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Book section

Original citation:

Originally published in Parker, Sharon K. and Bindl, Uta K., (eds.) Proactivity at Work: Making Things Happen in Organizations. Routledge, New York, USA. ISBN 9781848725638

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Available in LSE Research Online: February 2017

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Individual Differences In Proactivity: A Developmental Perspective

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Wu, C. H., Li, W-D (in press). Individual differences in proactivity: A developmental perspective. In S. Parker & U. Bindl (Eds). *Proactivity at Work*. New York, NY: Taylor & Francis/Routledge.

Abstract

Individuals vary in their tendency to engage in proactive behavior. To explain these individual differences, scholars have focused on the role of personality traits in shaping proactive behavior. In this chapter, we first review studies that examine the effect of personality traits and their joint influence with environmental factors in shaping proactive behavior. We next employ a personality development perspective to suggest that environmental factors can shape individuals' personality over time and thus their proactive behavior in the long run, extending the research by introducing a different perspective of personality. The implications of the personality development perspective for proactivity research are discussed.

Individual Differences In Proactivity: A Developmental Perspective

Proactive behavior refers to self-initiated and future-oriented actions that aim to change or improve situations or oneself (Parker, Williams, & Turner, 2006), which is a desirable work behavior to master complex and uncertain work environments (Griffin, Neal, & Parker, 2007). To date, various research has indicated that proactive behavior can have various positive outcomes at different levels, such as employees' performance and career development (e.g., Thomas, Whitman, & Viswesvaran, 2010) and team (e.g., Chen, Farh, Campbell-Bush, Wu, & Wu, 2013) and organizational (e.g., Raub & Liao, 2012) effectiveness. To understand how to enhance proactivity in organizations, research has identified various environmental antecedents of proactive behavior so that organizations can use management practices, such as job design (e.g., Frese, Garst, & Fay, 2007), leadership styles (e.g., Wu & Parker, in press), and the work climate (e.g., Raub & Liao, 2012), to enhance employee proactivity (see Bindl & Parker, 2010, for reviews; Wu & Parker, 2011b).

The focus on the environmental antecedents of proactive behavior, however, ignores that employees can vary in their propensity to be proactive, and such individual attributes can shape employees' engagement of proactive behavior. This dispositional effect should not be neglected in understanding proactive behavior because by definition, proactive behavior is self-initiated and is not necessarily tied to formal performance appraisals (Van Dyne & Le Pine, 1998). This behavior is thus very likely shaped by an individual's propensity, values, and beliefs. Drawing on an individual differences perspective, several studies have examined effect of dispositional factors on proactive behavior, including examinations of the Big Five personality

traits (e.g., Crant, Kim, & Wang, 2011; LePine & Van Dyne, 2001), proactive personality traits (Bateman & Crant, 1993; Fuller & Marler, 2009; Tornau & Frese, 2013), and other specific personality traits, such as the need for cognition (Wu, Parker, & de Jong, 2014b) and prosocial orientation (e.g., Grant & Mayer, 2009). Because of these findings, recent research on proactive behavior has considered the role of dispositional factors more explicitly and further discussed the potential interaction effects between individual factors and environmental antecedent factors in shaping proactive behavior (e.g., Chen et al., 2013; Den Hartog & Belschak, 2012; Grant & Rothbard, 2013; Raub & Liao, 2012; Wu & Parker, in press).

Despite this progress, the assumptions that dispositional traits are static attributes of individuals that cannot be changed and the notion that dispositional traits and situational characteristics are independent factors/forces that drive individual behavior are dominant in proactivity research. This conventional perspective, although helpful for understanding who tends to engage in proactive behavior and when, ignores the possibility that work environments, personality and behavior can shape each other in a longitudinal reciprocal process, as described in Bandura's (1986) triadic reciprocal causation model. Additionally, recent research in personality psychology has provided ample evidence that indicates that personality traits change across the life span as the environment changes (Hudson, Roberts, & Lodi-Smith, 2012; Li, Fay, Frese, Harms, & Gao, 2014; Wu, Griffin, & Parker, in press). The more nuanced interplay between the environment and personality is more dynamic than mechanistic, as conventionally assumed (e.g., Endler & Parker, 1992; Reynolds et al., 2010). The perspective of personality development therefore indicates a possibility that an individual can become more proactive at a dispositional, deep level if s/he encounters an environment that facilitates this tendency over a time period. This possibility thus suggests a deeper and enduring approach to promoting

employees' proactive behavior because employees should engage in more proactive behavior in different situations and across time frames when their general proactive tendency is intensified.

To facilitate our understanding of individual differences in proactive behavior, this chapter has two goals. First, we provide a state-of-the-art review to understand what dispositional traits have been identified and their interaction effects with environmental factors in shaping proactive behavior from a conventional, mechanistic interactionism perspective. Second, we extend the idea of personality development into proactivity research by discussing what type of work environment that can change one's traits by facilitating proactive behavior from a dynamic interactionism perspective. In the following sections, we first provide a review of previous research and then move to the discussion on the personality development perspective. We finally provide suggestions for future proactivity research based on our review and discussion.

Review of Existing Approaches to Individual Differences of Proactivity

To present our review, we use two classification frameworks of personality traits. The first one is the content classification of personality traits, which classifies traits based on their contents. The widely used Big Five personality traits belong to this classification framework; it clusters specific facets of traits into five broader traits based on a lexical analysis (see De Raad, 2000). The second framework is a functional classification of personality traits, which classifies traits based on their cognitive, affective, and instrumental nature in shaping behavior (Buss & Finn, 1987). In addition to these three aspects, we include interpersonal traits as additional classification to cover research on the role of interpersonal orientation in shaping proactive behavior.

Below, we first review studies that involve Big Five traits and then studies that focus on other specific traits using the functional classification of personality traits. As mentioned by Wu, Parker, and Bindl (2013), these two classification frameworks are not mutually exclusive; a trait can be realized and classified in both classification frameworks. The purpose of using these two classification frameworks here is to simplify the presentation of our review. We do not intend to imply that a specific trait can be discussed in only one classification framework but not the other. To provide a general picture of the links between personality traits and proactive behavior, we include research that covers different forms of proactive behavior instead of focusing on a specific type of proactive behavior. Moreover, following Crant (2000), we conceptualize proactive behavior as a positive organizational behavior that aims to bring constructive changes and review only studies that focus on behavior in line with this view. Although individuals can also be proactively engage in aggressive or counterproductive behavior (Spector, 2011), such as harming others, to fulfill their own interests to achieve goals, such as getting a promotion, we do not incorporate studies that focus on counterproductive behavior because first, proactivity research focuses primarily on positive forms of organizational behavior, and second, whether the concept of proactivity helps to understand aggressive behavior, such as the discussion in a framework of hostile-versus-instrumental aggression, is questionable (Bushman & Anderson, 2001).

