Proactive motivation and engagement in career behaviors: Investigating direct, mediated, and moderated effects

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ABSTRACT

Proactive career behaviors become increasingly important in today's career environment, but little is known about how and when motivational patterns affect individual differences. In a six-month longitudinal study among German university students (Study 1; *N*=289) it was demonstrated that motivation in terms of "can do" (self-efficacy and context beliefs), "reason to" (autonomous career goals), and "energized to" (positive affect) significantly predicted career behaviors. Contrary to expectation, negative context beliefs had a positive effect when combined with other motivational states. Study 2 replicated and extended those results by investigating whether "can do" motivation mediates the effect of proactive personality and whether those effects are conditional upon the degree of career choice decidedness. We tested a moderated multiple mediation model with a unique sample of 134 German students, assessed three times, each interval being 6 weeks apart. The results showed that effects of proactivity were partially

carried through higher self-efficacy beliefs but not context beliefs. Supporting a moderation model, indirect effects through self-efficacy beliefs were not present for students with very low decidedness.

Keywords: career management; proactivity; motivation; career counseling; career engagement

Introduction

Proactive engagement in career management behaviors is becoming increasingly important in today's career environment (Stickland, 1996). Given the increased self-directedness of contemporary careers, taking charge of one's own career development is pivotal for employees as well as university students in preparation for career transitions and for enhancing employability (Hall, 2002).

Empirical research supports the relation of proactive career behaviors, such as networking or career initiative, with objective and subjective career success (Fuller & Marler, 2009), which makes it imperative to better understand why and when people are more or less likely to be actively engaged in career management. Existing research showed that a number of different aspects ranging from more distal variables, such as parental influences (Kracke, 1997) or basic personality traits (Reed, Bruch, & Haase, 2004) to more proximal constructs such as self-efficacy beliefs (Creed, Patton, & Prideaux, 2007) or possible future work selves (Strauss, Griffin, & Parker, 2012) predict proactive career behaviors. Recently, Parker, Bindl, and Strauss (2010) proposed that proactivity directly depends on different proactive motivation states. There is little empirical research, however, that addresses how proactive motivation affects career management behaviors when simultaneously considering a system of motivation, to what extent motivation mediates the effects of more distal variables, or under what conditions such effects occur.

Based on the model forwarded by Parker et al. (2010), we conducted two independent short-term longitudinal studies to investigate (1) how "can do", "reason to", and "energized to" components of proactive motivation, viewed in conjunction as a motivational system, predict proactive career behaviors; (2) whether the effects of proactive personality on proactive career behaviors are mediated by "can do" motivation; and (3) to what extent the effects of "can do" motivation on proactive career behaviors are contingent upon the degree of career choice decidedness.

Proactive Motivation as Predictor of Career Behaviors

In line with Parker et al. (2010), we propose that inter-individual differences in the degree of engagement in proactive career behaviors can meaningfully be explained by a person's career-related motivation and that proactive motivation acts as the primary proximal predictor of proactive behaviors in terms of goal generation and goal striving. While individual differences in skills, biological functions, and contextual affordances have received a good deal of attention in the career development literature, individual differences in motivation have been relatively neglected. One of the key advantages of focusing on motivation is that it rejects generalized, trait-like conceptions of competence and effective functioning in favor of taking into account "particular contexts and value systems that specify what goals are 'relevant,' what means are 'appropriate,' and what developmental outcomes are 'positive'" (Ford, 1992). Based on a qualitative review of the proactivity literature, Parker et al. proposed three distinct motivation states that are pivotal in explaining individual differences in proactive behavior: (1) "can do" motivation refers to expectancy such as self-efficacy perceptions, control perceptions, or perceived costs of action; (2) "reason to" motivation is concerned with the question of why individuals select or persist with particular proactive

goals and is based on valence; and (3) "energized to" motivation refers to the role of affect in setting and striving for proactive goals.

