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Career proactivity: A bibliometric literature review and a future research agenda

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Abstract

Individuals often need to be proactive in order to successfully navigate their career development journeys. To what extent one is vocationally proactive has critical implications for his or her attitudes, behaviors, and other outcomes in career and work-related settings. However, research in career proactivity has been accumulating from divergent perspectives, resulting in a substantially fragmented literature that has not been comprehensively, objectively synthesized to guide the field to move forward. To advance the domain of career proactivity, this paper synthesizes theoretical and empirical literatures using two major bibliometric analyses. We first analyze the intellectual basis of the career proactivity literature by performing document citation analysis. We then review the developmental trends of main conceptual themes in career proactivity literature using a temporal co-word analysis. Informed by these bibliometric findings, we propose a roadmap for future research highlighting the need to clear up concepts, account for context, develop new meso-level theories, and bridge the domains of organizational behavior and vocational development.

INTRODUCTION

Over the past decades, globalization of economies, technological advancements, fierce competition, and financial and public health crises (Kundi et al., 2021) have continuously changed organizational structures, work environments, and employment relationships. In these trends, careers have become increasingly nonlinear, unstable, and boundaryless. Individuals are no longer bound to a single organization for lifetime employment, due to personal (e.g. career aspirations and interruptions) and contextual (e.g. organizational restructure and redundancy) reasons. This changing landscape suggests that individuals are increasingly required to proactively manage and craft their careers, such as taking a boundaryless career perspective so that they can flexibly cross physical and psychological boundaries (Arthur & Rousseau, 1996; Bravo et al., 2017), taking greater responsibility and ownership for their career development (King, 2004; Lo Presti et al., 2018; Sammarra et al., 2013), and engaging in various other forms of proactive actions that collectively contribute to a more prosperous career.

Accordingly, individual proactivity, which is "broadly understood as identifying and acting on problems and opportunities to realize career goals" (Vough & Caza, 2017, p. 117), has emerged as a key determinant of career success (De Vos, De Clippeleer, & Dewilde, 2009; Jiang, 2017; Seibert et al., 2001; Wiernik & Kostal, 2019). As Claes and Ruiz-Quintanilla (1998) noted, the development of a boundaryless career requires one to be more proactive in career self-management (CSM) and lifelong learning. It can take many different forms, such as proactive career planning, skill development, consultation (e.g. information/feedback seeking), networking (Claes & Ruiz-Quintanilla, 1998), job search (Brown et al., 2006), exploration (Stumpf et al., 1983), and career crafting (Akkermans & Tims, 2017). Such various proactive actions enable an individual to manage his or her own career through generating a wide range of employment options, professional growth opportunities, and job/career-change negotiations that are essential for dealing with challenges, smoothing adjustments, and achieving success (Claes & Ruiz-Quintanilla, 1998).

The concept of career proactivity began drawing research attention two to three decades ago, and its theoretical foundation traces back to two somewhat distinct research streams—organizational behavior (OB) and vocational research, in the study of proactive career behaviors. Although some reviews have been provided recently in each stream (e.g. Klehe et al., 2021; Sonnentag, 2016), such a research base is still very small, and these existing reviews were based on only a selective sample of prior research and hence less comprehensive in the scope of coverage. This limitation was explicitly recognized by Klehe et al. (2021, p. 4), who indicated "it is important to highlight that our review is not comprehensive." Furthermore, these existing reviews provide only textual descriptions at the broad-stroke level, often with the purpose of fitting various studies into one common conceptual framework. Such an approach unavoidably sacrifices details and nuances about the topic contents being covered, while also introducing potential bias due to sole reliance on authors' subjective judgments (Byington et al., 2019).

These shortcomings have prevented us from developing a more comprehensive, objective picture of the core knowledge structure of the career proactivity domain. Without a fuller, more objective view of the thematic topics and their trends within this domain, the literature is likely to continue to be divergent, resulting in biased and segmentary views on how to advance career proactivity research.

To address the limitations of prior reviews while adding more evidence to a much needed research area of career proactivity, we conduct a bibliometric review to expand and advance our understanding of this construct. Specifically, we seek to answer two key questions: (1) What is the core intellectual structure underlying the career proactivity literature? (2) How have the key research topics within the intellectual structure of career proactivity developed over time? Through examining these questions, we also propose promising future directions for research in career proactivity. In response to the two research questions, we implement bibliometric analyses, which use scientific mapping to analyze and visualize the landscape and dynamic areas of a knowledge field (Cobo et al., 2011). Bibliometric analysis can quantitatively display a spatial representation of the (dis)connections among articles, their key terms and concepts, theoretical foundations, and findings (Börner et al., 2003; Zupic & Čater, 2015). This visualization allows objective monitoring of a knowledge domain and the definition of research areas of this domain to identify its conceptual structure and evolution (Cobo et al., 2011). Compared to traditional types of reviews, this approach, while also involving subjective evaluation of core content, is much more objectively driven, with a systematic methodology to rigorously analyze a chosen field. Hence, it can sometimes allow for the identification of research areas that have been missed or misrepresented in narrative reviews (Byington et al., 2019; Markoulli et al., 2017).

In the sections below, we first briefly elaborate on the concept of career proactivity, followed by the discussions of two major traditions on which career proactivity research has been built. Then we introduce the methodological procedure of bibliometric analysis and present the key findings in relation to major theoretical/conceptual clusters and the evolution of career proactivity research. Our article will conclude with an integration of historical and recent developments of this research domain as well as a proposed agenda for future research.

CAREER PROACTIVITY: DEFINITIONS AND KEY CONCEPTS

Despite being conceptualized and measured in various ways, constructs underpinning career proactivity commonly emphasize the characteristics of self-initiation, change induction, and future orientation in career management activities (Klehe et al., 2021; Smale et al., 2019). Integrating the OB literature on proactivity into the vocational context, career proactivity can be broadly defined as *an individual's self-initiated and future-oriented actions aiming to influence, change, and improve career circumstances including the situation and the self* (Crant, 2000; Klehe et al., 2021; Parker et al., 2010). In line with the conceptualization of proactivity, it reflects a process through which an individual involved in career development "anticipates, plans for, and attempts to create a future outcome that has an impact on the self or environment" (Grant & Ashford, 2008, p. 9). Also, as proactivity involves "challenging the status quo rather than passively adapting to present conditions" (Crant, 2000, p. 436), career proactivity concerns individuals' actions in relation to actively dealing with problems and pursuing opportunities for attaining career goals (Vough & Caza, 2017).

As mentioned earlier, career proactivity, a self-initiated and goal-directed process, is usually manifested in the form of diverse initiatives and activities individuals actively undertake in career-relevant settings. From example, extending the literature on newcomer socialization, Claes and Ruiz-Quintanilla (1998) put forward four behaviors underlying career proactivity that can be applicable across population groups: career planning, skill development, consultation, and networking. The proactive forms of these career-related behaviors or their variations have been used in work and vocational literature on proactivity (De Vos, De Clippeleer, & Dewilde, 2009; Smale et al., 2019; Strauss et al., 2012). Focusing on person–environment fit, Parker and Collins (2010) highlight feedback inquiry/monitoring, job change negotiation, and career initiative as useful proactive efforts to achieve, enhance, and maintain one's congruence with career environments. These behaviors are generally aligned with endeavors to gain the know-why, know-how, and know-whom competencies needed in boundaryless career contexts (Defillippi & Arthur, 1994; Taber & Blankemeyer, 2015). In other words, career proactivity, via various behavioral forms, serves as a mechanism leading an individual to build career competencies that enable them to succeed and thrive in vocational environments.