Review with a content classification of Big Five personality traits

Extroversion. Extroversion, characterized by a need for stimulation, assertiveness, and activities, can facilitate proactive behavior because people high in this dimension of trait are more energetic and thrive off of being around other people, which brings chances and sustains effort to initiate changes. Supporting this view, in a meta-analysis report, extroversion was found

to have a positive correlation with personal initiative, taking charge and voice behavior (Tornau & Frese, 2013). In another meta-analysis report that focused on citizenship behavior, extroversion was also positively related to change-oriented citizenship behavior (Chiaburu, Oh, Berry, Li, & Gardner, 2011). Its effect on proactive behavior is solid; the six facets in extroversion (i.e., warmth, gregariousness, assertiveness, activity, excitement seeking, and positive emotions) were all positively related to voice in Lepine and VanDyne's (2001) facet analysis. Because people high in extroversion are good at initiating and maintaining social interactions (Asendorpf & Wilpers, 1998), extroversion is also particularly important for facilitating proactive behavior in a relational context. Indeed, extroversion has been found to positively associate with overt and covert relational information seeking and covert task and performance information seeking (Tidwell & Sias, 2005) and feedback seeking and relationship building among new combers (Wanberg & Kammeyer-Mueller, 2000).

Although extroversion can facilitate active engagement within a social-related endeavor, it may not necessarily direct a person's proactive behavior to be more prosocial, e.g., more interpersonally oriented or team oriented. In a framework of personality traits, Ashton and Lee (2001) indicated that extroversion is orthogonal to personality traits, such as agreeableness, that govern the prosocial intentions behind behavior. In other words, this framework suggests that the level of engagement in social actions is orthogonal to the intention behind it and thus that extroversion is orthogonal to prosocial behavior. In support of this view, Carlo, Okun, Knight, and Guzman (2005) reported that agreeableness had a stronger predictive effect ($b = .312, p < .001, n = 796$) than extroversion ($b = .095, p < .01, n = 796$) on prosocial value motives, which in turn positively predicted volunteer behavior. This finding can also be explained by the fact that people high in extroversion focus more on the extent to which they can attract social

attention from others (Ashton, Lee, & Paunonen, 2002), which is very different from an orientation concerning others or collective groups. To explain why people high in extroversion do not necessarily engage in interpersonally oriented/team-oriented types of proactivity, Grant, Gino, and Hofmann (2011) offer another theoretical account based on dominance complementarity theory. Basically, they suggest that people high in extroversion often “seek out status and act assertive, interpersonally dominant, talkative, and outgoing” (p.530) and are more likely to express their agency and exert their control to enact changes they aimed for. In other words, people high in extroversion can utilize their social dominance and skills to approach their proactive goals, which may not necessarily be interpersonally or team oriented. Our reasoning thus indicates an avenue for future research to look at the links between extroversion and proactive behavior by systematically taking different types of proactive behavior into account and unpacking the underlying mechanisms behind those associations.

Conscientiousness. Conscientiousness, the tendency to be organized, persistent, responsible and dependable, has been theorized to be positively linked to proactive behavior because people high in conscientiousness are dedicated to their work and are thus more likely to put their effort into making improvements at work and to be persistent to achieve their goals when facing obstacles (e.g., Tornau & Frese, 2013). Supporting this, conscientiousness and tendencies related to dependability, conformity, and perseverance have been positively linked to various proactive behaviors (Tornau & Frese, 2013), such as personal initiative (Fay & Frese, 2001), proactive job search (Kanfer, Wanberg, & Kantrowitz, 2001), overt performance and task information seeking (Tidwell & Sias, 2005), career planning behaviors (Carless & Bernath, 2007) and voice (LePine & Van Dyne, 2001).

Nevertheless, as reported by Parker and Collins (2010), the association of conscientiousness with proactive work behaviors, such as taking charge and voice, becomes weak when the effects of other dispositional variables (i.e., goal orientation and proactive personality) were controlled for. The positive association of conscientiousness with proactive strategic behaviors (e.g., issue selling credibility) and proactive person-environment fit behaviors (e.g., feedback inquiry and monitoring) were relatively robust. To explain the difference, they argued that because conscientious individuals tend to be rather cautious and appreciative of rules and tend to be dependable and therefore strive to fit in well with the organization, they are not likely to engage in proactive work or strategic behavior that is more change-oriented, but they are likely to engage in proactive person-environment fit behaviors to reflect their dependency in organizations. This finding thus indicates the importance of differentiating different forms of proactive behavior.

Conscientiousness, as a broader personality concept, incorporates several specific facets that can also have different effects on proactivity and thus shape an overall association between conscientiousness and a particular proactive behavior. For example, because people high in dutifulness are more other-focused and thus tend to engage in behavior with an intention to benefit the organization, and people high in achievement striving are more self-focused and thus tend not to do so, Moon, Kamdar, Mayer, and Takeuchi (2008) theorized and found that the facet of dutifulness (e.g., adhering to rules and obligations) was positively related to taking charge, but the facet of achievement striving (e.g., being hardworking and having higher aspirations) was negatively related to taking charge. These different associations with taking charge thus results in a null association between conscientiousness and taking charge. This finding reflects the complexity of conscientiousness in its definition and internal structure (Digman, 1990).

Openness to experience. Openness to experience is the other Big Five personality dimension that should contribute to proactive behavior because a strong tendency to explore the unfamiliar will motivate an individual to think differently and consider using alternative ways to improve a situation (Wu & Parker, in press). As articulated by Frese and Fay (2001), exploration is important at the information-collection and prognosis stages in a proactive action process because an active and self-started search is necessary for identifying barriers, looking for alternative solutions, and exploring opportunities before problems occur. However, Bateman and Crant (1993) argued that an open personality implies a tolerance of others' thoughts, leading to an unwillingness to rise to challenges; thus, they argued that openness to experience would not contribute to proactive behavior. Accordingly, similar to the complexity of conscientiousness, openness to experience as a whole is not an ideal concept to test for the potential effects on proactivity because some specific facets related to proactivity are grouped with other non-relevant facets. This could explain the unreliable relationship between openness to experience and proactivity in the existing studies. For example, several studies have found a non-significant correlation between openness and personal initiative (Fay & Frese, 2001), voice (LePine & Van Dyne, 2001) and different types of information seeking (Tidwell & Sias, 2005), whereas a meta-analysis report indicates a positive correlation between openness and personal initiative, taking charge and voice behavior (Tornau & Frese, 2013) along with feedback seeking and positive framing, the two types of proactive socialization behavior for newcomers (Wanberg & Kammeyer-Mueller, 2000). In a recent study, Wu et al. (2014b) reported a positive correlation between openness to experience and individual innovation behavior, but this positive association become insignificant when the effects of other traits, such as a proactive personality and the need

for cognition (discussed later), were controlled for. This finding thus indicates that openness to experience is more distal than other traits in influencing individuals' proactive behavior.