While research investigated distinct motivational predictors, such as self-efficacy beliefs (Creed, et al., 2007), perceived career barriers (Gushue, Clarke, Pantzer, & Scanlan, 2006), or degree of goal clarity (Rogers, Creed, & Ian Glendon, 2008) in relation to specific proactive career behaviors (e.g., career exploration), no available study investigated how a more comprehensive set of motivational components predicts proactive career behaviors in terms of their unique and combined effects. Moreover, while some aspects of motivation (e.g., self-efficacy beliefs) received a fair amount of attention, other important motivational components, such as context beliefs, affect, or nature of goals, have often been neglected in the empirical literature. In the following paragraphs, we review the literature regarding the three motivational components proposed by Parker et al. in relation to proactive career behaviors. We separated our presentation of "can do" motivation into self-efficacy and context beliefs (Ford, 1992) because they represent distinct components of "can do" motivation. While Ford (1992) refers them as capability beliefs and context beliefs, confusion will be avoided by employing the more commonly employed 'self-efficacy' beliefs instead of 'capability beliefs' in the remainder of this paper.

"Can do" motivation: *Self-efficacy beliefs.* Being proactive involves two kinds of prediction – one involves predicting events before they unfold and the second involves predicting how a course of proactive action will influence unfolding events. Changing a situation that may not yet exist toward a more favorable anticipated outcome involves a high degree of psychological risk due to the relative uncertainty of the unfolding events and how to change them before they occur. High confidence in one's predictions and capacities to effect change are, therefore, especially important (Parker, et al., 2010). Research on the role of self-efficacy beliefs in career development is relatively well-documented,

especially within the context of the social cognitive career theory (SCCT; Lent, Brown, & Hackett, 2002). Career self-efficacy beliefs are regarded as a pivotal aspect of SCCT, which is theoretically presumed to indirectly impact one's career choice and performance via career interests. Research suggests that higher self-efficacy is associated with greater involvement in environmental and self-exploratory activities (Blustein, 1989) and more personal initiative (Frese, Garst, & Fay, 2007). A meta-analytic study by Kanfer, Wanberg, and Kantrowitz (2001) showed that job-search self-efficacy is positively related to proactive job search. In a study with young adults, Nurmi et al. (2002) found that those with greater self-efficacy toward achieving personal goals were more likely to succeed in dealing with the transition from school to work. In sum, theoretical reasoning and empirical findings suggest that greater self-efficacy concerning goal achievement enhances ones' engagement in behaviors that facilitate goal achievement.

Hypothesis 1: Career self-efficacy beliefs are related to increased engagement in proactive career behaviors.

"Can do" motivation: *Context beliefs*. People not only make appraisals regarding their own abilities but also regarding the circumstances that could possibly help or hinder their goal pursuit. For personal initiative it is important that people not only feel competent regarding their capabilities but also believe that their behavior will lead to the desired outcome and that one has some degree of control in the situation (Fay & Frese, 2001; Parker, et al., 2010). Researchers used different labels to describe these kinds of beliefs about the context such as barriers (i.e., negative context beliefs; e.g., Swanson, Daniels, & Tokar, 1996) or contextual supports (i.e., positive context beliefs; e.g., Kenny, Gualdron, Scanlon, Sparks, Blustein, & Jernigan, 2007), but they consistently suggested that the context plays an important role in career development above and beyond self-efficacy beliefs. Initial empirical findings support the theoretical arguments and showed that perceived

career barriers among adolescents are related to less career exploration (Gushue, et al., 2006).

Hypothesis 2: Negative context beliefs (inferred from perceived career barriers) are related to decreased engagement in proactive career behaviors.

"Reason to" motivation: *Autonomous goals.* Apart from "can do" motivation, it is important to consider why individuals formulate or persist with a particular goal. People are more likely to set and strive for goals if they perceive themselves as autonomous and find the goal intrinsically motivating (i.e., enjoyable, interesting) or have internalized or integrated the importance of the goal into their self-concept (i.e., feel that the goal is an integral part of who they are) (Deci & Ryan, 2000). Conversely, people would be less motivated to pursue goals that are extrinsically motivated and externally regulated (i.e., external demands and rewards) or representing introjected goals (i.e., motivated by contingent self-esteem) (Deci & Ryan, 2000). Similarly, selecting a self-concordant goal (i.e., a goal that corresponds to personal core interests and values) increases the probability of goal attainment (Porfeli & Vondracek, 2007; Sheldon & Elliot, 1999). Koestner, Lekes, Powers, and Chicoine (2002) conducted a meta-analysis and concluded that goals established in harmony with one's intrinsic values and interests, as opposed to disharmonious goals set by other people, greatly affected individuals' goal progression.

Hypothesis 3: Autonomous career goals are related to increased engagement in proactive career behaviors.

