Martins, Eddleston, and Veiga (2002). Respondents indicated on a 5-point Likert scale to what extent (1) in general they felt satisfied with their career status, (2) in general they were satisfied with their current job, and (3) they felt that their career progress was satisfactory. The reliability of this scale in our study is comparable with the reliability of .89 found in another recent study using this scale (Verbruggen et al., 2007) and is higher than the reliability of .79 reported by the original authors (Martins et al., 2002). Exploratory factor analyses conducted in these studies provided evidence for the existence of one single factor.

Perceived employability ($\alpha = .91$) was assessed using three items. Respondents indicated on a 5-point Likert scale to what extent they believed that they were employable. One item was adopted from Eby et al. (2003) ("I believe could easily obtain a comparable job with another employer"). To this we added two newly constructed items ("I believe I could easily obtain another job that is in line with my level of education and experience", and "I believe I could easily obtain another job that would give me a high level of satisfaction").

Control variables. We controlled for age, level of education and gender. Three educational levels were coded: low (education until the age of 15), average (high school certification) and high (bachelor and master levels). Gender was dummy-coded as (0 = male, 1 = female).

2.3. Analytical strategy

We tested the hypothesized model and paths using AMOS 7.0. We formed item parcels to create two indicators each for protean career attitude, career insight, and career self-management behaviors to reduce the sample size to parameter ratio. Because career satisfaction and perceived employability were composed only of three items, we used each item as a separate indicator for these two constructs. Following the recommendations of Anderson and Gerbing (1988), we tested our proposed model using a two-stage analytic procedure. First, we fitted a measurement model to the data, and second we tested the underlying structural model. The following indices were used to evaluate the fit of the tested models: (a) chi-square goodness of fit to degrees of freedom ratio, (b) Tucker-Lewis index (TLI; Tucker & Lewis, 1973), (c) root-mean-square error of approximation (RMSEA, Steiger, 1990), (d) standardized root-mean-square residual (SRMR; Bentler, 1990), and (e) the comparative fit index (CFI). Previous work suggests that satisfactory model fit is indicated by TLI and CFI values of .90 or higher

and RMSEA values no higher than .08, SRMR values no higher than .10 and a chi-square goodness of fit to degrees of freedom ratio no greater than 2 (Bentler, 1990; Browne & Cudeck, 1993).

3. Results

Table 1 shows the descriptive statistics, alpha reliabilities, and intercorrelations between all variables included in the study. Overall, these correlations provide preliminary evidence for the model proposed. Protean career attitude related significantly to career insight, career self-management behaviors, career satisfaction and employability. Career insight and career self-management behaviors related significantly to career satisfaction and employability.

Table 2 displays the fit statistics for the measurement model. Overall, the fit indices show that the hypothesized measurement model provided a good fit to the data, χ^2 (44, $N = 289$) = 68.90, $p > .05$, TLI = .980, CFI = .987, RMSEA = .044, SRMR = .036). Following the recommendations of Kelloway (1996), we compared the hypothesized measurement model with two constrained nested models in which certain factors were set to load on a single factor. First, we created a one-factor model in which all of the hypothesized factors were set to load on a single underlying factor. Second, we created a two-factor model in which the protean career attitude, career self-management behaviors, and career insight constructs were set to load on a single factor, and the employability and career satisfaction constructs on a second factor. Finally, we compared the fit of the hypothesized measurement model with the less constrained independence model. In each case, the hypothesized measurement model fit the data better than any of the alternatives, both in terms of the fit statistics and when directly contrasted with a change in chi-square test. The standardized factor loadings for the indicators used in the measurement model were all higher than .70, ranging from .71 to .95. These results provide support for the validity of our measurement model. They support the scale validity reported by the original authors of the existing scales we adapted and they offer support for the newly developed perceived employability scale.