Because different facets of openness to experience may have different associations with proactive behavior, the effect of openness on proactivity can be further clarified when the analysis is conducted at the facet level. In the facet analysis, Lepine and VanDyne (2001) found the facet of actions (i.e., willingness to try different activities and preference for novelty over the familiar or routines) in the open personality type was positively correlated to voice. This finding is consistent with the results reported by Griffin et al. (2007) such that those high in openness to change are more likely to engage in proactive behavior for individual, team, and organizational benefits. Lepine and VanDyne (2001) also found that facets including fantasy (i.e., receptivity to the inner world of imagination), aesthetics (i.e., appreciation of art and beauty), feelings (i.e., openness to inner feelings and emotions), ideas (i.e., intellectual curiosity) and values (i.e., individuals' readiness to re-examine their own values and those of authority figures) were not significantly correlated to voice. These facets would not contribute to proactive behavior because they focus more on internal, private thinking than the facet of actions, which is more concerned with enacting. Nevertheless, there are also findings that suggest that the facet of ideas and values can also play a role in facilitating individuals' proactive behavior because intellectual curiosity and the re-examination of values can actually bring a different view to understand the situation and thus come up with alternative ways for improvement. For example, Kashdan and Steger (2007) found that the trait of curiosity fosters daily growth behavior, involving proactive social behaviors and proactive, goal-directed efforts. Employees who are high in intellectual curiosity were also found to be more likely to engage in environmental scanning, which then leads to more champion behavior in innovation (e.g., having conviction in innovation, building involvement

and support, and persisting under adversity) and higher performance (Howell & Shea, 2001). Moreover, relating to the facet of values, Fay and Frese (2000) showed that psychologically conservative individuals, who are high in authoritarianism and the rejection of foreigners, scored lower on personal initiative and change orientation at work. Similarly, Fay and Frese (2001), in longitudinal analyses of the same sample, reported consistently positive correlations between individuals' readiness to change and their current and future level of personal initiative. Overall, the inconsistent findings on the associations of openness to experience and its facets with proactive behavior suggest a need to delve into the puzzle.

Agreeableness. Agreeableness, represented by a tendency to be pleasant and compassionate in social interactions, was not found to have a reliable association with proactive behavior in a meta-analysis study (Tornau & Frese, 2013). On the one hand, people high in this trait are sympathetic and cooperative and tend to avoid interpersonal conflict, which will prevent them from initiating change because such proactive action may result in resistance from others (Parker, Bindl, & Strauss, 2010) and interpersonal conflict (Janssen, 2003). In line with this view, agreeableness was not related to personal initiative (Fay & Frese, 2001), and its facet of compliance and tender-mindedness (i.e., attitude of sympathy for others) was even negatively related to voice (LePine & Van Dyne, 2001). On the other hand, being sympathetic and cooperative may actually cause those high in agreeableness to be more proactive because their consideration of others can evoke a prosocial motivation for leading changes. In a recent study, agreeableness was found to predict prosocial voice positively, and this positive association was stronger when the participative climate in the work group was high (Lee, Diefendorff, Kim, & Bian, 2014). This finding suggests that people high in agreeableness are more likely to speak up for prosocial reasons and when the environment is favorable for such a voice. Moreover, as

agreeableness helps build and main social relationships (Asendorpf & Wilpers, 1998), it may actually facilitate individuals' proactive action when a good quality of social relationships is desired. Supporting this possibility, agreeableness was positively correlated with overt relational information seeking and task information seeking (Tidwell & Sias, 2005), which requires good social interactions with others at work. Accordingly, the association between agreeableness and proactive behavior is more complex than one would expect. More research is needed to understand when and why agreeableness can promote or inhibit proactive behavior.

Neuroticism. Neuroticism, the tendency to experience negative emotions, is theoretically expected to have a negative association with proactive behavior for several reasons. First, individuals who are prone to experience negative emotions have less self-confidence (Judge, Locke, & Durham, 1997), which will lead them to question whether they can successfully initiate changes (Morrison & Phelps, 1999). Second, in their behavioral concordance model, Côté and Moskowitz (1998, p. 1033) proposed that “individuals with high scores on a personality characteristic experience positively valenced affect when engaging in congruent behavior compared with individuals with low scores on that personality characteristic. In contrast, individuals with high scores on a personality characteristic experience more negatively valenced affect when engaging in behavior discordant with the trait than individuals with low scores on that personality characteristic experience when engaging in that behavior.” In line with this view, Côté and Moskowitz found that people high in neuroticism experienced little pleasant affect when engaging in agreeable or dominant behavior in social interactions (behaviors that are not concordant to neuroticism traits) and engaged in less agreeable or dominant behavior. Following this, people high in neuroticism will engage in less proactive behavior because they would feel uncomfortable doing so.

Empirically, Tidwell and Sias (2005) found a negative relationship between neuroticism and overt information seeking on performance. A similar finding was obtained by Lepine and VanDyne (2001), who found that neuroticism, particularly the facet of vulnerability, was negatively related to voice. Grant, Parker and Collins (2009) also found a negative correlation between negative affectivity (a concept similar to neuroticism) and proactive behavior, particularly voice behavior. However, a null association between neuroticism and proactive behavior was also reported in different studies. For example, Fay and Frese (2001) did not find a significant relation between neuroticism and personal initiative, nor did Griffin et al. (2007) on the relationship between neuroticism and proactive behavior. Strauss, Griffin and Rafferty (2009) also found non-significant relationships between neuroticism and proactive behavior. In a meta-analysis study (Tornau & Frese, 2013), neuroticism correlated negatively with personal initiative, taking charge and voice behavior, but the associations were relatively small. One potential reason behind these mixed findings could be that people high in neuroticism may actually take proactive action because negative emotions can serve as psychological signals that motivate individuals to take action to improve situations (Den Hartog & Belschak, 2007). Nevertheless, understanding when such a proactive mechanism would occur is the key to unpacking inconsistent associations between neuroticism and proactive behavior.

Review with a functional classification of personality traits

The framework of Big Five personality traits, although it covers five broader traits, does not include all personality traits. To date, a vast number of studies have indicated that traits that have not been included in the Big Five personality traits framework can also shape individuals' proactive behavior. To review the effect of these traits on proactive behavior, here, we adopt a functional classification of personality traits to summarize previous findings.

Based on three aspects of behavior (i.e., cognitive, affective, and instrumental; (James, 1890), Buss and Finn (1987) classify traits into three categories: cognitive traits, which govern behavior with a large component of thoughts, imagination, and information processing, affective traits, which shape behaviors with a strong emotional component, and instrumental traits, which drive behaviors that have an effect on the environment. As indicated by Wu et al. (2013), this functional classification framework helps understand proactive behavior by unpacking potential psychological mechanisms (i.e., cognitive, affective, or enactive) based on analyses of traits. Specifically, to take proactive action, an individual will need to envision a better future, identify opportunities and generate ideas to provide an alternative view or methods to challenge the status quo, which requires cognitive effort (Frese & Fay, 2001). Additionally, s/he will need to have enough energy to go through potential obstacles and overcome resistance from others when bringing about changes. As such, emotional responses are part of proactive actions because being proactive will require an individual's emotion regulation to sustain all proactive actions (Bindl, Parker, Totterdell, & Hagger-Johnson, 2012). Finally, because proactive behavior aims to shape the environment, a tendency to interact with the environment is therefore an essential part of being proactive (Bateman & Crant, 1993). These features of proactive behavior suggest that proactive behavior can be shaped by cognitive, affective, and instrumental traits.