"Energized to" motivation: *Positive affect.* Despite their importance, considerations of emotions are fairly rare in the pertinent career development literatures (Kidd, 1998) and our study contributes to this body of knowledge by investigating emotions as part of proactive motivation. Theoretically, emotions work as approach or avoidance "energizers" in motivational systems and activated positive emotions specifically promote the setting and striving for proactive goals (Ford, 1992; Parker, et al., 2010).

Anticipated positive emotions attached to goals are conceived as an energizing aspect of motivation promoting goal achievement (Pekrun, 1992). Bagozzi and Pieters (1998) found that stronger anticipatory emotions were associated with more planning and decisions to spend energy on goal pursuit, which in turn contributed to goal-directed behaviors. Similarly, studies showed that positive affectivity is positively related to proactive behaviors aimed at increasing person-environment fit such as networking, information seeking, or job-change negotiations (Ashforth, Sluss, & Saks, 2007) and that positive activated mood predicted career-related proactive goal regulation among medical students (Bindl, Parker, Totterdell, & Hagger-Johnson, 2011).

Hypothesis 4: Expected positive emotions at work are related to increased engagement in proactive career behaviors.

Investigating Antecedents and Conditional Effects of "Can Do" Motivation

Apart from investigating the direct effects of motivation on proactive career behaviors, it is also important to consider the more distal antecedents of proactive motivation and the conditions under which motivation exerts a positive effect on proactive career behaviors (i.e., mediators and moderators). In Study 2, we focused on "can do" motivation (i.e., self-efficacy and context beliefs) as mediators because self-efficacy beliefs have received a large amount of attention in theoretical and empirical career research (Betz, 2007). We aim to contribute to this literature by investigating how self-efficacy mediates the effects of more distal variables on career behaviors and under what conditions such effects occur. Moreover, we also pay attention to "can do" motivation in terms of context beliefs in order to understand their effects above and beyond those of self-efficacy beliefs.

The relatively stable disposition to effect environmental change by taking personal initiative in a broad range of activities and situations (i.e., proactive personality, proactivity) is considered a pivotal antecedent of more context-specific proactive behaviors (Crant, 2000; Fuller Jr & Marler, 2009).

Meta-analyses showed that proactive personality is positively related to networking behaviors, career initiative, as well as to subjective and objective indicators of career success (Fuller Jr & Marler, 2009; Thomas, Whitman, & Viswesvaran, 2010). However, while direct effects of proactivity on career behaviors have been established, the reason for and mediating mechanism of this association have not been closely investigated. Contributing to this literature and drawing on the theoretical framework of Parker et al. (2010), we argue that more distal personal variables, such as proactivity, exert their effects on proactive career behaviors partially because they affect more proximal proactive motivation. In support, empirical studies showed positive relations of proactive personality to "can do" motivation in terms of self-efficacy beliefs (Fuller Jr & Marler, 2009).

Hypothesis 5: The effects of proactivity on proactive career behaviors is partially mediated by (a) higher career self-efficacy beliefs; (b) more favorable context beliefs.

Examining conditional effects, we argue that the degree to which "can do" motivation affects career behaviors is dependent upon the degree of career decidedness. Merely possessing favorable motivation and believing one has capabilities and a supportive context might not be enough to prompt proactive career behavior if one is lacking a clear career goal. Career decidedness is pivotal within the vocational identity literature (Porfeli, Lee, Vondracek, & Weigold, 2011) and indicates clarity and certainty about future career goals that could channel and focus proactive motivation towards specific career behaviors. Supporting those arguments, empirical research showed that people put more effort in goal striving behaviors if goals are specific and if they are committed to their goal (Locke & Latham, 2002) and that career decidedness is positively related to career planning and exploration (Hirschi, Niles, & Akos, 2011).

Hypothesis 6: The effects of (a) self-efficacy beliefs and (b) context beliefs on proactive career behavior are moderated by career decidedness, such that

stronger effects are associated with higher career decidedness.