Given the acceptable fit of the measurement model, we tested our structural model (see Fig. 1). The fit statistics for the structural model are displayed in Table 3. Overall, the fit indices suggest a good fit of the hypothesized model to the data. Following Kelloway's (1996) recommendations, we compared the hypothesized model against two theoretically plausible alternative models (see Table 3). First, we created a non-mediated model in which protean career attitude, career self-management behaviors and career insight were set to load directly on the two career success outcomes. As can be seen from Table 3, this model poorly fitted the data and had a significantly poorer fit than the hypothesized partial mediation model. This supports our proposition about the importance of mediating pathways. Second, we compared the full mediation model with a partially mediated model. Comparison of the χ^2 statistics for both models shows that the inclusion of direct pathways from protean career attitude to career outcomes does not cause a significantly poorer fit than the hypothesized partial mediation model. However, the regression weights from protean career attitude on employability and career satisfaction were not significant in the partial mediation model. For this reason, and because the hypothesized full mediation model represents the

Table 1
Descriptive statistics, intercorrelations, and alpha reliabilities of major variables

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1 Gender	—	—	—							
2 Education	—	—	.20**	—						
3 Age	—	—	-.12*	-.20	—					
4 Protean career	3.75	.76	.04	-.13*	.04	.83				
5 Self-management behavior	3.30	.79	.02	-.07	-.01	.55**	.71			
6 Career insight	3.64	.73	.15**	-.10	.02	.55**	.45**	.87		
7 Perceived employability	4.10	.71	-.01	-.07	-.01	.49**	.41**	.50**	.91	
8 Career satisfaction	3.47	.08	.08	.02	-.09	.24**	.19**	.32**	.31**	.87

Note. $N = 289$. Alphas are on the diagonal. Gender is coded such that 0 = female and 1 = male

* $p < .05$.

** $p < .01$.

Table 2
Model fit statistics of the measurement model

	χ^2	<i>df</i>	χ^2/df	$\Delta\chi^2$	TLI	CFI	RMSEA	SRMR
Hypothesized five-factor measurement model	68.90**	44	1.57	—	.980	.987	.044	.036
Independence model	1961.46**	66	29.72	1892.56**	—	—	.316	.400
One-factor measurement model	279.58**	51	5.48	210.68**	.844	.879	.125	.118
Two-factor measurement model	270.22**	50	5.40	201.31**	.847	.884	.124	.111

Note. $N = 289$. TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root-mean-square error of approximation; SRMR, standardized root-mean-square residual. Dashes represent data that were not applicable.

** $p < .01$

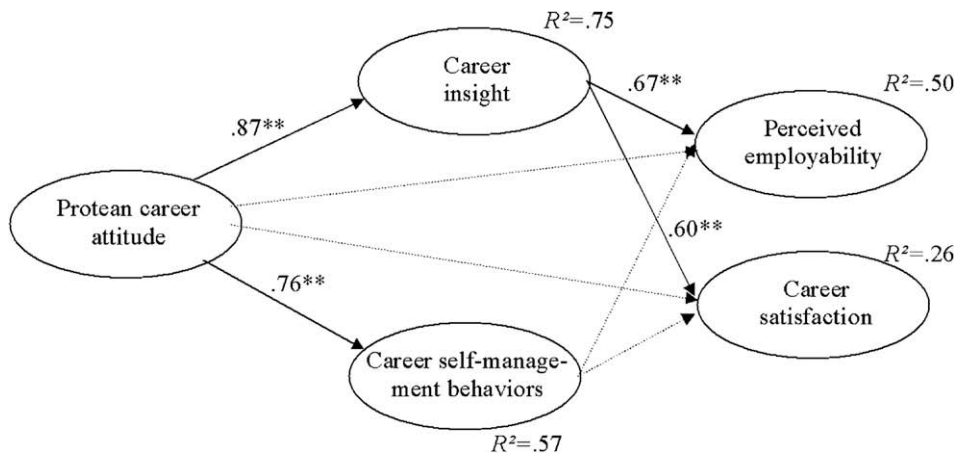


Fig. 1. Final model.