In addition to these three classifications of traits, we included interpersonal traits as a classification of traits. This type of trait has not been included in Big Five personality traits or functional classification proposed by Buss and Finn (1987), but it has a role in shaping proactive behavior because being proactive involves relational and social considerations. For example, proactive behavior that aims to bring about change has been described as psychologically risky because of the discomfort this behavior can cause in others (Parker et al., 2010) and because of

the potential for damage to one's reputation and image if the proactivity is unsuccessful (Ashford, Blatt, & Vandewalle, 2003; Morrison & Bies, 1991). Moreover, an individual may need to develop social networks to obtain the latitude and resources to pursue such initiatives successfully (Thompson, 2005). Therefore, individuals who get along easily with others and are less likely to worry about themselves in social relationships will be more motivated to behave proactively. Interpersonal dispositions have been discussed in the proactivity literature only recently, and we aim to include this type of research in our review.

Cognitive traits. We identify future orientation, goal orientation, the need for cognition and self-concept as four cognitive traits. *Future orientation* is defined as the degree to which an individual is thoughtful about the future in goal setting, planning, and evaluation (Nurmi, 1991), which enables him/her to consider possible outcomes and take action in advance (Aspinwall & Taylor, 1997; Frese & Fay, 2001; Grant & Ashford, 2008). Empirically, Strauss, Griffin, and Parker (2012) reported that future orientation can positively contribute to proactive career behavior such as planning and networking. Parker and Collins (2010) also showed that the consideration of future consequences positively predicts multiple proactive behaviors, such as innovation, issue selling, strategic scanning, and career initiative. In a leadership context, Zhang, Wang, and Pearce (2014) found that leaders high in the consideration of future consequences tend to engage in more transformational leadership behavior, which includes articulating a vision and seeking new opportunities for the work unit/organization. They further indicated that such a positive association is stronger in lower rather than higher dynamic work environments because people high in the consideration of future consequences tend to rely on a stable work environment to project the future and thus perform transformational leadership behavior toward their subordinates.

Goal orientation shapes proactive behavior because it influences the individual's attention and direction in goal selection and thus determines whether he/she will pursue a proactive goal. Studies have reported that individuals who are high in learning goal orientation (a preference to understand or master new things) as opposed to performance goal orientation (a preference to gain favorable, and avoid negative, judgments of their competence; (Dweck, 1986) are more likely to engage in proactive behavior, such as feedback seeking (Parker & Collins, 2010; VandeWalle, 1997; VandeWalle & Cummings, 1997; VandeWalle, Ganesan, Challagalla, & Brown, 2000) and change-oriented organizational citizenship behavior (i.e., taking charge; (Bettencourt, 2004). One explanation for the favorable role of learning goal orientation is that individuals who emphasize learning processes rather than demonstrating capability might find it less risky and more valuable to engage in feedback seeking and therefore engage more frequently in this type of behavior (VandeWalle, 2003; VandeWalle & Cummings, 1997).

However, Tuckey et al. (2002) obtained an inconsistent finding regarding the likelihood of feedback seeking in an employee sample. Their findings suggested that performance goal orientation plays an important role in feedback seeking. Specifically, they found that learning goal orientation did not predict the two indicators of feedback seeking, whereas performance-prove goal orientation (the seeking of favorable appraisals) consistently and negatively predicted the two indicators, and performance-avoid goal orientation (the avoidance of negative appraisals) positively predicted the likelihood of feedback seeking, which is inconsistent with VandeWalle and Cummings' (1997) findings. Tuckey et al.'s (2002) findings revealed that employees who are high in performance-prove goal orientation had stronger motives for not seeking feedback, such as a lower desire for useful information, a higher desire to protect their ego, and a higher tendency to adopt defensive impression management. In addition, they found that the

performance-avoid goal orientation interacts with performance level in predicting the likelihood of feedback seeking, such that the positive relation between performance-avoid goal orientation and feedback seeking was stronger among employees with better performance, suggesting that people with performance-avoid goal orientation tend to seek feedback only when they perform better to avoid the potential cost of seeking feedback.

Nevertheless, performance goal orientation can also have a beneficial effect on proactive behavior. For example, Bettencourt (2004) found a positive relation between performance goal orientation and taking charge. This finding is consistent with Elliot and Harackiewicz's (1996) argument that learning and performance goal orientations can lead to similar positive outcomes because both orientations are focused on attaining favorable outcomes, although they draw on different purposes, such as task mastery and normative competence, respectively. Their argument is further supported by studies in which performance goal orientation was further divided into performance-prove and performance-avoid goal orientations. As reported by Belschak and Den Hartog (2010), when learning, performance-prove and performance-avoid goal orientations were examined to predict three types of proactive behavior toward personal, interpersonal, and organizational benefits: Learning goal orientation positively predicted only organizational proactive behavior, performance-prove goal orientation positively predicted all types of proactive behavior, and performance-avoid goal orientation negatively predicted all types of proactive behavior. Thus, the effect of goal orientation on proactive behavior is more complex than might be expected; further studies are called for.

Several studies have examined when goal orientation will be more influential in shaping proactive behavior. Focusing on feedback seeking, VandeWalle et al. (2000) reported that individuals' learning goal orientation becomes more important in their perception of higher value

(e.g., usefulness of feedback) and lower cost (e.g., low risk of asking for feedback) of feedback seeking when they work with inconsiderate supervisors, an aversive condition for feedback seeking. A similar finding was obtained in predicting creativity. Huan and Luthans (in press) found that learning goal orientation becomes more important in leading more creative behavior at work via the effect psychological capital in a less learning-oriented team environment because in such a work environment, an external force for learning and creativity is lacking, and thus, individual differences in learning goal orientation becomes critical to shaping employees' creative performance. Liu, Wang, and Wayne (in press) indicated that newcomers high in learning goal orientation are more likely to receive more monitoring support to facilitate their creativity at work if they engage in more impression management tactics. In terms of the contingency of performance goal orientation, Bettencourt (2004) found that people high in performance goal orientation tend to engage in proactive behavior under transformational leadership but tend not to engage in such behavior under contingent reward leadership. This is because those people tend to adjust their behavior according to expected performance under specific leadership content and thus change their focuses in extra-role or in-role tasks.

Being proactive involves not only doing but also thinking, such as imagining how things might be different and generating new ideas or alternative ways to do jobs (Frese & Fay, 2001). *Need for cognition*, a dispositional tendency to engage in and enjoy thinking (Cacioppo & Petty, 1982), should therefore be able to positively predict proactive behavior (Wu et al., 2014b). Individuals who are high in the need for cognition “tend to have active, exploring minds, and, through their senses and intellect, they reach and draw out information from their environment; accordingly, they are more likely to expend effort on information acquisition, reasoning, and problem solving to cope with a wide variety of predicaments in their world” (Cacioppo, Petty,

Feinstein, & Jarvis, 1996, p.245). People high in the need for cognition are thus expected to be comfortable initiating change that deviates from the status quo. They are also likely to process more information in any given situation and therefore are better able to predict the future and come up with plans to address the anticipated situation.