Overview of Studies

To investigate our hypotheses we conducted two longitudinal studies with independent samples of university students. We chose to investigate our model among university students because getting engaged in career behaviors is pivotal for populations faced with the task of the university-to-work transition. Moreover, by focusing on this group we were able to investigate the role of motivation in the earlier phases of career development when proactive career behaviors start becoming important. Study 1 applied a two-wave design with a six month time-lag between the predictor and criterion variables. Previous research successfully applied the same time lag when examining change in career constructs (Kossek, Roberts, Fisher, & Demarr, 1998; Strauss, et al., 2012). Study 1 was concerned with testing the direct effects of the four components of proactive motivation on proactive career behavior as in Hypotheses (H) 1 to 4. Study 2 used a three-wave design with six weeks separating the predictor, mediator, and outcome variables. It aimed at partially replicating the findings from Study 1 regarding the effects of "can do" motivation and extending Study 1 by investigating mediating and moderating effects as in H5 and H6.

Study 1: Direct Effects of Motivation on Proactive Career Behaviors
Method
Procedure and participants
At the first time of measurement (T1) students from a German university were recruited via two newsletters posted on the university's website that invited them to participate on a research project on career development by providing a link to an online questionnaire, resulting in 560 responses (among approximately 6,000 students enrolled in the university). At the end of the questionnaire students were asked to provide their email address and consent to be contacted for future studies on this

topic. At the second measurement point (T2), six months later, consenting students were directly contacted by email, resulting in 289 participants (83% response rate; 52% of original sample). A lottery drawing of five vouchers of 60 Euros each (approx. 85 USD) was offered as incentive at each wave. Post-hoc tests confirmed that students participating only at T1 did not differ on the assessed measures at T1 from the students who participated at both measurement points. The four motivation variables were assessed at T1, and career behaviors at T2. The final sample ($N = 289$) was 67% female, age $M = 23.34$, $SD = 3.35$. Race was not assessed in our studies because its assessment would generally be considered offensive in Germany. Within a 3-year bachelor program, 27.3% were in their first year, 43.3% in their second, 29.4% in their final year. Participants were enrolled in 27 different majors with business psychology (18%), business administration (10%), applied cultural studies (9%), and management (8%) comprising the largest groups.

Measures

Cronbach's alphas, means, standard deviations, and correlations between measures are reported in Table 1. Unless otherwise stated the measures of Study 1 and 2 used a five-point Likert scale ranging from 1 (*not at all*) to 5 (*very much*).

Self-efficacy beliefs. We used the Short Occupational Self-Efficacy scale developed and validated by Rigotti, Schyns, and Mohr (2008). Students indicated their agreement to six items (e.g., "Whatever comes my way in my job, I can usually handle it"). The authors of the scale reported positive relations to job satisfaction, organizational commitment, and job performance, supporting the construct validity among a large number of employees (Rigotti, et al., 2008).

Negative context beliefs. Because no readily available and validated measure of career barriers existed in German language, we used a deductive item-generation strategy (Hinkin, 1995) and reviewed existing scales measuring career barriers (e.g., Gushue, et al., 2006; Holland, Daiger, & Power, 1980). We adapted six items of existing measures and assessed negative context beliefs in terms of perceived career barriers by asking students to indicate to what extent they believed six different factors (external circumstances, family responsibilities, significant others, labor market, general contextual factors, general economic situation) acted as barriers to their career development. The subsequent analyses reported in the Study 1 results and discussion section and in Table 1 provide support for the scale's reliability and construct validity.

Autonomous goals. Personal goals were assessed by asking students to name six of their current goals or activities that they were engaged in or planning for their future career development. The intrinsic nature of those goals was then assessed with the goal self-concordance measure of Sheldon and Houser-Marko (2001), where students were asked to indicate on a nine-point Likert scale, ranging from 1 (*not at all for this reason*) to 9 (*completely for this reason*), to what extent each of their six career development

Table 1. Summary of Intercorrelations, Means, and Standard Deviations for Scores on the Assessed Constructs in Study 1 (N = 289)

Measure	M	SD	1	2	3	4	5
1. Self-efficacy beliefs	21.15	3.88	(.80)	-.25***	.21**	.39***	.36***
2. Perceived barriers	12.20	4.12		(.76)	-.13*	-.19***	.04
3. Autonomous goals	2.45	2.25			(.72)	.22***	.21***
4. Positive affect	38.23	4.63				(.79)	.25***
5. Proactive behaviors	27.60	7.78					(.89)

Note. Entries in parentheses in diagonal are the Cronbach's alpha reliability coefficients.
* $p < .05$; ** $p < .01$; *** $p < .001$.

strivings were pursued due to external, introjected, identified, or intrinsic reasons. We then calculated the Relative Autonomy Index (RAI) (Grolnick & Ryan, 1987), which has been widely applied with different measures of the self-determination continuum. It is calculated by differentially weighting the intrinsic and identified scores (self-concordant forms of motivation) and subtracting the external and introjected scales (non-concordant forms of motivation) across the six goals. Among others, this measure showed significant relations to life satisfaction, generalized self-efficacy, and self-esteem in previous research (Judge, Bono, Erez, & Locke, 2005).