Table 3
Fit statistics of tested structural models

	χ^2	df	χ^2/df	$\Delta\chi^2$	TLI	CFI	RMSEA	SRMR
Partially mediated model	72.86**	45	1.62	—	.968	.978	.046	.046
Fully mediated model	78.26**	47	1.67	4.50**	.966	.975	.048	.047
Nonmediated model	393.65**	70	5.62	287.27**	.780	.830	.127	.170

Note. $N = 289$. TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root-mean-square error of approximation; SRMR, standardized root-mean-square residual. Dashes represent data that were not applicable.

** $p < .01$

data more parsimoniously, this model was retained as the final model. The final model provided a good fit to the data, $\chi^2(47, N = 289) = 78.26, p < .01, TLI = .966, CFI = .975, RMSEA = .048, SRMR = .047$.

Fig. 1 shows the significant pathways for the final model. Providing support for Hypothesis 1 and 2, protean career attitude was positively associated with career insight ($\beta = .87, p < .01$) and with career self-management behaviors ($\beta = .76, p < .01$). Career insight was positively associated with perceived employability ($\beta = .67, p < .01$) and with career satisfaction ($\beta = .60, p < .01$), which supports Hypothesis 3a and 3b. We received no support for Hypothesis 4a or 4b. Contrary to our expectations, career self-management behaviors were not significantly related to perceived employability or career satisfaction. Together, the significant positive association between protean career attitude and career insight and the significant positive association between career insight and perceived employability and career satisfaction supports our hypothesis that career insight mediates the relationship between protean career attitude and career outcomes (Hypothesis 5a and 5b). Given the lack of a significant relationship between self-management behaviors and career outcomes, the mediational relationship addressed in Hypothesis 6a and 6b could not be confirmed.

4. Discussion

Our findings reveal that after receiving career counseling, those individuals with a protean career attitude report higher levels of career satisfaction and perceived employability and that this relationship is mediated by the development of career insight. Although our study addressed the impact of protean career attitude in a very specific sample, the results support the idea that having a protean career attitude is important for individuals in the current career landscape. In this way, they provide empirical evidence for the presumed relevance of the protean career concept (Hall, 2002, 2004). The positive relationship between protean career attitude and career insight extends the finding of a positive correlation between protean career attitude and career authenticity found by Briscoe et al. (2006). While these authors addressed respondents' feelings regarding the authenticity of their career, we studied career insight, a variable that can be seen as related to but conceptually distinct from career authenticity (Sjevenova, 2005). The positive relationship between protean career attitude and self-management behaviors supports the idea that those individuals with protean career attitudes actively strive for career success by translating this into concrete actions to manage their career (Hall, 2004). A protean career attitude appears to engage individuals for defining as well as directing their own career path.

Career self-management behaviors were not directly related to career outcomes. This contrasts with earlier findings (e.g. Kuijpers et al., 2006; Seibert et al., 2001). Our results suggest that the extent to which individuals are proactive in managing their careers does not automatically imply stronger feelings of career success or perceptions of employability. A possible

explanation for this difference might be the assessment of self-management behaviors. In our study we explicitly assessed behavioral indicators that do not include a reflective component (networking, creating visibility), in contrast with for instance items assessing feedback-seeking, or asking for career advice. By separating the more reflective aspect of self-management from the behavioral aspect it appears that the latter in itself is not sufficient for career success.

Our findings indicate that individuals with a protean career attitude are more likely to engage in career self-management and that this is related to relevant career outcomes. This implies that if organizations want to stimulate more self-directed career management among their employees, purely training them in career self-management behaviors might not be sufficient. A first important step will be to address employees' career attitudes. Probably the organizational culture (expressed, amongst others, through human resource practices) regarding responsibility for career development will play an important role here, in addition to attitude trainings. Second, our results suggest that it is important to focus on both the reflective and behavioral component of career self-management. Our results suggest that purely training employees in self-management behaviors, without stimulating them to reflect on their career identity, might not turn out to be effective. In that sense, our results add to the evidence that providing organizational career support which actively engages employees in the management of their own career is important (Verbruggen et al., 2007).