Wu et al. (2014b) identified several ways in which the need for cognition can facilitate the thinking involved in proactivity. First, people high in the need for cognition are more likely to engage in and enjoy situations marked by novelty, complexity, and uncertainty (Cacioppo et al., 1996), which is typically when proactivity is called for, as indicated by Griffin et al., (2007). Second, people high in the need for cognition have a higher ability to link new knowledge to previous knowledge in the pursuit of comprehension and can flexibly change learning strategies to acquire new information (Evans, Kirby, & Fabrigar, 2003). As such, they can process information deeply and quickly, which is helpful for proactivity because to set and achieve a proactive goal, an individual must determine what type of information is valuable in that situation and then make appropriate plans to bring about change in the future. Third, individuals high in the need for cognition tend to form a strong attitude toward objects after cognitive elaboration (Haugtvedt & Petty, 1992), which then sustains behavior that is consistent with their attitude (Cacioppo, Petty, Kao, & Rodriguez, 1986). Thus, individuals who are high in the need for cognition tend to be more likely to persist in the pursuit of a proactive goal because they develop ownership of the idea once they have spent time thinking it through. Taking all of the above into account, Wu et al. (2014b) therefore suggest that compared to individuals with a low need for cognition, employees with a higher need for cognition are more likely to engage in proactive work behavior because they enjoy novel situations, are better able to learn from information in a situation, are likely to be strongly committed to goals, and are more able to cope

adaptively with obstacles that are commonly encountered with proactive action. In a sample of 179 employees working in a research and consultancy organization in the Netherlands, Wu et al. (2014b) found that the need for cognition positively predicted individuals' innovation behavior. They also found that the need for cognition is more important for shaping individuals' innovation behavior when job autonomy and time pressure are lower but less important when job autonomy and time pressure are higher. This is because higher job autonomy encourages—and time pressure requires—the employee to be more innovative, regardless of the employee's dispositional tendency to prefer thinking. When job autonomy and time pressure are lower, there is no situational force that drives individuals to be innovative, and thus, employees' dispositional tendency in thinking (i.e., need for cognition) becomes important for shaping individual innovation behavior.

Consistent with the importance of perceived capability for engaging in proactive behaviors, dispositional constructs related to individuals' *perception of self*, such as self-esteem, have also been positively linked to proactive behavior (Kanfer et al., 2001). General self-efficacy, a trait-level concept of self-efficacy that describes perceived self-competence in performing behavior to achieve goals, has also been linked to proactive behavior, including take-charge behavior (Morrison & Phelps, 1999) and proactive customer behavior (Raub & Liao, 2012). Johnson, Kristof-Brown, Van Vianen, De Pater, and Klein (2003) also reported that people with positive core self-evaluations, a fundamental and broader self-evaluations construct, tend to engage in more social network-building activities, a form of proactive behavior in social domains.

In addition to the main effect on proactive behavior, studies also reported that self-perception had interaction effects with situational factors in shaping proactive behavior. Specifically, LePine and Van Dyne (1998) reported that individuals with low self-esteem were

more receptive to favorable situational characteristics that promote voice behaviors in a group that is self-managed (e.g., a group with high levels of overall group autonomy) than were individuals with high levels of self-esteem. Similarly, Speier and Frese (1997) showed that the relationship between job control and initiative is stronger for individuals who have a lower general self-efficacy, suggesting that people low in general self-efficacy rely more on the resources of job control to enact proactive behavior than their counterparts do. These findings reveal that favorable situational characteristics can weaken the positive association between positive self-perception and proactive behavior because people who do not possess a positive self-view will be more recipient to favorable situational characteristics and behave more proactively than those possessing positive self-views. This finding is consistent with behavioral plasticity theory (Brockner, 1988), which posits that people low in self-worth are more likely to be influenced and to regulate their behavior according to situations.

In a recent study, Liang and Gong (in press) examined interaction effects among personality traits in predicting proactive behavior in a mentoring relationship and specifically focused on the interaction effects of core self-evaluations and proactive personality (i.e., a dispositional tendency to master external environment; (Bateman & Crant, 1993). In line with their reasoning that a positive view can foster a person's attempt to master situations with the confidence of overcoming potential obstacles and risks, they found that people high in core self-evaluations and a higher proactive personality engaged in more networking behavior and voice behavior. Their research helps understand who is more likely to utilize a positive self-view to initiate changes, a new approach to examining the boundary conditions of self-perception in shaping proactive behavior.

Affective traits. In terms of affective traits, we review research on the effect of *trait positive affectivity* and *trait negative affectivity* on proactive behavior. Drawing on Fredrickson's (1998) broaden-and-build theory of positive emotion, Parker (2007) proposed that positive affect is likely to influence the selection of proactive goals because it expands thinking and results in more flexible cognitive processes (Fredrickson, 1998, 2001; Isen, 1999), which in turn help individuals to think ahead and rise to the challenge of pursuing proactive goals. Consistent with this idea, Ashforth, Sluss and Saks (2007) reported a positive correlation between positive affectivity and proactive socialization behaviors. Den Hartog and Belschak (2007) found that positive affectivity was positively related to personal initiative. Similarly, LePine and Van Dyne (2001) reported that indicators of positive affectivity in extroversion (positive emotions, excitement seeking) predict voice.

In contrast, from the perspective of a bipolar model of affect (e.g., Green, Goldman, & Salovey, 1993) in which positive and negative affect are regarded as opposite constructs on the same continuum, it would be argued that negative affect was negatively related to proactive behavior. Indeed, Ashforth et al. (2007) reported a negative correlation between negative affectivity and proactive behavior, measured as information seeking, feedback seeking, job-change negotiation, socializing, building a relationship with the boss, and networking. However, further findings did not support this perspective. Rather, they may support the two-factor model of affect (Tellegen, Watson, & Clark, 1999), in which positive and negative affect were treated as two different constructs and may thus have different implications for human behavior. For example, Den Hartog and Belschak (2007) found that negative affectivity was positively related to personal initiative in one of their studies. Moreover, as we reviewed earlier, neuroticism, which is close to the concept of negative affectivity, has unreliable associations with proactive

behavior. These findings suggest that negative affectivity is not the opposite construct of positive affectivity because it did not have a negative relation to proactive behavior. Nevertheless, more studies, such as research on contingent factors, are needed to address the effect of negative affectivity on proactive behavior.