Table 1 illustrates a set of key concepts studied by the career proactivity research. These concepts (Column 1, Table 1) are broad terms that describe individuals' proactive career development from different but overlapping lenses. The differences reside in the scope and concreteness of the way the terms are defined or explained in the literature. Some concepts, such as career initiative, which broadly denotes one being proactive in managing one's own career (Sylva et al., 2019), can be very expansive and include a wide range of cognitive and behavioral strategies that individuals may implement at any stage of their careers to improve their situations (Sonnentag, 2016). Because the concept of career initiative itself is less concrete, it can be interpreted in many ways and its connotations manifested broadly. For instance, it can involve a variety of narrowly focused, specific behaviors, which may be preparatory actions (e.g. cognitive engagement) or actual actions. Similarly, proactive career behavior, career proactivity, personal growth initiative, career development (or growth) initiative, and CSM also have a broad, non-concrete conceptualization that may cover different stages of career development (e.g. planning, preparation, engagement, enhancement, and reflection). In comparison, career planning is a term that is more concrete and has a relatively narrow scope, as it mainly involves a preparatory process where goal setting and action planning are the key focus (Aryee & Debrah, 1992). The activities associated with career planning may not extend to the stages of plan execution and goal pursuit. Like career planning, other concepts such as career exploration, career adapting, and career adaptivity possess similar characteristics; for example, they relate to one or more specific areas, situations, and/or phases of the career development process.

Despite these differences, the concepts in Table 1 have substantial content overlap. They either explicitly or implicitly reflect the nature of proactivity by spelling out or signaling the attributes of individual agency, mastery, change orientation, self-initiation, purpose, and goal focus in their conceptualizations. This overlap means that the illustrative examples (Column 3, Table 1) for a corresponding concept might also fit into another concept, and hence, many of these concepts (e.g. career proactivity, proactive career behavior, and career initiative) may not have clear boundaries. Clearly, career proactivity has been understood from multiple conceptualizations with variant scopes. These key concepts will serve as a starting point for us to unpack the intellectual bases underlying the career proactivity literature. As we will elaborate later, they will guide our literature search process to help establish a broad pool of research output,

TABLE 1   Key concepts underlying the research line of career proactivity

Key concepts	Definition/explanation	Examples
Proactive career behavior	Proactive career behavior includes initiatives, activities, and interventions individuals undertake to shape future careers, master occupational tasks, and obtain career-related information and assistance (Claes & Ruiz-Quintanilla, 1998).	Proactive career planning (e.g. thinking about future career options), proactive skill development (e.g. active learning), proactive consultation (e.g. seeking career advice), and proactive networking (e.g. initiating new professional contacts)
Career proactivity	Career proactivity involves undertaking self-initiated, future-focused career-relevant activities to influence, change, and improve oneself and the environment (Crant, 2000; Klehe et al., 2021; Parker et al., 2010).	Proactive feedback seeking, identifying and acting on job-change opportunities, proactive socialization, seeking out new opportunities to develop skills, building broad networks within and outside the current workplace, craft job and/or career duties, voice for positive changes, and negotiate work conditions
Career initiative	A career initiative is "proactive management of one's career and professional development" (Sylva et al., 2019, p. 631).	Proactive promotion of one's own careers, active skill and knowledge building, and purposeful management of career demands
Personal growth initiative	Personal growth initiative denotes "active, intentional engagement in the process of personal growth" (p. 184) and includes cognitive and behavioral components supporting growth of life domains including careers (Robitschek, 1998).	Developing growth-supportive cognitions (e.g. self-efficacy, beliefs, attitudes, and values), implementing growth-supportive cognitions, intentionally acting on vocational changes, and initiating career transitions
Career development/ growth initiative	"Career development initiative, or a proactive approach to developing one's career to enable growth over time" (Porath et al., 2012, p. 260).	Actively acquiring skills for career progression, setting career objectives, and searching career development opportunities
Career self-management	Career self-management describes the cognitive and behavioral proactivity individuals exhibit to manage their careers (De Vos & Soens, 2008).	Cognitive processing such as defining career objectives and developing insights into career aspirations; concrete behaviors undertaken to realize career goals, such as networking, self-nomination, and opportunity generation
Career exploration	"Career exploration is defined as purposive behavior and cognitions that afford access to information about occupations, jobs, or organizations that was not previously in the stimulus field" (Stumpf et al., 1983, p. 192).	Investigating career possibilities, researching a specific occupation, collecting information on the job market, and reflecting on the past to inform future careers
Career planning	Career planning is a proactive, deliberate process of being aware of the self/context, setting career goals, and construing experiences for goal attainment (Aryee & Debrah, 1992; Hall, 1986).	Determining career objectives; learning about career options, constraints, and consequences; formulating sequential steps for career pursuits; confirming the timeline and scope of steps for goal attainment; and envisioning career difficulties

TABLE 1 (Continued)

Key concepts	Definition/explanation	Examples
Career adapting	Career adapting involves "performing adaptive behaviors that address changing conditions" (Hirschi et al., 2015, p. 2).	Explore career opportunities, gather career-related information, evaluating one's own career potential, making or adjusting a career decision, and working on strategies to achieve career goals
Career adaptivity	Career adaptivity represents readiness or willingness to deal with changing conditions and career uncertainties and involves a notion of cognitive or psychological proactivity (Hirschi et al., 2015; Rudolph et al., 2017).	Proactive tendency to think positively of career challenges, positively evaluating oneself, becoming psychologically ready to change, and becoming optimistic about career futures

from which a new and more nuanced knowledge structure as well as dynamic themes within this structure are identified through networked cluster analysis.

FOUNDATIONS OF CAREER PROACTIVITY RESEARCH

As mentioned earlier, the history of career proactivity research can be traced back to earlier studies in OB and vocational development. Situated in positive psychology, proactivity is a concept that denotes a process that can be applicable to any array of actions through, for example, anticipating, planning, and goal pursing (Grant & Ashford, 2008). When applied to individuals' career situations, OB research, which is primarily bound to individuals' workplace settings, has made the concept of "proactivity" popular. However, many similar concepts, despite involving contexts broader than a workplace, have also been studied in the vocational development literature. In other words, one's career development involves one's vocational/occupational life both in and outside of a specific workplace (Allan et al., 2019). Although OB research is more inclined to address proactivity associated with one's development, growth, and performance at work, vocational development research builds on but goes beyond this bounded work context to address proactivity from a longer term, broader perspective (e.g. career growth across jobs, occupations, and time spans). As such, these two research traditions together would shape a more holistic picture of the career proactivity domain.

Career proactivity research tradition in OB

A focus on individuals' career-related proactive pursuits has emerged in the employee proactivity literature within the OB discipline. The concept of employee proactivity has been drawing attention particularly since the 1990s (see Parker & Bindl, 2016, for a brief historical review). This is largely due to the recognition that merely completing one's assigned jobs and tasks is no longer sufficient. Instead, the increasingly competitive, dynamic, and uncertain nature of the world of work requires employees to take initiatives and be proactive in changing aspects of their jobs, their organizations, or themselves, towards improved effectiveness (e.g. Campbell, 2000; Frese & Fay, 2001; Griffin et al., 2007). Moreover, the increasingly

precarious employment and changing nature of work conditions (e.g. Kalleberg, 2009; Wu et al., 2020) indicate that taking proactive actions to manage one's career is also ever more important.

The earlier focus on employee proactivity tends to approach it as a stable, dispositional attribute, such as uncovering a personality construct termed a "proactive personality," to encapsulate individuals who are more likely to proactively enact changes in their environment (e.g. Bateman & Crant, 1993). Since then, research has burgeoned to understand the impact of proactive personality, and these efforts include attempts to link this personality construct to individuals' career outcomes. Pioneering research conducted by Seibert et al. (1999, 2001), for instance, established that individuals with proactive personality tend to achieve better career outcomes, measured both by objective success indicators such as salary and promotion and by subjective perceptions such as career satisfaction. Such a finding about the positive role of proactive personality on individuals' careers was further reinforced in several large-scale meta-analyses in which career-related indicators were included in the investigations (e.g. Fuller & Marler, 2009; Thomas et al., 2010; Tornau & Frese, 2013).