Positive affect. Anticipated positive emotions at work were assessed with the positive affect scale from the Positive and Negative Affect Schedule (PANAS) (Krohne, Egloff, Kohlmann, & Tausch, 1996; Watson, Clark, & Tellegen, 1988). Students were asked to indicate how often they expected to experience 10 positive emotions (e.g., interested, excited) at work in their future career. The PANAS is one of the most frequently used measures of affect with ample support for construct validity, for example, regarding negative relations of positive affect with anxiety and depression (Crawford & Henry, 2004).

Proactive career behaviors. The degree to which students were engaged in proactive career behaviors was assessed with the Career Engagement Scale (Hirschi, 2011). The measure is similar to other scales that assess proactive career behavior (e.g., Strauss, Griffin, & Parker, 2012) and consists of nine statements. Three describe career management activities in general terms (e.g., worked to advance one's career), while the other six tap into career management behaviors in terms of career planning, self- and environmental exploration, networking, positioning behavior, and voluntary training. For each statement, students were asked to indicate to what extent they had been engaged in this task during the last six months. Research with the scale provided support for reliability and construct validity by

showing significant positive relations to career decidedness and career exploration among university students (Hirschi, 2011).

Study 1 Results and Discussion

Preliminary confirmatory factor analyses

We conducted a series of confirmatory factor analyses (CFA) with M*plus* and the maximum likelihood estimator to estimate the distinctness of the assessed motivation variables at T1. The results support the assessed constructs as theoretically and empirically distinct but related components of motivation. First, the results showed that the hypothesized four-factor model, distinguishing the mutually correlated factors of self-efficacy beliefs, perceived barriers, autonomous goals, and positive affect showed an adequate fit to the data: $\chi^2(344, N = 289) = 675.78$; $p < .001$; *CFI* (Comparative Fit Index) = .82, *RMSEA* (Root Mean Square Error of Approximation) = .06 (90% CI .05-.06). This model provided a significantly better fit (all $p < .001$) than (a) several two-factor models combining two different components of motivation; and (b) a one-factor model, where all items were loading on a single motivation factor. Second, confirming the constructs' convergent validity, all standardized factor loadings were highly significant (all $p < .01$) and ranged from .33 to .86. Third, supporting the notion of mutually related motivational components, the four latent factors were significantly correlated ($r = .19 \sim .47$).

Effects of motivation on proactive career behaviors

In order to assess H1 to H4, we applied hierarchical regression analysis with proactive career behaviors at T2 as the dependent variable. In a first step, we entered the college year of participants as a control variable. Coming closer to a "developmental deadline" (i.e., graduation) could spur engagement in career behaviors (Heckhausen & Tomasik, 2002) and previous research showed that grade level can affect progress in career development (Rogers et al., 2008). Hence, by controlling for the effects of the college year on proactive career behaviors we were able to draw more accurate inferences about the unique

effects of motivation on the dependent variable. Results shown in Table 2 revealed that students in higher years were indeed more engaged in career management, explaining 6% of the variance. The four aspects of motivation explained an additional 18% of the variance, $\Delta F(4,283) = 16.50$, $p < .001$. Proactive career behaviors were predicted by self-efficacy beliefs (confirming H1), autonomous goals (confirming H3), and positive affect (confirming H4).

However, contrary to expectation, negative context beliefs *positively* predicted career behaviors, refuting H2. The results confirmed that having confidence in one's capability to manage demands in one's future having autonomous career goals, and having positive affect regarding one's future work, promote career engagement behaviors. Unexpectedly, believing that the context contains many barriers regarding one's career development also encourages career engagement behaviors, provided other components of motivation are controlled for.