Instrumental traits. We identify proactive personality and prosocial motive as instrumental traits that drive an individual to engage in proactive behavior. *Proactive personality* (Bateman & Crant, 1993) refers to the tendency of individuals to influence their environment and to bring about change across multiple contexts and times. This type of disposition has been shown to be distinct from the Big Five personality dimensions and other personality variables (locus of control, the need for achievement, and the need for dominance; (Bateman & Crant, 1993). In a recent study, Crant, Kim, and Wang (2011) reported that only proactive personality had a significant predictive effect on voice behavior when all Big Five personality dimensions were included in the model, revealing its powerful predictive effect on proactive behavior. The positive relationship between proactive personality and proactive behavior has been reported in meta-analytic studies (Fuller & Marler, 2009; Thomas et al., 2010; Tornau & Frese, 2013). Studies have also been conducted to understand when proactive personality will be more predictive of proactive behavior with an interactionist approach (e.g., Liang & Gong, in press; Ng & Feldman, 2013). Please refer to Chapter 9 by Crant, Hu and Jiang in this book for a thorough review of the research on proactive personality.

Prosocial motive refers to an individual's desire to have a positive effect on other people or social collectives (Grant & Berg, 2011), which can be regarded as an instrumental trait in influencing the environment in a positive way. Because proactive behavior aims to bring about positive and constructive change, people high in prosocial motive are more likely to engage in

proactive behavior. Indeed, prosocial motive has been found to be positively related to personal initiative (De Dreu & Nauta, 2009) and general initiative and voice (Grant & Mayer, 2009). Nevertheless, in Grant et al.'s study (2009), high levels of prosocial motive did not have a direct positive association with voice and anticipatory helping behavior. This finding leads to further research on the boundary conditions of prosocial motive. For example, Grant and Rothbard (2013) found that people high in prosocial value tend to engage in proactive behavior only when the ambiguity of the work environment is high, which is consistent with the idea of situational strength that the dispositional effect is stronger in weak situations.

Interpersonal traits. The role of interpersonal traits on proactive behavior has been rarely considered compared to other traits. Although studies using the Big Five personality framework have included relational dispositions under the trait of agreeableness—a super-ordinate trait that covers several specific traits (e.g., altruism, compliance, trust) that relate to an individual's social relations—this trait is too broad and distal to describe individuals' feelings in social relationships. As reviewed above, past studies usually found a weak or null association between agreeableness and proactive behavior and appeared to suggest that relational dispositions are not important for predicting proactive behavior.

Nevertheless, drawing on attachment theory (Bowlby, 1969/1982), Wu and Parker (2011a, 2012, in press; Wu, Parker, & de Jong, 2014a) propose that an individual characteristic that reflects how an individual relates with others—*attachment style*—is important for shaping proactive behavior. Based on the attachment-exploration association that security in attachment relationships can facilitate exploration behavior (Bowlby, 1969/1982), they proposed and found that a lack of relational security reflected in one's attachment style can impair an individual's desire to approach unfamiliar situations, to try different ways of doing things, and to initiate

change. Across different samples, they consistently found that individuals who are uncomfortable with dependence on and emotional closeness to others (i.e., those high in attachment avoidance) were less likely to engage in proactive behavior in general (Wu & Parker, 2012) and exhibited less proactive behavior, such as proactive job search (Wu & Parker, 2011a) and proactive work behavior (Wu & Parker, in press), which is due to their lack of autonomous motivation in pursuing proactive goals (Wu & Parker, in press). Wu and Parker also found that people in an employee sample who were anxious or fearful about abandonment or being unloved (i.e., those high in attachment anxiety) tended not to engage in proactive work behavior (Wu & Parker, in press). Although this negative association was not replicated in other samples, the lack of self-efficacy of people high in attachment anxiety prevents them from taking proactive action (Wu & Parker, 2012, in press). Notably, in a flexible teamwork context, Wu et al. (2014a) found that people high in attachment anxiety tend to seek feedback from peers and rely on feedback seeking to improve their job performance, whereas those high in attachment avoidance tend not to do so. They suggest that people high in attachment anxiety are concerned about their social relationships at work and how they are perceived in eyes of others and therefore are more likely to seek and apply feedback from peers to ensure they are on the right track for teamwork.

To understand the boundary conditions of attachment style in shaping proactive behavior, Wu and Parker (in press) focused on the concept of leader secure-base support, which describes leader support in forms of leader availability, encouragement, and noninterference, and found that the negative effect of attachment avoidance/attachment anxiety on autonomous motivation/self-efficacy was mitigated when leader secure-base support increased. This finding suggests that when leaders can be regarded as a secure base at work, employees will be more

likely to have a stronger autonomous motivation and sense of self-efficacy and thus more proactive behavior, regardless of employees' attachment styles.

Summary

Based on the above review, we found that extroversion, future orientation, positive self-perception, positive affectivity and proactive personality have been consistently and positively linked to proactive behavior in different forms. Traits such as conscientiousness, openness to experience goal orientation and prosocial motive in general have positive associations with proactive behavior, but those associations are contingent on specific facets of traits or situations. Traits such as agreeableness, neuroticism, and negative affectivity generally unrelated to proactive behavior. Finally, regarding the need for cognition and attachment styles, more studies are required to provide more evidence to depict their roles in shaping proactive behavior.

So far, we have considered only how dispositional factors and their interactive effect with situational factors can shape proactive behavior at work and ignore the possibility that personality traits can change and develop over time as the environment changes (Caspi, Roberts, & Shiner, 2005) such that an individual can be more proactive over time at the dispositional level when tendencies are continually reinforced in the environment (Li et al., 2014). The developmental perspective of personality traits brings an alternative view to understand the association between personality, the environment and proactive behavior in a dynamic process. It also offers an alternative managerial implication in promoting proactivity, such as emphasizing an enduring personality change instead of a transient behavioral change. We now turn to the section regarding how the development perspective of personality traits can influence our approach to understanding proactive behavior.

Understanding Proactivity from a Developmental Perspective of Personality

In this section, we first briefly review studies on personality development and explain why personality changes over time. We next elaborate on and review whether and how proactivity-related personality can be changed over time. We conclude this section with implications on future proactivity research.

Can personality change, and why does it change?

Although personality traits are defined as relatively stable patterns of thoughts, behaviors, or feelings (Johnson, 1997), they are not entirely static and are thus relatively free from change. Empirical studies have reported meaningful mean-level and rank-order changes in personality traits across the whole lifespan (Roberts & DelVecchio, 2000; Roberts & Mroczek, 2008; Roberts, Walton, & Viechtbauer, 2006), suggesting that individuals change their personality scores over time and to different degrees (i.e., individual differences in changes). To understand why personality changes occur, personality psychologists propose several potential mechanisms through which personality traits can change (see Specht et al., 2014, for a review). Whereas McCrae and Costa (2008) propose a biological maturation perspective, which emphasizes the genetic factors and brain structure in shaping personality development over time, many scholars (e.g., Caspi et al., 2005; Denissen, Ulferts, Lüdtke, Muck, & Gerstorf, 2014; Scarr & McCartney, 1983) suggest that experiences can play a role. Although different propositions have been made, proponents of environmental influences in general suggest that the role or behavioral demands of the environment is the key to triggering personality trait changes. In other words, when a particular pattern of thoughts, behaviors, or feelings is reinforced in the environment, individuals are likely to adjust their personality towards the same pattern.