Our study did have some limitations. First, all data were cross-sectional. This means that we cannot unequivocally determine the direction of relationships found. Further research using a longitudinal design is needed to further unravel the causal relationships between protean career attitude, career self-management and outcomes. Second, as mentioned earlier, our findings should be considered in view of the specific sample of respondents who recently received career counseling. Further research is needed to verify whether career self-management will reveal the same association with subjective career success among samples of individuals who did not participate in career counseling. Third, an interesting avenue for future research would be to include objective career success as an outcome of protean career attitude. Given the relationship between objective and subjective career success found in many studies, it would further add to our insight into the role of a protean career attitude by investigating its relationship with both forms of career success. Moreover, including objective success measures would overcome the limitations inherent in studies using only self-perception data. Although self-perceptions are the most relevant way to assess both the antecedent and outcome variables in our model, this holds the risk of common method bias. Furthermore, although the internal consistency of the perceived employability scale was high and the measurement model provided support for its validity, the fact that we used a self-constructed scale consisting of only three items is a constrain to our study. Fourth, it might add to our understanding of the role of self-management not only to ask respondents to report on their career attitude, self-management behaviors, and developed career insight, but to relate this to the opinion of other parties (e.g. employees' direct supervisors). Since organizational agents still play an important role in affecting organizational decisions about employees' career opportunities, including their perspective might be important in further unraveling the proposed relationships. Fifth, future research might want to include the organizational component of career management. It is likely that the career support provided by organizations to their employees will not only affect career outcomes (as shown in earlier research), but that this will also affect employees' attitudes regarding the responsibility they have for managing their own career. Our research design does not allow us to conclude whether the career counseling affected individuals' protean career attitude, this should also be addressed in future research. Together our findings add to the development of a nomological network for protean career attitude and they demonstrate that the concept does have practical value.

References

- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103, 411–423.
- Arthur, M. B., Inkson, K., & Pringle, J. K. (1999). *The new careers: Individual action and economic change*. London: Sage.
- Arthur, M. B., Khapova, S. N., & Wilderom, C. P. M. (2005). Career success in a boundaryless career world. *Journal of Organizational Behavior*, 26, 177–202.
- Arthur, M. B., & Rousseau, D. M. (1996). Introduction: The boundaryless career as a new employment principle. In M. B. Arthur & D. M. Rousseau (Eds.), *The boundaryless career*. New York: Oxford University Press.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238–246.
- Bozionelos, N. (2004). The relationship between disposition and career success: A British study. *Journal of Occupational and Organizational Psychology*, 77, 403–420.
- Bird, A. (1994). Careers as repositories of knowledge: A new perspective on boundaryless careers. *Journal of Organizational Behavior*, 15, 325–344.
- Briscoe, J. P., & Hall, D. T. (1999). Grooming and picking leaders using competency frameworks: Do they work? An alternative approach and new guidelines for practice. *Organizational Dynamics*, 37–52.
- Briscoe, J. P., & Hall, D. T. (2006). The interplay of boundaryless and protean careers: Combinations and implications. *Journal of Vocational Behavior*, 69, 4–18.
- Briscoe, J. P., Hall, D. T., & DeMuth, R. L. F. (2006). Protean and boundaryless careers: An empirical exploration. *Journal of Vocational Behavior*, 69, 30–47.
- Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & S. J. Long (Eds.), *Testing structural equation models* (pp. 136–162). Newbury Park, CA: Sage.
- Claes, R., & Ruiz-Quintanilla, S. (1998). Influences of early career experiences, occupational group, and national culture on proactive career behavior. *Journal of Vocational Behavior*, 52, 357–378.
- Defillippi, R. J., & Arthur, M. B. (1994). The boundaryless career: A competency-based perspective. *Journal of Organizational Behavior*, 15, 307–324.
- Eby, L. T., Butts, M., & Lockwood, A. (2003). Predictors of success in the era of the boundaryless career. *Journal of Organizational Behavior*, 24, 689–708.
- Gati, I., Krausz, M., & Osipow, S. H. (1996). A taxonomy of difficulties in career decision making. *Journal of Counseling Psychology*, 43, 510–526.
- Hall, D. T. (1976). *Careers in organizations*. Glenview, IL: Scott, Foresman.
- Hall, D. T. (2002). *Careers in and out of organizations*. Thousand Oaks: Sage Publications.
- Hall, D. T. (2004). The protean career: A quarter-century journey. *Journal of Vocational Behavior*, 65, 1–13.
- Hall, D. T., & Moss, J. E. (1998). The new protean career contract: Helping organizations and employees adapt. *Organizational Dynamics*, 26(3), 22–37.
- Heslin, P. A. (2005). Conceptualizing and evaluating career success. *Journal of Organizational Behavior*, 26, 113–136.