The dispositional focus, however, has gradually shifted towards a behavioral focus since 2000, such that employee proactivity is considered as a way of acting and behaving that can be shaped both by personal attributes—such as proactive personality—and by a wide range of contextual factors, such as the organization's climate, leadership, and job design (Crant, 2000; Parker et al., 2006, 2010). Taking this perspective, researchers have focused on the types of behaviors that are proactive by defining employee proactivity as "anticipatory actions that employees take to impact themselves and/or their environments" (Grant & Ashford, 2008, p. 4) or as "self-directed and future-focused action that aims to change and improve the situation or oneself" (Parker et al., 2006, p. 636). Thus, employee proactivity is a very broad concept and includes many types of specific behaviors (Parker et al., 2019; Parker & Bindl, 2016). Among them, a focus that extends to employees' career-related proactivity has emerged. An early discussion linking proactivity to the career context has been offered by Crant (2000), who proposed career management as one of the key domains where proactive behaviors are important, arguing that individuals need to sculpture and take control of their careers, rather than passively responding to changes imposed on them. Later, Parker and Collins (2010) proposed that the various specific forms of proactive behaviors can be subsumed under three higher order factors, including proactive work behavior, that is, the behaviors that involve changing organizations' internal environment; proactive strategic behavior, that is, the behaviors that involve changing organizations' strategy for better fit with the external environment; and proactive person–environment fit behavior, that is, behaviors that enable individuals to achieve better compatibility between their personal attributes and their organizational environment.

Adding to Parker and Collins' (2010) framework, Grant and Parker (2009) highlighted the need to identify a fourth higher order dimension, termed *proactive career behaviors*, to purposefully represent those proactive behaviors that go beyond one's designated roles, such as proactive efforts that enable individuals to secure a job, find a new job, or negotiate for better terms before accepting a new job. Compared to other types of proactive behaviors, these proactive career behaviors are more likely to have direct impacts on one's career-related outcomes, especially those outcomes that tend to transcend organizational boundaries. More recently, the career proactivity concept has been purposefully taken on by Sonnentag (2016), who provided a more detailed and integrative review that draws together a wide range of related concepts. Sonnentag (2016) argued that this concept can refer to summative proactivity concepts such as

career initiative (Parker & Collins, 2010). Moreover, this concept may also reflect both covert behaviors, such as career planning (De Vos, De Clippeleer, & Dewilde, 2009) and career exploration (e.g. Jiang et al., 2019), and overt behaviors, such as networking (e.g. De Vos, De Clippeleer, & Dewilde, 2009) and developing knowledge and skills (e.g. Seibert et al., 2001). Such a recognition is in line with the process-oriented view of proactivity, such that proactivity is conceptualized to encompass a cognitive and behavioral process including both the generation of proactive goals, such as planning, and the endeavors towards proactive goals, such as enacting concrete behaviors (Bindl et al., 2012; Parker et al., 2010).

In sum, the existing literature on employee proactivity has approached career proactivity in different ways. Although earlier research studied proactivity from a personality perspective, yielding strong evidence that linked proactive personality to career outcomes, later research has shifted towards a behavioral perspective on proactivity. Within this perspective, behavioral constructs that are related to career proactivity can be observed and featured by both summative proactivity constructs (e.g. career initiative and proactive career behavior) as well as specific proactive behaviors (e.g. career planning and networking). However, it appears that research endeavors that focus on uncovering different, specific proactive career behaviors tend to come more from the career literature—as we discuss next—rather than from the work proactivity literature (see Sonnentag, 2016, for a review). Overall, it can be observed that, despite being visible throughout the development of proactivity research, career proactivity has not received substantial attention in this research line. A more dedicated focus on it, which is what the current paper intends to do, would put this concept at the forefront of proactivity research and enable it to be better understood and studied in the future.

Career proactivity research tradition in vocational development

The vocational literature has documented at least two major lines along which career proactivity research has developed. The first line, which dates back to the 1970s and started with scattered attempts, studies active career-oriented behaviors and processes that are situated in the contexts of current jobs and organizations. These behaviors, although not explicitly labeled "proactive," involve elements such as purpose, goal, anticipation, future orientation, mastery, and change, which are now considered important attributes of proactivity (e.g., Parker et al., 2010; Wang et al., 2019). A typical example is the study of the socialization process in a bounded career context (e.g. within a particular organization). Feldman (1976) highlighted anticipation (e.g. forecasting and consciously evaluating career situations), accommodation (e.g. learning new skills, familiarizing and prioritizing role tasks, self-evaluating progress, and building new relationships), and role management (e.g. resolving conflict at and outside work) as critical activities leading to a successful career bounded in an organization. Such activities in the socialization process indicate multiple ways of initiating changes, for example, acquiring appropriate role behaviors, developing skills and abilities, and adjusting to work/career norms and values (Feldman, 1981).

To some extent extending the socialization in bounded contexts, researchers also looked at individuals' career strategies (Penley & Gould, 1981) and ways to make positive changes to further work prospects (Bachman et al., 1978), such as competence building, planning, and purposeful social interaction. These perspectives provided some solid bases for the career proactivity domain during the shift of the research focus from bounded to boundaryless careers (e.g. Arthur & Rousseau, 1996; Claes & Ruiz-Quintanilla, 1998; Jackson, 1996). Since then, the

exemplar career behaviors (i.e. career planning, skill development, consultation behavior, and networking behavior), on which Claes and Ruiz-Quintanilla (1998) put a "proactive" label, have been drawing attention gradually in vocational development research (e.g. Baumeler et al., 2018; Taber & Blankemeyer, 2015). Despite the relatively low but increasingly visible profile in careers literature, these behaviors have been extended into OB research touching on the issues related to employees' career development (Koen & Parker, 2020; Seibert et al., 2001; Strauss et al., 2012). This trend appears to have continued moving forward steadily. More recently, some scholars (Klehe et al., 2021) have tried to utilize theoretical models from OB research to conceptualize the proactivity process in one's career development. Borrowing Parker et al.'s (2010) model of proactive motivation, Klehe et al. (2021) categorized career-related psychological states into three pathways, namely, the "reason to," "can do," and "energized to" pathways, to explain a person's motivation for career-related actions. It is important to note that Klehe et al.'s (2021) work was built on a narrow, bounded focus on existing employees by treating career proactivity as a sub-theme of proactive work behavior. However, for population groups like college graduates, the unemployed, and job seekers, career proactivity may not be simply considered a subset of proactive work behavior.

Beyond socialization-incurred tasks and behavioral processes, a *second* research line in the literature captures active career-oriented behaviors and processes that are situated in contexts broader than current jobs and organizations. For instance, Harren (1979) considered career decision-making a complex process involving a series of sequential phases (awareness, planning, commitment, and implementation), where an individual needs to be purposeful and active and to focus on forward movement. Embedded in the career decision-making process are key actions that are related to goals and future career preparation, such as self-appraisal, learning from the past, information search, crystallization of tasks, feedback seeking, action planning, and moving back and forth to assimilate into the decisional context. These essential actions require individuals' active rather than passive engagement to make effective career decisions, implying a nature of proactivity. Relatedly, early research paid particular attention to career exploration (Greenhaus & Sklarew, 1981; Stumpf et al., 1983), particularly the exploration of the career environment and the self, and choice behaviors (Betz & Hackett, 1986), which are traditionally viewed from a proactive rather than a reactive perspective in the careers literature. The variant types of career behaviors, as highlighted above, reflect the importance of a proactive orientation in shaping career directions and achievements.