Study 2: Moderated Mediation of Proactivity, "Can Do" Motivation, Career Decidedness, and Proactive Career Behaviors
Method
Sample and procedure
Study participants were 152 German university students majoring in educational science in their second year and participating in a class on research methods. All students participated in the study as part of their course requirements. Questionnaires were administered online by providing a link by email to all students. Proactivity was assessed at T1,

self-efficacy beliefs and perceived barriers at T2 (6 weeks later), and proactive career behaviors at T3 (again six weeks later). Eighteen students were excluded because they did not participate at all waves, resulting in a final sample of $N = 134$, 88% female, age $M = 25.00$, $SD = 4.00$.
Measures
Self-efficacy beliefs, perceived barriers, and proactive career behaviors were assessed with the same measures as described in Study 1. Cronbach's alpha estimates, means, standard deviations, and correlations between measures are reported in Table 3.

Career decidedness. We used the German adaptation of the Vocational Identity Scale (Holland, et al., 1980; Jörin, Stoll, Bergmann, & Eder, 2004). Students indicated how much they agreed to seven different statements (e.g., "I still need to figure out which professional direction I should pursue"). Construct validity of the German language scale was established by positive correlations with goal clarity, career planning, and career exploration among adolescents and college students (Hirschi & Läge, 2007; Jörin Fux, 2006).

Proactivity. We measured self-reported proactive disposition with a seven item questionnaire developed by Frese, Fay, Hilburger, and Leng (1997) (e.g., "I actively attack problems."). The authors report significant relations to interview-based and spouse estimated measures of initiative as well as to job satisfaction and problem-focused coping among German adults. Other research showed that the applied scale measures the same basic construct as

Table 2. Hierarchical Multiple Regression Analysis Predicting Proactive Career Behaviors at T2 from Motivation at T1 (N = 289)

Model	Predictor	Proactive career behaviors		
		β	R^2	ΔR^2
1	College year	.24***	.06***	
2	College year	.21***		
	Self-efficacy beliefs	.33***		
	Perceived barriers	.12*		
	Autonomous goals	.14**		
	Positive affect	.11*	.24***	.18***

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.

Table 3. Summary of Intercorrelations, Means, and Standard Deviations for Scores on the Assessed Constructs in Study 2 (N = 134)

Measure	M	SD	1	2	3	4	5
1. Proactivity	25.00	3.80	(.78)	.46***	-.05	.29***	.25**
2. Self-efficacy beliefs	26.45	3.79		(.84)	-.23**	.34***	.54***
3. Perceived barriers	11.80	3.71			(.69)	.06	-.22*
4. Proactive behaviors	26.64	7.34				(.87)	.20*
5. Career decidedness	28.69	5.34					(.90)

Note. * $p < .05$; ** $p < .01$; *** $p < .001$

the proactive personality scale by Bateman and Crant (1993) with a disattenuated correlation of .96 among German students (Fay & Frese, 2001).

Study 2 Results and Discussion

To test whether the relation of proactivity with proactive career behaviors is mediated by self-efficacy and perceived barriers (H5a and H5b), we calculated a multiple mediation model with the bootstrapping approach in M*plus*, as described by Preacher and Hayes (2008) using 5,000 bootstrapping samples. Because all participants were in the same college year, we did not control for this variable. The results confirmed the finding of Study 1 that self-efficacy beliefs, $\beta = .39$, $SE = .12$, $p < .01$, and perceived barriers, $\beta = .19$, $SE = .11$, $p < .05$, positively predicted proactive career behaviors. Moreover, proactivity exhibited a direct effect on career behaviors above and beyond the two "can do" motivation factors, $\beta = .24$, $SE = .14$, $p < .05$. Proactivity significantly predicted self-efficacy beliefs ($\beta = .54$, $SE = .09$, $p > .001$) but not context beliefs ($\beta = .06$, $SE = .10$, $p = .53$). The results in Table 4 show that there was a significant total positive indirect effect of proactivity on proactive career

behaviors, mediated by the predicted variables. However, only self-efficacy beliefs exhibited an indirect effect, as indicated by the respective point estimates and the 95% bootstrapping confidence intervals. This result confirms H5a, indicating that the positive effects of proactivity on proactive career behaviors are partially mediated by self-efficacy beliefs but they refute H5b, which predicted that the effects are also mediated by context beliefs.