This idea has been put forward in social investment theory (Hudson et al., 2012; Lodi-Smith & Roberts, 2007; Roberts, Wood, & Smith, 2005), which suggests that one's commitment

to and investment in a specific social role will lead to personality change toward a direction that is consistent with the role characteristics. For example, individuals with higher involvement and engagement at work tend to increase their conscientiousness over time (Hudson et al., 2012) because this role engagement can reinforce a sense of duty over time, a core element of conscientiousness. In an organizational setting specifically, this notion has been theorized in an occupational socialization model (Frese, 1982), which suggests that specific work designs impose different cognitive, emotional and behavioral requirements, which then require employees to engage in actions that are consistent with these requirements. In turn, actions provide a behavioral basis for self-understanding. That is, by observing one's own behavior, it is likely to develop self-knowledge about values, beliefs, and competences (Bem, 1967). In part, this process occurs because individuals tend to impose an identity perspective on their actions to understand themselves (Vallacher & Wegner, 1987). For example, Pratt, Rockmann and Kaufmann (2006) showed that work actions and experiences, particularly those that reflect a mismatch between what an individual does and who he/she is, evoke a bottom-up process of identity change, or the change of self-understanding, which can be a path to personality change.

Although it seems that one's personality is shaped by his/her environment, it should be noted that individuals are not randomly assigned into various environments because people's personality traits actually influence the environment to which they are exposed or selected into, or the type of environment they create (Bandura, 2001; Schneider, 1987). In fact, as described in the corresponsive principle in personality development (Caspi et al., 2005), personality and the environment have a longitudinal reciprocal relationship; that is, they can shape each other over time in a way such that life experiences influence the personality traits that lead people to these

experiences in the first place. This principle has been empirically supported across a few studies (e.g., Li et al., 2014; Roberts, Caspi, & Moffitt, 2003; Wu & Griffin, 2012).

Influences of Work Environments on Change in Personality

Following the notion that environments can shape individuals' personality over time, studies have been conducted to examine whether work environments can shape individuals' dispositional attributes. Most of these studies have indicated that work design characteristics can shape personality traits. For example, Gecas and Seff (1989) reported a positive predictive effect of job complexity on general self-efficacy and self-worth. Kohn and Schooler (1973) also reported a positive link between job complexity and self-esteem and assumed the former caused the latter. However, these findings were drawn from cross-sectional studies, and the direction of the effects is unclear. It is plausible that self-esteem and general self-efficacy cause individuals to seek out, or be allocated to, more complex and autonomous jobs. Focusing on personality changes, Brousseau (1978) reported that over seven years, task significance predicted an increase in the broad personality trait of action orientation (e.g., being willing to take initiative and risks). Mortimer and Lorence (1979) reported that work autonomy is positively associated with an increase in self-competence. However, in these studies, personality was assessed two times, but job characteristics were assessed only once, close to the second personality assessment. This design is limited because the association between job characteristics and personality change can be interpreted in either causal direction. As noted by Frese and Zapf (1988), this research design is only marginally stronger than a cross-sectional design.

In a two-wave longitudinal study over 10 years, Kohn and Schooler (1982) reported that job complexity had a positive lagged effect on self-directedness, or the "beliefs that one has the

personal capacity to take responsibility for one's actions and that society is so constituted as to make self-direction possible" (p.1276). In a more sophisticated research design, Schooler, Mulatu, and Oates (2004) examined a non-recursive model to examine the link between work design and self-concept drawing on surveys completed over 20 years (1974 and 1994/1995). They reported that work characteristics in self-direction (such as higher job complexity, lower routinization and/or lower closeness of supervision) and individuals' evaluation of self-directedness (i.e., lower authoritarian conservatism, lower fatalism and higher personally responsible morality) assessed at Time 2 had reciprocal relationships when variables assessed at Time 1 were controlled. Although this finding suggests reciprocity between work design and self-concept, their modeling approach was not able to differentiate between contemporaneous and lagged effects between variables, which means that causal direction cannot be tested. Moreover, even a two-wave study is insufficient to describe a longitudinal process (Edwards, 2008; Hertzog & Nesselrode, 2003; Ployhart & Vandenberg, 2010; Singer & Willett, 2003).

Overcoming this deficiency, Frese, Garst and Fay (2007) conducted a four-wave longitudinal study, in which they found that people with a higher control orientation (a trait-like construct indicated by control aspiration, self-efficacy and perceived opportunity for control) in a prior wave tended to have increased job autonomy and complexity in the next wave, which in turn increased individuals' control orientation in the same wave. Their findings reveal a longitudinal, reciprocal association between work-design factors and self-evaluations in terms of personal control. A recent study conducted by Li et al. (2014) reported a three-wave longitudinal study (three years in total) to examine the reciprocal effects of work characteristics and proactive personality. They found that both job demands and job control in the previous year were associated with an increase in proactive personality in the next year, which further enhanced the

two job characteristics later on. Wu et al. (in press) recently reported a three-wave longitudinal study (four years in total) to investigate the role of job autonomy and skill utilization in shaping internal locus of control in a reciprocal dynamic model and found that job autonomy, but not skill utilization can promote the development of an employee's internal locus of control.

In sum, the results of the studies just reviewed suggest that it is possible to use a job-design approach to alter personality traits, such as self-competence, action orientation, self-directedness, control orientation, and thus proactive behavior in the long run. However, because only a few studies using a rigorous longitudinal design to examine the role of work environments on personality change, and only one study (Frese et al., 2007) incorporates proactive behavior, more studies are needed to thoroughly investigate the dynamics of the work environment, personality and proactive behavior. We now turn to implications of the personality development perspective for proactivity research.

Implications for proactivity research

We now discuss theoretical, practical and methodological implications of a personality development perspective for proactivity research. First, because personality traits can change across time and can be shaped by work environments, the personality development perspective suggests that associations between personality traits and proactive behavior can vary over time. The changeable association between personality traits and proactive behavior challenges the idea of merely using personality selection to sustain employee proactivity within organizations because the predictive effect of personality on proactive behavior could become unstable over time. Moreover, employees with a higher proactive personality can become less proactive over time if they are in an unfavorable work environment, such as in jobs with lower complexity and autonomy. As such, without providing favorable work environment to sustain proactivity,

selecting employees with a higher proactive personality may not necessarily help organizations boost employee proactivity in the long run. The challenge for personality selection actually highlights the importance of work environments in sustaining proactive behavior in the long term, bringing an implication to intervention studies in proactivity research.