Also reflecting the proactive nature of these behaviors is the concept of personal agency in career-related settings, which has been highlighted by scholars (e.g. Betz & Hackett, 1987; Fryer & Payne, 1984). For instance, considering an individual as the agent and master of his or her own career in unemployment settings, proactivity occurs "when a person chooses to initiate, intervene in or perceive situations in a way that allows the person (agent) to act in valued directions rather than respond passively to imposed change" (Fryer & Payne, 1984, p. 273). Integrating behavioral agency into an individual's career pursuits, Betz and colleagues (Betz & Hackett, 1987; Hackett et al., 1985) proposed that agency could lead individuals to create rather than simply respond to career opportunities. They explained that agency, like initiative, assertiveness, and persistence, denotes behaviors individuals engage in to affect their environments relevant to career development (Betz & Hackett, 1987). Since the 1980s, personal agency has become a key driver for some theoretical frameworks that help interpret individuals' behavioral processes. Two dominant theoretical perspectives that have been received particular attention over the past two to three decades are social cognitive career theory (SCCT; Lent et al., 1994) and career construction theory (Savickas, 2002). SCCT emphasizes person–environment

interaction, where persons can exercise personal agency (Lent et al., 2002). Three central elements (i.e. self-efficacy, outcome expectation, and personal goals) build the basic blocks of career development to drive individuals' agency in choice and exploration behaviors (Lent et al., 2016; Lent & Brown, 2013). This theory is more centered on how learning experiences guide career behaviors (Lent et al., 2002). Similarly, career construction theory (Savickas, 2002, 2005) argues that individuals need to exercise agency to strive for and adapt to career circumstances, particularly where trauma, transitions, and difficulties are involved. These theories have served as the foundation for a wealth of research in vocational behaviors (Jiang et al., 2017, 2019) that explicitly or implicitly reflect personal agency, which, in many cases, is observed in individuals acting proactively (Goller & Paloniemi, 2017).

Although the research lines highlighted above are informative, they are not inclusive of all areas of proactivity research that have been developing in the field of career management. Except for some dominant frameworks (e.g. SCCT and career construction theory) that have served as an umbrella guiding a considerable amount of research in career development, the scholarly efforts emerging from other perspectives are not overtly clustered. Indeed, the existing popularly adopted, broad theoretical perspectives, such as SCCT and career construction theory, while partially implying the connotation of proactivity (e.g. self-direction and personal agency), do not offer direct, focused, or comprehensive insights into studying career proactivity. In the bibliometric synthesis below, through systematically identifying the focal research clusters that have shaped the literature developments of career proactivity, we expand and advance the current understanding of proactivity in career development.

BIBLIOMETRIC ANALYSIS: PROCEDURE AND STRATEGIES

We first adopted the Web of Science (WoS) Core Collection as our database to search target references, specifically focusing on two WoS research categories: applied psychology and management. To limit our literature search to papers closely related to career proactivity, we combined two groups of the keywords. Search keywords in the career group included "career*," "occupation*," and "vocation*." They were combined with search keywords that have been highlighted in the literature as closely reflecting a proactive nature, including "proactive behavior*," "proactivity," "initiative*," "growth initiative*," "development initiative*," "adapting," "adaptivity," "self-management," "exploration," and "planning," to accurately identify related papers. Altogether, 31 keywords were included in the searching process.[1] The character "*" was used to facilitate fuzzy search that captured relevant variations of a term. These terms were used to search titles, abstracts, and keywords using the field tag "TS" (topic) in WoS.

We constrained our search to documents published in English. We only included papers published in peer-reviewed journals, as they are often recognized to represent the most influential and best quality scholarly work in applied psychology and management. That is, documents published in a non-peer-reviewed journals (e.g. conference papers, books, and book chapters) were not included in the initial search. The literature search, concluded in early June 2021, resulted in 2733 documents. To narrow the scope, we continued to screen the initial pool to determine the final sample of the literature. To ensure the quality of papers, we followed prior reviews on individual proactivity (e.g. Parker et al., 2019) to restrict the focus to top-tier journals in OB, work/career psychology, and management as identified in Carpini et al. (2017) so that only high-quality articles were included. On this basis, we also included two other major

career-focused journals (*Career Development International* and *Career Development Quarterly*) to enlarge our pool of related publications. This procedure resulted in 953 articles.

We then manually screened the titles and abstracts of all articles to further determine their relevance to our focus on individual-level career proactivity. Following the principle of bibliometric analysis, we focused on broad relevance of these articles to avoid unnecessarily missing text information that could reflect individual proactivity in career contexts. For example, individual career proactivity does not need to be the exclusive key focus but can be a broadly relevant concept as covered in the article. In this process, we excluded papers focusing on macro-level research topics such as organization-level phenomena that have little relevance to career proactivity at the individual level. In addition, we excluded papers that specifically examined the development of career counseling or the quality of career counseling from the perspective of counseling service providers (e.g. counselors actively assisting in the resolution of clients' career-related problems). The exclusion of all irrelevant articles led to a final sample of 885 articles, based on which we generated the scientific maps using bibliometric methods.

The bibliographic data of these articles extracted from WoS were imported to *Visualization of Similarities Viewer* (*VOSviewer*), a computer software that is designed to construct and view bibliometric maps (van Eck & Waltman, 2014) for bibliometric analyses. For example, the data of an article included author details, publication year, the title, the abstract, keywords, the name of the journal, and all cited references. Drawing upon bibliometric data, scientific mapping represents a process of analyzing and visualizing a specific research domain (Chen, 2017). Uncovering the intellectual structure of a scientific domain, it facilitates researchers in visualizing and discovering the domain's knowledge patterns and trending themes that are hidden in a large volume of documents and their associated bibliographic data. As we mentioned earlier, enabling scientific mapping, bibliometric analysis is complementary to traditional qualitative reviews through generating insights from a more objective perspective (Zupic & Čater, 2015), although bibliometric analysts need to also exercise subjective, analytical interpretation of the objective results. In response to the two major research questions, we performed two major bibliometric analyses, namely, document citation analysis and keyword co-occurrence analysis, to identify the knowledge structure and the development trends of the career proactivity domain. First, citation analysis, which identifies the relationships among the primary articles remaining in our final sample, helps generate thematic clusters that represent the up-to-date intellectual structure (Kleminski et al., 2022). Second, keyword co-occurrence analysis is a content analytical method that maps the linkages among keywords on the basis of their co-occurrence in the primary articles (e.g. in their titles, abstracts, and keyword sections). Integrating a temporal perspective into this method and visualizing the keyword co-occurrence over time, the keyword network helps illustrate the developmental trends of a field (Bhattacharya & Basu, 1998).

In the sections below, we delineate the analytical procedure and report the detailed findings of each analysis. To generate an integrated picture of career proactivity, we employed *VOSviewer* as a visualization tool to map the relationships among articles based on the bibliometric data. As we will elaborate later, citation analysis resulted in eight major clusters, and the temporal co-word analysis informed us of four phases, demonstrating how the field of career proactivity has evolved and where it is heading now. The results of scientific mapping were grounded in a quantified index and allowed us to review important papers and topics published in each cluster.

RESULTS OF CITATION ANALYSIS

Procedure

To explore the first research question, which relates to the core intellectual structure of career proactivity, an analysis of document citations was conducted. Citation analysis explores the interconnections among the primary articles based on the network of citation-based relationships. The citation network illustrates how they cite and are cited by one another, and it leverages the cluster analysis to illuminate the intellectual structure (Kleminski et al., 2022) of the career proactivity literature (Figure 1). Each dot in the network map represents an article that has been cited by other articles. The link between two dots is undirected and represents an item (e.g. a paper) that has cited or been cited by the other. The larger the dot is, the more frequently this paper has been cited. Following the practice of prior researchers (e.g. Vogel et al., 2021; Zhu et al., 2019), we set a citation threshold to synthesize the most frequently cited articles in this field, as these articles are most influential to shape the landscape of the intellectual structure of a domain. We set 40 citations as the citation frequency threshold, and as a result, 258 articles were identified and formed the citation network of the career proactive literature. This sample size is larger than those of other bibliometric reviews, which often selected the top 100–200 articles (e.g. Wu et al., 2021). Although a clear network map could also have been generated with a smaller sample of documents, this set of articles was able to provide a more inclusive picture representing the knowledge base of career proactivity. Overall, this analysis helped identify eight major citation clusters. The citation network also includes a few dots and links outside of these eight clusters, but they are still too immature to justify an established knowledge theme. Below, we elaborate on these major knowledge clusters underlying the career proactivity literature.