- Kelloway, E. K. (1996). Common practices in structural equation modelling. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 141–180). Chichester, UK: Wiley.
- King, Z. (2004). Career self-management: Its nature, causes and consequences. *Journal of Vocational Behavior*, 65, 112–133.
- Kossek, E. E., Roberts, K., Fisher, S., & Demarr, B. (1998). Career self-management: A quasi-experimental assessment of the effects of a training intervention. *Personnel Psychology*, 51, 935–962.
- Kuijpers, M. A. C. T., Schyns, B., & Scheerens, J. (2006). Career competencies for career success. *The Career Development Quarterly*, 55, 168–178.
- London, M. (1993). The relationship between career motivation, empowerment and support for career development. *Journal of Occupational and Organizational Psychology*, 66(1), 55–69.
- Martins, L. L., Eddleston, K. A., & Veiga, J. F. (2002). Moderators of the relationship between work-family conflict and career satisfaction. *Academy of Management Journal*, 45(2), 399–409.
- Ng, T., Eby, L., Sorensen, K., & Feldman, D. (2005). Predictors of objective and subjective career success: a meta-analysis. *Personnel Psychology*, 58, 367–408.
- Noe, R. A. (1996). Is career management related to employee development and performance? *Journal of Organizational Behavior*, 17, 119–133.
- Orpen, C. (1994). The effects of organizational and individual career management on career success. *International Journal of Manpower*, 15(1), 27–37.
- Osipow, S. H., & Gati, I. (1998). Construct and Concurrent Validity of the Career Decision-Making Difficulties Questionnaire. *Journal of Career Assessment*, 6, 347–364.
- Seibert, S. E., Crant, J. M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of Applied Psychology*, 84(3), 416–427.
- Seibert, S. E., Kraimer, M. L., & Crant, J. M. (2001). What do proactive people do? A longitudinal model linking proactive personality and career success. *Personnel Psychology*, 54(4), 845–874.
- Sjevenova, S. (2005). The path with the heart: Creating the authentic career. *Journal of Management Studies*, 42(5), 947–974.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25(2), 173–180.
- Sturges, J., Guest, D., Conway, N., & Mackenzie Davey, K. (2002). A longitudinal study of the relationship between career management and organizational commitment among graduates in the first ten years at work. *Journal of Organizational Behavior*, 23(6), 731–748.
- Sturges, J., Guest, D., & Mackenzie Davey, K. (2000). Who's in charge? Graduates' attitudes to and experiences of career management and their relationship with organizational commitment. *European Journal of Work and Organizational Psychology*, 9(3), 351–371.
- Sullivan, S. E., Carden, W. A., & Martin, D. F. (1998). Careers in the next millennium: Directions for future research. *Human Resource Management Review*, 8(2), 165–185.
- Tucker, L., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38(1), 1–10.
- Verbruggen, M., Sels, L., & Forrier, A. (2007). Unraveling the relationship between organizational career management and the need for external career counseling. *Journal of Vocational Behavior*, 71(1), 69–83.