Specifically, the personality development perspective opens up a new avenue for researchers to utilize interventions to enhance proactive behaviors, that is, to modify patterns of behaviors across time and situations. With the increasing emphasis on the transfer of effects of organizational interventions across situations (e.g., Wexley & Latham, 2002), it seems necessary to raise the bar for proactivity interventions to render their effects more enduring. In other words, if organizations aim to pursue long-lasting effects in enhancing employees' proactive behavior, a focus on personality change would be more effective than a focus on temporary behavioral change because the former helps shape individuals' chronic patterns of thoughts, behaviors, or feelings. In line with this notion, recent research in behavioral economics has centered on the lasting effects of interventions, such as research on changing habits (Charness & Gneezy, 2009). The emerging literature on subjective well-being has also stressed lasting effects of interventions to breed lasting well-being and thus to overcome hedonic adaptation (Charness & Gneezy, 2009). Based on knowledge from personality development research, organizations can surely benefit from proactivity interventions that have long-lasting effects. To date, research on proactivity interventions is limited in this regard. Studies are encouraged to offer intervention programs that help enhance employees' proactive behavior for the long term.

Based on our review, it seems that work-design factors are important situational factors that can be used to effect personality change toward the direction of sustaining proactive behavior in the long term. Although several studies have suggested the role of positive work

design features, such as job complexity and job autonomy, in shaping personality to drive proactive behavior, we propose that having those positive work-design features alone may not necessarily lead to personality development for sustaining proactivity. Instead, following the idea of Karasek's job demand-control model (1979), we suggest that having high levels of work challenges along with positive and supportive work design features should be a desirable condition to cultivate personality development for sustaining proactivity. Under this condition, the resources brought by positive and supportive features will be more likely to be mobilized and used to make constructive changes and put things forward due to the challenges of job demands. Over time, employees in this condition may habitualize and internalize their proactive actions, enhancing a chronic proactivity tendency to be proactive. Based on the challenge stressor-hindrance stressor framework (Lepine, Podsakoff, & Lepine, 2005), we expect that along with positive work-design features, challenge stressors will play a more important role than hindrance stressors to bring about changes in proactive propensity over time. Challenge stressors present challenging demands that take individuals out of their comfort zone. Faced with job challenges, individuals need to learn new skills or enhance and develop existing skills (Depue & Collins, 1999; LePine, LePine, & Jackson, 2004) that build the capability to be proactive. Hindrance stressors, on the contrary, may not necessarily lead to skill development. Instead, they have been found to result in stress, lower well-being, and turnover (LePine et al., 2004; Lepine et al., 2005), which can deplete resources for being proactive. As such, hindrance stressors may not help drive personality development in proactive propensity. In addition to work-design factors, future studies can also explore the effect of social environmental factors, such as leadership, peers' influence, and the organizational climate in shaping personality changes toward sustaining proactivity. In a recent study, Li et al. (2014) examined the role of social support from coworkers

and supervisors in predicting change in proactive personality but did not find significant results. Because this is the only study to explore the effect of social environmental factors, more studies are needed to understand whether and how social environments at work can shape personality development.

Finally, the personality development perspective also has a methodological implication for proactivity research. Because the perspective highlights dynamic interactionism, longitudinal studies are necessary to understand dynamic relationships between the environment, personality and behavior over time. Such longitudinal studies are scarce in proactivity research, serving as an avenue for future research. This longitudinal approach, however, has several challenges. The focal challenge is around issues of time. The time it takes for personality change to occur may vary across traits and contexts, so determining how long is enough to observe personality change is a challenging question. Intuitively, because it takes time to elicit and observe personality change, longitudinal studies over years might be required. Moreover, to depict the process of change, having multiple observations over a period of time is essential (Ployhart & Vandenberg, 2010). This requirement, in practice, can be very demanding because the attrition rate usually goes up when the length of time increases, and it requires considerable effort to track the same participants over years.

Beyond depicting the change phenomena, we are also interested in how personality change occurs, or the mechanisms behind it. To date, potential mechanisms have been proposed to explain how environmental factors or life experiences can lead to personality change, but they have been rarely examined. Methodological challenges can be reasons for this research gap. For example, behavioral mechanisms, such as behavioral habituation, are not easy to measure because successive data on daily or weekly behavior are required to underpin the operation at a

behavioral level. Moreover, it is very likely that the process of personality change can be facilitated or impeded by factors such as whether the direction of change is supported and rewarded by surrounding others or the environment and magnitude of one's motivation for change. To fully depict the operation of the personality change process, it is also important to consider factors that will moderate the operation. Determining when and how to measure those moderators, again, presents methodological challenges, making empirical work more complex and difficult. Overall, to consolidate the personality development perspective, we need to overcome those methodological challenges.

Conclusions and Recommendations

We conclude our chapter by providing several managerial recommendations based on our review. The first and a straightforward recommendation for organizations to promote and sustain employees' proactivity is to recruit people who are more likely to engage in proactive behavior, such as those with higher extroversion, future orientation, positive self-perception, positive affectivity and proactive personality. However, because we highlighted with a developmental perspective that personality traits can change as the environment changes, the second recommendation is thus to provide a supportive environment, such as an enriched job design (please see Chapter 9 by Ohly and Schmitt in this book for a thorough review) and supportive supervision, that can sustain employees' proactivity. These favorable situational factors can play a role in facilitating proactive behavior for people who are prone to be proactive, motivating those who are not proactive in disposition to behave proactively, or/and have a long-term effect in building people's proactivity at a deep, dispositional level. In other words, while recognizing the importance of identifying proactive employees, we also suggest organizations pay attention

to how they can create and provide favorable work environments to utilize in the short term and nurture employees' dispositional tendencies for being proactive in the long term.

In addition to providing a supportive environment for proactivity, organizations can take a more active approach to nurturing employees' proactivity, such as by offering development-type interventions. As discussed in Chapter 19 by Mensmann and Frese in this book, it is possible to train employees to think and behave proactively by offering personal initiative training based on action regulation theory. This proactive training would be effective in enhancing employees' awareness of being proactive, which may evoke their desire for change (Hennecke, Bleidorn, Denissen, & Wood, 2014). If a favorable environment for proactivity is provided, employees' desire for change will be supported and feasible, facilitating personality change toward being more proactive. The emphasis on behavioral change in leading personality change was also elaborated by Magidson, Roberts, Collado-Rodriguez, and Lejuez (2014, p. 1443): "Personality can be changed by targeting behaviors that characterize specific personality traits. These targeted behavior changes, although initially effortful, over time may become more automatic; it is at the point that the behaviors become ingrained that the new behavior patterns ultimately manifest in trait-level changes". Based on this principle, they offered a theory-driven intervention framework for personality development by integrating expectancy value theory (Eccles & Wigfield, 2002) and behavioral activation treatment (e.g., Lejuez, Hopko, & Hopko, 2001) to increase engagement in goal-directed activities that are in accordance with the values of specific traits across numerous domains of individuals' lives. They provided a case study to illustrate how this theory-driven intervention program can be used to enhance an individual's conscientiousness. This intervention framework can also be applied to shape other personality dimensions (e.g., extroversion and future orientation) that can facilitate proactive behavior at work.

To conclude, we suggest that to promote employees' proactivity in organizations, in addition to selecting those who tend to behave proactively based on their personality traits, organizations can be more active in providing environment that can facilitate proactivity and offer a training program to nurture employees' proactivity in the long term.

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