Cluster 1 (red): Career adaptation and construction

The literature in Cluster 1 (red) (see Figure 1) mainly focuses on concepts and perspectives on career adaptation and construction, which need individuals to actively self-regulate to monitor career circumstances and build meaningful careers. This cluster covers key theoretical perspectives on cognitive and behavioral processes such as career construction theory (Savickas, 2002, 2005) and motivational systems theory (Ford, 1992; Hirschi, 2009). These perspectives facilitate the understanding of the conceptual linkages between proactivity and adaptation-related constructs in career contexts such as adaptivity, adapting (Rudolph et al., 2017), and adaptability (Hirschi, 2009). For example, career construction theory proposes that individuals with career adaptability resources, which refer to self-regulatory strengths enabling one to cope with challenges, are motivated to engage in adaptive behaviors to make changes and ultimately achieve a person–environment fit (Savickas, 2002, 2005). Researchers have taken diverse approaches to fitting career behaviors, in which proactivity is implied but may not be explicitly acknowledged, into the constructs grounded in this theory. For instance, career planning and career exploration—behaviors that have a strong proactivity element—have been conceptually and empirically operationalized to be part of either adapting (Rudolph et al., 2017) or adaptability (Hirschi, 2009), allowing one to frame career environments in a more positive way and promote proactive behaviors to help the individual better adjust to and fit with the environment (Fiori et al., 2015; Guan et al., 2013).
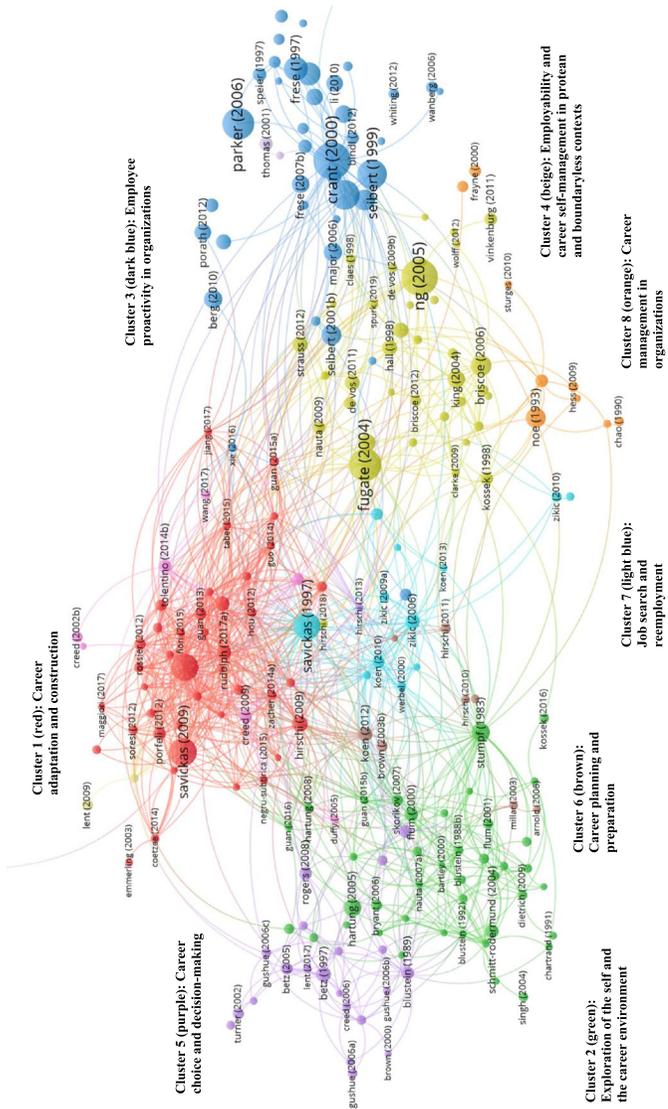
FIGURE 1 Citation network of frequently cited publications. Different colors represent different research clusters to which articles have been assigned. A cluster includes documents that share thematic similarities. To generate a meaningful and clear citation network, this scientific map included articles with at least 40 citations [Color figure can be viewed at wileyonlinelibrary.com]

These adaptability resources, which drive individuals' self-regulation to cope with challenging vocational situations, are likely to be enhanced by trait characteristics reflecting a proactive disposition or carrying core elements as associated with this disposition (e.g. goal, anticipation); these trait characteristics include proactive personality (Jiang, 2017), learning goal orientation (Tolentino et al., 2014), and trait optimism (Rudolph et al., 2017; Tolentino et al., 2014). This line of work appears to be informed by and also to verify Savickas and Porfeli's (2012) assertion that an individual attribute or trait driving career construction and adaptation can be defined to include multiple operational indicators, including indicators that are related to proactive personality. However, although many concepts centered on career adaptation (e.g. adapting, adaptivity, and adaptability) indicate the possibility of proactivity, the literature appears to imply a debate regarding what the components of these concepts are and how they can be more clearly aligned with attributes underlying the conceptualization of proactivity. For example, some concepts such as adaptivity and adapting may also involve passive reactions; this raises the need for future career proactivity research to clear up and/or decompose these concepts to restrict the scope to the proactive nature.

Cluster 2 (green): Exploration of the self and the career environment

Studies in Cluster 2 primarily focus on individuals' career exploration processes in which proactive behaviors may be needed. Distinct from some views of career exploration as part of adaptability and adapting as emerged in Cluster 1, the insights generated from the literature in this cluster focus more on the exploratory behavior itself, by implying its key attributes (e.g. being active, agentic, and change/improvement-driven) that mirror proactivity. Such a behavior involves active internal (self) and external (environmental) exploration processes, which foster a sense of agency (Flum & Blustein, 2000)—a critical marker of proactivity. This stream of literature has reflected a variety of theoretical perspectives such as the social–cognitive view (e.g. SCCT), career maturity theory, attachment theory, social capital theory, self-determination theory, and the development model of identity information. These perspectives have assisted in understanding the influence of social contextual factors (e.g. parenting behaviors; Bryant et al., 2006; Dietrich & Kracke, 2009; Guan, Wang, et al., 2015) and personal characteristics (e.g. personality traits; Nauta, 2007; Schmitt-Rodermund, 2004) on one's active exploration of his or her own qualities and affiliated environments for career development purposes.

Despite the employment of diverse theoretical perspectives, a large amount of research can broadly fit under the umbrella of SCCT, which posits that contextual and individual factors together shape personal agency, which further motivates active career exploration. For example, focusing on proximal contextual factors, researchers have investigated the effects of parental career-related behaviors on university and school students' career exploration (Dietrich & Kracke, 2009; Guan, Wang, et al., 2015). Drawing on self-determination theory, Guan, Wang, et al. (2015) contended that when parenting behaviors as contextual factors fulfill one's need for autonomy, competence, and relatedness, such behaviors could promote students' intrinsic motivation and proactive behaviors in undertaking career activities. They confirmed that positive (i.e. career support) and negative (i.e. career interference and lack of career engagement) parental behaviors could boost and hamper students' active vocational exploration, respectively. This self-determination view could be situated within the larger framework of SCCT to explain proximal contextual influences on active, goal-oriented career actions. Research has also examined individual characteristics such as personality traits (e.g. big five personality), vocational

interests, and motivational states in shaping self-exploration and environmental exploration behaviors (Bartley & Robitschek, 2000; Nauta, 2007). Some of this research has articulated that career exploration shares commonalities with proactivity-related constructs (e.g. personal growth initiative) because they are correlated to potential meta-constructs such as personal agency (Bartley & Robitschek, 2000). Albeit an area extensively studied, research in career exploration is primarily focused on adolescents and emerging adults (Jiang et al., 2019). The neglect of other populations (children and aging groups) has prevented a fuller understanding of the lifespan perspective on active career exploration.