In order to test conditional indirect effects (i.e., moderated mediation), we used Model 8 in the PROCESS bootstrapping approach provided by Hayes (http://www.afhayes.com/spss-sas-and-mplus-acros-and-code.html). Conditional indirect effects were assessed at the 10th, 25th, 50th, 75th, and 90th percentiles of career decidedness. The results provided support for H6a and indicated that the indirect effect of proactivity on proactive career behaviors through self-efficacy beliefs was conditional upon the degree of career decidedness: For students in the lowest 10% of career decidedness, this mediation effect was not observed, while it was confirmed for the other percentiles. This indicated that self-efficacy

Table 4. Standardized Indirect Effects of Proactivity at T1 on Proactive Career Behaviors at T3 Trough Self-Efficacy and Perceived Barriers at T2 (N=134)

Mediator	Point estimate	SE	Bootstrapping BC 95% CI	
			Lower	Higher
Self-efficacy beliefs	.21**	.07	.20	.39†
Perceived barriers	.02	.02	.00	.02
Total indirect effect	.25***	.09	.18	.38†

Note. ** $p < .05$; *** $p < .001$; † 95% CI that does not include zero.

beliefs only exert a positive effect on proactive career behaviors if students are at least moderately decided about their career but not if they are completely unsure about their future career paths. The indirect effects trough context beliefs were not significant at any level of career decidedness, refuting H6b.

General Discussion

The current career context stresses the importance of proactively managing one's career, a task already relevant for university students in terms of career preparation as they face the transition to work or specialized graduate degrees. The present studies examined how students' motivation in terms of "can do", "reason to" and "energized to" motivation affects the degree to which they are engaged in proactive career behaviors (i.e., career engagement), to what extent the effects of proactive personality on career engagement are mediated by "can do" motivation, and whether those effects are conditional upon the degree of career decidedness. By focusing on proactive motivation our studies address an

understudied topic in the career literature and also make a more general contribution to the literatures on proactivity and proactive behavior. More specifically, the results of Study 1 confirmed that self-efficacy beliefs, perceived career barriers, autonomous career goals, and positive expected emotions at work form a system of related but

distinct motivational states that have a significant effect on career engagement above and beyond the environmental effect of a developmental deadline (Heckhausen & Tomasik, 2002). While motivation in terms of self-efficacy beliefs received a fair amount of attention in career research, our study contributes to this literature by showing that the less investigated motivational aspects of emotions and goals exert an effect on proactive career behaviors that goes above and beyond self-efficacy beliefs. As such, our study supports the results of other studies that demonstrated the importance of goals and emotions for human functioning and performance (Ashforth, et al., 2007; Deci & Ryan, 2000). The small but growing body of promising research in this area supports

continued study to achieve a more complete understanding of motivational variables in relation to career development. Our results also confirm previous research showing the importance of self-efficacy beliefs for career development (Kanfer, et al., 2001; Lent, et al., 2002) and advance this literature by showing that self-efficacy is a strong predictor for career engagement even after controlling for other motivational variables.

Perhaps the most intriguing finding of Study 1, confirmed by Study 2, was the positive effects of perceived career barriers on career engagement, contradicting theoretical accounts and empirical research, which showed that barriers are a negative factor in career development that might diminish career engagement (Gushue, et al., 2006). However, our studies suggest that when considered alongside other motivation variables, particularly self-efficacy beliefs as in Study 2, the opposite might be true. This finding might be explained by motivation intensity theory (Brehm & Self, 1989) which states that perceived task difficulty increases effort up to a maximum where too much difficulty leads to task disengagement. Supporting empirical studies showed, for example, that people exert more task related effort when faced with a more challenging compared to an easy goal (Silvia, McCord, & Gendolla, 2010), suggesting that perceived barriers may not necessarily keep one from goal pursuit unless one encounters a clear sign of failure. In this light, we can assume that students who perceive career barriers experience career management as a challenging task and hence muster and expend more effort in career engagement if they simultaneously possess high self-efficacy beliefs.