Cluster 3 (dark blue): Employee proactivity in organizations

Cluster 3 is dominated by studies that purposefully investigate employees' proactivity at the workplace and are mostly coming from the proactivity research line in the OB discipline. First, proactive personality—the personality construct that represents how certain individuals are more proactive by nature—has been purposefully linked to career outcomes. For instance, proactive personality has been associated with objective and subjective career success, indicating that those with high proactive personality obtained more promotions, had higher salaries, and were more satisfied with their careers (Seibert et al., 1999, 2001). This personality trait also appears to be associated with other work-related outcomes that have implications on one's career success, such as participation in developmental activities at work, which can be considered as a strong indicator of career development (Major et al., 2006), and higher quality relationships with leaders—a factor that could be important in enabling effective careers within organizations (Li et al., 2010).

In addition to a focus on proactive personality, this cluster is featured by studies on other proactive constructs that reflect the behavioral perspective of proactivity. For instance, generic models that offer integrative conceptualization in understanding proactive behaviors, as well as their antecedents and outcomes, have been frequently cited, as they could offer overarching frameworks for the investigations on career-related proactivity (e.g. Crant, 2000; Parker et al., 2006). Studies on other proactive behaviors have also been frequently cited, such as *personal initiative*—the behavioral tendency to take initiatives to go beyond what is prescribed in one's role (Frese et al., 1997; Frese, Krauss, et al., 2007; Speier & Frese, 1997), *job crafting*—proactive behaviors in aligning one's job to one's preferences (Berg et al., 2010), and *voice*—speaking up to challenge the status quo (Whiting et al., 2012). These proactive behaviors, which are important for individuals' work performance, can also positively contribute to their career development within organizations. Finally, proactivity that is specifically applied to career contexts has been studied, with researchers attempting to uncover antecedents for those proactive behaviors—conceptualized and investigated as a goal-regulation process of behaviors—in pursuing one's career (Bindl et al., 2012), and for those proactive behaviors that concern individuals' undertaking of career development initiatives (Porath et al., 2012). Overall, using both personality-based and behavior-based conceptualization towards proactivity, studies in this cluster offer insights on how employees' proactivity can have meaningful and notable impacts their careers. Nevertheless, it is important to highlight that apart from a few studies (e.g. Bindl et al., 2012; Crant, 2000; Porath et al., 2012; Seibert et al., 1999, 2001), there is a dearth of purposeful and dedicated discussions on concepts in relation to career proactivity. This is in line with an observation we have made in the earlier section when discussing the historical roots of this concept in the proactivity and OB research.

Cluster 4 (beige): Employability and CSM in protean and boundaryless contexts

This cluster draws together studies that center on a number of career constructs, including protean and boundaryless careers, employability, and CSM, which are all underpinned by a strong focus of proactivity and in line with the proposition that an individual's proactivity is crucial for career success (Ng et al., 2005; Spurk et al., 2019). The emergence of these new career concepts was in direct response to a more dynamic and unpredictable landscape of employment during the 1980s and 1990s, which cast new requirements on individuals to actively adapt to changes and effectively take charge of their careers, rather than leaving their career management to the hands of their organizations. Charted by Hall and colleagues (e.g. Briscoe et al., 2006; Hall & Moss, 1998), career perspectives such as the protean career—referring to the mindset of pursuing careers in a self-directed and value-driven way—and the boundaryless career—referring to the mindset of pursuing career in a way that is not limited by organizational boundaries—have been proposed since the 1990s. Other researchers (e.g. Clarke, 2009) drew on these concepts to examine the patterns that employees demonstrate in approaching their careers (e.g. traditional vs. protean/boundaryless careers) and the implication of such patterns on their career development.

What also emerged was the concept of employability, which was "conceptualized as a form of work specific active adaptability that enables workers to identify and realize career opportunities" (Fugate et al., 2004, p. 16). Having a person-centered focus, employability drives active adaptation and might also be underpinned by the concept of proactivity, as it "facilitates movement between jobs, both within and between organizations" (Fugate et al., 2004, p. 16). Other researchers (e.g. Nauta et al., 2009) heeded this concept and empirically explored individual and organizational factors that shape employees' employability orientation. As the employability concept encompasses the individual's career identity (Fugate et al., 2004), studies that purposefully adopt the identity perspective, such as exploring individuals' future work selves, or the self-concepts that represent work-related hopes and aspirations, have been undertaken (Strauss et al., 2012).

CSM is conceptualized as a set of agentic behaviors, such as networking, influencing upwards, and preparing for job mobility, that enable individuals to effectively manage their own careers (King, 2004). CSM behaviors have been conceptualized (King, 2004), as well as found (De Vos, Dewettinck, & Buyens, 2009), to positively influence individuals' career and well-being outcomes. Researchers also suggested that such behaviors should be primarily self-initiated, voluntary behaviors, rather than imposed by organizations (Kossek et al., 1998). Overall, the literature in this cluster reflects a strong focus on those career-related behaviors that lead individuals to proactively take charge of their careers. However, it is worth noting that the broad contexts (e.g. protean and boundaryless contexts) where these behaviors occur are somewhat vaguely defined, and often, these contexts are not theoretically integrated into empirical studies in a clear manner. Thus, how to meaningfully bring contexts into the study of proactive career behaviors may be an area in need of further exploration.

Cluster 5 (purple): Career choice and decision-making

This cluster is centered on a core question of how a career choice/decision is made, through the theoretical perspective of SCCT (Lent et al., 1994). Among the three central elements of SCCT, self-efficacy and outcome expectation, with consistent empirical support (e.g. Gushue

et al., 2006; Gushue & Whitson, 2006), are the two motivators of a career choice/decision (including deciding career interests, Turner & Lapan, 2002) in this cluster. Studies also showed that the salient effect of these two predictors may work through differential mechanisms (e.g. Betz & Voyten, 1997; Blustein, 1989; Brown et al., 2000; Turner & Lapan, 2002). On the one hand, the findings essentially support the basic assumption of SCCT that individuals use their personal agency (Lent et al., 2002) to make career choices and engage in career exploration to fit with their environment in the future, and such a focus shares a similar nature with proactivity. On the other hand, in making career choices/decisions, CSM, as a key concept that reflects the nature of proactivity (e.g. De Vos & Soens, 2008), could be a more useful package to describe the decision-making process. It involves exploring and deciding on career options, searching for work, and negotiating a variety of work transitions. The development of the social cognitive model of CSM (Lent et al., 2017; Lent & Brown, 2013) allowed good integration of the two mechanisms.

Moreover, the dominant role of self-efficacy and outcome expectation in motivating career choice and decision-making also echo the motivational model of proactivity (Parker et al., 2010), concerning the "can do" and "reason to" pathways. Lent et al. (2017) further added to this cluster of research the proposition that positive affect could produce significant effects on the level of decidedness, which echoes "energized to"—the third motivational pathway in Parker et al.'s (2010) model. This affect pathway has been overlooked by most other research in the cluster. Meanwhile, it is important to highlight that most studies in this cluster focus on adolescents, high school students (Creed et al., 2006; Gushue, 2006; Gushue et al., 2006; Gushue & Whitson, 2006), or college students (Betz & Voyten, 1997; Lent et al., 2017), for whom career preparation represents a major developmental task. There is lack of research attention to working adults who may face intensive challenges in the uncertain and changing workplace along with increasingly nonlinear, unstable, and boundaryless careers (Arthur & Rousseau, 1996; Bravo et al., 2017). Thus, career proactivity in a current job and/or organizational setting is an underdeveloped yet potentially promising area in this cluster of research.

Cluster 6 (brown): Career planning and preparation

Like the above cluster, this cluster also mainly targets adolescents, in either high school or college, who are at the stage of preparing for careers and transiting from school to work. Researchers have studied how career planning and preparation behaviors can determine vocational outcomes and future career success (Koen et al., 2012) and make a difference when individuals face challenging events (Hirschi, 2010). The specific behaviors in these critical career stages, such as career information-seeking behavior (Millar & Shevlin, 2003) and developing future occupational intentions (Arnold et al., 2006), are mainly viewed as a planned behavior based on the theory of planned behavior (TPB; Ajzen, 1991). According to TPB, there are three proximal predictors of behavior (Armitage & Conner, 2001): attitude—the sum of a person's beliefs about the outcomes of the behavior in question; perceived behavioral control (PBC)—the extent to which a person believes that the behavior in question is under his or her control; and subjective norm (SN), which reflects a person's perceptions of significant others' evaluations of the behavior. Other than the three core elements of the TPB, Millar and Shevlin (2003) added past behavior to augment prediction, and Arnold et al. (2006) integrated moral obligation and identification to extend the TPB.

Meanwhile, this cluster of research also made efforts to outline the capabilities and/or resources that could contribute to career development of adolescents, in addition to merely predicting specific career-related behaviors. For example, career adaptability, bearing a proactive nature as discussed above, is found to be a useful tool to attain a successful school-to-work transition (Koen et al., 2012). Emotional intelligence, which can be briefly defined as the ability to handle emotions and emotional issues (Law et al., 2004), can positively relate to career decision-making self-efficacy (Brown et al., 2003). Calling, a concept denoting a feeling of being summoned or called to enter an occupation, entails intense self-exploration with high career confidence and engagement (Hirschi, 2011). Clearly, the research efforts are relatively dispersed, without an observable synergy. However, school-to-work transition should be a very critical stage involving plenty of uncertainties and changes (Saks, 2018); hence, career proactivity as a concept could have great potential to facilitate further exploration in this domain.

Cluster 7 (light blue): Job search and reemployment

This cluster of research mainly focuses on how to find a job after involuntary or voluntary job loss. Although different job-search strategies may resolve unemployment and lead to reemployment (e.g. Koen et al., 2010), the process is mainly explained by self-regulation theory (e.g. Kanfer et al., 2001) and TPB (e.g. Hooft et al., 2004). Researchers (e.g. Zikic & Saks, 2009) have also attempted to integrate the two perspectives and major variables of both theories, such as by adopting the social cognitive theory of job-search behavior. Naturally, in this cluster, self-efficacy, both general self-efficacy (Zikic & Klehe, 2006) and job-search self-efficacy (Zikic & Saks, 2009), remains a central variable for the key motivational pathways in job search and successful reemployment.

No one would deny that job loss or unemployment could be among the most difficult work-related situations that an individual may encounter. The prevention of unemployment and improving the quality of reemployment (e.g. Koen et al., 2010), based on the abovementioned cognitivist perspectives, may not be adequate to enable individuals to cope with such difficult times. Hence, this cluster of research also borrows from the career development perspective (Savickas, 1997; Super, 1980), which articulates that adults typically exhibit a certain amount of career adaptability to manage new career-related circumstances and cope with their respective pressures across the life course (Koen et al., 2013). Although these elements scientifically emerged in Cluster 7, there is some overlap with Cluster 1, which concerns career adaptation and construction. For example, the core construct underlying career construction, career adaptability, which has also been conceptualized as an element of employability (Fugate et al., 2004), includes looking around (i.e. career exploration) and looking ahead (i.e. career planning) at different career options (Savickas, 2002). This kind of action course is thus closely aligned with the nature of proactivity, as both focus on active and effective responses to uncertainties in the environment, and they both concern self-initiative, future-oriented actions that inevitably involve possible changes. Therefore, we again observe the deep root of career proactivity in the vocational research stream, although it appears in different forms and/or aspects of career development. Nonetheless, the overlap with Cluster 1 indicates the need to differentiate finer grained contexts when contextualizing career proactivity. For example, this cluster highlights the contexts of job search and unemployment, whereas Cluster 1 attends to a general context where individuals adapt to changes. This again suggests the importance of contextual analysis in studying career proactivity.

Cluster 8 (orange): Career management in organizations

This is a small cluster that captures studies on individuals' career management, mostly within organizational contexts (i.e. organizational career). First, several studies examined employees' behaviors and skills in relation to career management and development at their workplaces. Noe and Wilk (1993) focused on employees' participation in developmental activities at work, conceptualized as active behaviors of continuous learning, and uncovered both individuals' motivations and work environments as important antecedents for such behaviors. Sturges et al. (2010) considered employees' CSM behaviors and highlighted the differences between those behaviors that further one's career within organizations, such as networking and making oneself visible, from those behaviors that further one's career outside organizations, such as mobility and job changes. Frayne and Geringer (2000) focused on self-management training in organizations—a training program that aims at empowering employees to effectively manage themselves, such as through effective goal setting and self-monitoring. Their findings indicate that this training leads to significantly improved behaviors and performance over time.

Other studies in this cluster investigated how individuals' perceptions of their career stages could have implications for their attitudinal and well-being outcomes within workplaces. Focusing on individuals' perceptions of career plateaus, or the points that they reach within their organizations where further promotion is less likely, Chao (1990) revealed that career plateaus had significant negative impacts on employees' job satisfaction, identification with their organization, and career planning for achieving their career goals. Hess and Jepsen (2009) examined how individuals' perceptions of their career stages—categorized as exploration, establishment, maintenance, and disengagement stages—were related to psychological contracts with their organizations, as well as job-related attitudes. It appeared that having a balanced psychological contract (i.e. balanced relational and transactional obligations) is particularly important for the exploration stage, as it leads to higher job satisfaction. Overall, the small handful of studies in this cluster tend to focus on employees' career management and self-perceptions within organizational boundaries. Despite a few exceptions (e.g. Sturges et al., 2010), there seems a general neglect of the implications of within-organization career management for individuals' career proactivity outside the organization. This raises a need for future research to enable a better understanding of career proactivity across organizational boundaries (e.g. via integrating OB and career development perspectives).

TEMPORAL CO-WORD ANALYSIS: DEVELOPMENTAL TRENDS

Procedure

To explore the second research question, which relates to the evolution of key research topics under the intellectual structure of career proactivity, we performed a co-word analysis. The bibliometric method assumes that major key terms or concepts reflecting the core content of a scientific domain can abstractly represent its conceptual structure, and these terms and their links can be visualized to represent the conceptual landscape of this domain (Zhang et al., 2012). Co-word analysis integrates the keywords (i.e. key terms/concepts) that emerged in the dataset and their relationships, and it is based on all texts in the bibliometric records (e.g. the keywords, titles, and abstracts of articles). The network map of keywords generated by

VoSviewer is presented in Figure 2. In addition to illustrating the relationships among these concepts, this map also shows how the scholarly focus evolves or shifts over time, enlightening the developmental trends of the conceptual structure underlying the career proactivity literature. As displayed in Figure 2, each dot represents a keyword, and its size indicates how frequently it co-occurs with other keywords within our sample of primary articles. Linkage between two keywords denotes their co-occurrence in one article. To reduce the bias and noise in the figure, we followed prior researchers (Wu et al., 2021; Zhao & Li, 2019) and manually merged keywords having the same meaning, such as "LMX" and "leader-member exchange"; "OCB" and "organizational citizenship behavior" and "organizational citizenship"; "P-O fit," "person-organization fit," and "organization fit." In addition, we excluded keywords that did not carry substantial meaning in relation to our key research topics, such as "model," "work," and "antecedent." Furthermore, to ensure that the keywords included in our analysis meaningfully contributed to the conceptual structure of career proactivity, we set 10 occurrences as a threshold for inclusion, resulting in the inclusion of 277 keywords in the co-word analysis. Extending traditional co-word analysis, which mainly focuses on the clustered conceptual themes, we took a temporal approach to examine how the dynamics of the scholarly development have progressed over time. Based on the temporal co-word analysis, we identified four major clusters representing the four key phases through which career proactivity research has developed so far.