Presumably, these findings may be a reflection of varying identity statuses of the participants. A recent study on vocational identity (Porfeli, et al., 2011) found that a small fraction of university students reported a greater level of reconsideration of their careers despite their strong commitment to a specific career, while another subgroup also reported moderately high level of reconsideration of their

careers without a specific career goal in mind. Reconsideration, in that study, was conceptualized as reflecting self-doubt and flexibility. These findings suggest that people can still be doubtful with their goals regardless of their goal certainty. Thus, it could be that some individuals are in the status where they just "go for it" by asserting a career goal despite believing that barriers await them along the way, whereas others may be in a status where they have not made a decision "because of" those negative context beliefs. In fact, this can be seen as a natural process in goal pursuit because many people tend to think in terms of probabilities. That is, if one sees the probability of succeeding exceeds that of failing, one could keep striving for the goal. Future studies should try to address the complex interactions between motivational components and how different patterns of motivation affect people's career behaviors. It would also be interesting to investigate what the optimal level of perceived difficulty is that motivates people for career management. On a more general level, this result points to the important implication that a "negative" career development construct (i.e., perceived barriers) might exert positive effects under certain circumstances. It may be true, in fact, that "when the going gets tough, the tough get going." Future research could include constructs like heartiness to further test this proposition.

Study 2 investigated the mediating and moderating conditions of "can do" motivation. Previous research established direct effects of proactive personality on proactive behaviors (Fuller Jr & Marler, 2009; Thomas, et al., 2010) and the current study adds to this literature by showing that the effects on career engagement are partially mediated by higher self-efficacy beliefs. As such, our study also contributes to the career self-efficacy literature by showing that self-efficacy beliefs partially depend on a proactive disposition. Moreover, Study 2 showed that the effects of self-efficacy on career engagement are conditional upon the degree of career decidedness and suggest that

self-efficacy beliefs have to be "goal-oriented" to function as a motivator. Contrary to expectation, perceived barriers did not mediate the effects of proactivity and its effects were not conditional upon career decidedness. Our results indicate that, in contrast to self-efficacy beliefs, perceived barriers are not significantly affected by proactivity and possibly depend more on other personality characteristics such as core self-evaluations (Judge & Kammeyer-Mueller, 2011). Future studies should investigate this possibility. Our results also support the herein applied notion that "can do" motivation needs to be conceptualized as consisting of two distinct components, namely self-efficacy beliefs (capability beliefs according to Ford, 1992) and context beliefs (e.g., perceived barriers) as they represent motivational factors with distinct antecedents and consequences. We encourage future career research to consider context beliefs alongside self-efficacy beliefs in order to reflect a more comprehensive understanding of human agency than is obtained by solely focusing on efficacy beliefs.

Limitations

Limitations of our study include that only self-report measures were applied and that we did not measure actual career engagement behaviors. Moreover, this approach induces a shared method bias that might inflate the observed relation among the constructs. Although we used a longitudinal design, we did not measure all variables at each point in time. Hence, we cannot establish causality between the different measures and it is possible that successful self-directed career management also promotes the emergence of a more positive motivation. Future studies might investigate more dynamic developmental interaction patterns of motivation and proactive career behaviors. Finally, our sample was restricted to university students and different results might be obtained among working professionals. Particularly, we may find different associations between negative context beliefs and career engagement behaviors among older adults. Because the participants in our study were rather

early in their career lives, they could likely be bolder in career pursuits than older adults, meaning that even if the probability of success taking everything into account is 51% (versus 49% failure) they go for their dreams. People with substantial work experience who likely have a better understanding of how barriers function in their goal achievement may be more hesitant than younger adults in engaging in career-related behaviors.

Conclusion and Practice Implications

To summarize, our results suggest that students' motivation may play an important role in the emergence of self-directed career management. Specifically, we show that four motivational states have significant effects on career management, that self-efficacy beliefs partially mediate the effects of a more distal personality variable (i.e., proactivity) on career engagement, and that the effects of self-efficacy beliefs on engagement emerge only among students with an at least moderate level of career decidedness.

Given the importance of proactive career behaviors for positive career development, our studies have implications for career counseling practice. First, our results imply that practitioners could focus on enhancing students' career motivation. For example, Vondracek, Ferreira, and Santos (2010) proposed that Ford's Motivational System Theory (MST; Ford, 1992) is well-suited to be applied by career counselors in the current dynamic world of career and work. MST focuses on the same motivation states as the herein used model of proactive motivation by Parker et al. (2010) and hence seems particularly useful in light of our results. Second, we encourage career interventions that aim at increasing career choice clarity and decidedness among students (Brown, Lent, & Miller, 2005) in addition to focusing on motivation in order to ensure that proactive motivation is in fact stimulating proactive career behaviors.

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