Phase 1 (−2005): Dominance by career exploration and choice

As per the scientific mapping (Figure 2), Phase 1 (till 2005 or so) is dominated by research on exploration and choice in career development processes. This research stream has deep roots in the seminal work by Stumpf et al. (1983), who developed a comprehensive career exploration survey, which prompted quantitative investigations of career exploratory behaviors. Apart from the influence of Stumpf et al., the research path of career exploration over this period was also largely driven by a series of scholarly efforts by Blustein and colleagues (e.g. Blustein, 1988, 1992, 1997; Blustein & Phillips, 1988; Flum & Blustein, 2000). Their continuous conceptual attempts to clarify the contexts, personal situations or attributes, and motivational processes further strengthened the theoretical base for empirical research on career exploration and choice. The core perspectives stemming from these influential works capture themes that are critical during exploration and choice, such as self-efficacy, decision-making, and expectations. Instead of providing an explicit and direct account of being proactive in vocational development, these perspectives and themes indicate several characteristics (e.g. human agency, active participation, and a future focus) underlying the notion of proactivity that one needs to possess to be effective in exploratory and choice processes (Flum & Blustein, 2000).

Related to these theoretical bases that signal the role of proactivity, the documents accumulated in this phase frequently highlight school-to-work transition as a major context where active exploration and choice occurs. For example, researchers focused on both school students/adolescents (e.g. Kracke, 1997; Santos, 2001; Vignoli et al., 2005), who usually undergo an early, continuous process to develop career interests and identity, and college/university students (e.g. Bartley & Robitschek, 2000; Guerra & Braungart-Rieker, 1999), who prepare for post-graduation careers. Both groups broadly fit into the context of school-to-work transition. Although the former may face the selection of a major for future work, the latter tend to more actively engage in career choice and search. This line of literature also underscores contextual and individual factors that influence one's active career exploration and choice. Environmental

FIGURE 2 Trended network map of key terms. For the visualization purpose, we enhanced the occurrence threshold to 10 times to ensure a cleaner picture, so small dots were unable to be observed in this scientific map [Color figure can be viewed at wileyonlinelibrary.com]

or contextual support and barriers are embodied in the form of, for example, parenting styles (Guerra & Braungart-Rieker, 1999; Kracke, 1997; Schmitt-Rodermund, 2004), peer connections (Felsman & Blustein, 1999; Ketterson & Blustein, 1997), and internship job characteristics (Brooks et al., 1995), whereas individual triggers and inhibitors are captured by personal attributes such as personality (Reed et al., 2004), self-efficacy (Bartley & Robitschek, 2000), interest (Schmitt-Rodermund & Vondracek, 1999), expectations (Flum & Blustein, 2000), and anxiety (Vignoli et al., 2005).

In addition to the abovementioned dominant area in career exploration and choice, this phase started planting seeds for scholarly attention to individuals' broader vocational development progress, in which the role of proactivity has also been mentioned. Scattered efforts have investigated competencies, progression, and success in career settings, and these attempts generally aimed to explore what could promote or prevent individuals' career progress and how this happens. It has been suggested that being proactive rather than passive in competency development and the pursuit of progression and success would lead to smoother career development (Claes & Ruiz-Quintanilla, 1998). Furthermore, emphasizing self-management of careers in boundaryless vocational contexts (King, 2004; Murphy & Ensher, 2001), the literature indicates that individuals' active learning and participation in development activities are key factors that ease barriers and lead to successful forward movement (Allen et al., 1999; Noe & Wilk, 1993). Further reinforcing these factors, emerging topics highlighted interventions (e.g. such as training and mentoring; Kossek et al., 1998; Murphy & Ensher, 2001) that organizations could implement to help people become more active or proactive in achieving positive career outcomes.

Along with these research streams, a further emerging theme, which more explicitly attends to proactivity, relates to individuals' personal initiatives, agency, and mastery that are more bounded within an organizational context. It tends to reflect the manifestations of proactivity at work as beneficial to one's career, for documents relevant to this theme more specifically speak about individuals' proactive behavior (e.g. Crant, 2000; Frese et al., 1996; Raghuram et al., 2003) and proactive personality (Seibert et al., 2001) in the work setting. Although some of them have noted the rising boundaryless career environment and pointed to potential implications of proactivity or personal initiatives on career outcomes (e.g. Frese et al., 1997; Seibert et al., 2001), this body of work in Phase 1 appears to be somewhat separated from the career development literature during the same era, which, as discussed above, centers around exploration, choice or decision-making, and broader self-management of careers.

Phase 2 (2006–2010): A steady transition to broader vocational development progress

According to our bibliometric mapping, documents from 2006 to 2010 (Phase 2) show a progression as well as a transition of research themes that were established or emerged from the pre-2005 literature. The articles in this phase share themes similar to those in Phase 1 (e.g. career choice and exploration; broad vocational development progress characterized by competency, progression, and success; and manifestations of proactivity at work). Therefore, the lines of early inquiry continued to constitute the overall skeleton of career proactivity research during this period. However, this skeleton steadily evolved into a different shape. Specifically, documents concentrating on choice and exploration appeared to progress relatively slowly as compared to the previous phase, whereas articles that address broader vocational development

progress climbed up to dominate the field, accounting for approximately half of the key literature. The scale of attention to the manifestations of proactivity at work remained largely unchanged.

As the dominant focus transitioned to broader vocational development progress, research in Phase 2 is featured by increased academic attention to topics such as competency building, goals, and self-management strategies that drive individuals' forward movement towards successful careers (e.g. Abele & Wiese, 2008; De Vos, Dewettinck, & Buyens, 2009; De Vos & Soens, 2008; Kuijpers et al., 2006). These studies continuously signaled the need to be proactive in undertaking effective approaches to achieve career progression, and a few articles explicitly spelled out how proactive career behaviors (e.g. career planning and networking) would contribute positively to career success, in both early (De Vos, De Clippeleer, & Dewilde, 2009) and late (Baruch & Quick, 2007) career stages. Overall, this line of research shares a commonality in the emphasis on the purpose of being proactive (e.g. actively building or learning skills, setting goals, and managing a career self), which is to progress and succeed in career development. Empirical studies have often situated this career-oriented, purpose-driven proactivity in contexts, such as career transition for graduates (e.g. school-to-work; De Vos, De Clippeleer, & Dewilde, 2009) and career changers (Clarke, 2009), employee development in organizations (De Vos, Dewettinck, & Buyens, 2009; Kuijpers & Scheerens, 2006; Sturges et al., 2010), and employability enhancement (Nauta et al., 2009; Rothwell et al., 2009). It is useful to point out that studies in this line concerned both bounded (e.g. a specific organization) and boundaryless (beyond a job in a particular organization) settings; yet research in bounded contexts (Kuijpers & Scheerens, 2006) also started taking a broader perspective to view employees as career builders versus merely as job occupants.

Scholarly efforts into career choice and exploration continued, although these were no longer in the dominant position as compared to Phase 1. The previous avenues of career proactivity research evolved from the perspectives of vocational choice and exploration largely continued their trajectories, such that they continued to offer insights into individual agency (Porfeli et al., 2008) and active engagement (Krieshok et al., 2009), which implicitly yet meaningfully depict career proactivity. As in Phase 1, the literature on career exploration and choice between 2006 and 2010 placed a heavy emphasis on the contexts of school-to-work transition, focusing on career development of adolescents, youth, and early adults (e.g. college students); it also continuously underscored important factors such as parents (Dietrich & Kracke, 2009; Emmanuelle, 2009) and individuals' personality, self-efficacy, and interests (Jin et al., 2009; Nauta, 2007).

The research line alongside the manifestation of proactivity in the workplace as a career-relevant phenomenon remained in this period. The scale and topics of this line of work were relatively steady. Notably, personal initiatives at work continued to be an important perspective that researchers adopted to examine employees' career development and career management processes. For example, documents in this area strived to answer questions in relation to how self-initiation leads to positive career outcomes (Blickle et al., 2009; Den Hartog & Belschak, 2007) and how workplace characteristics promote personal initiatives (Frese, Garst, & Fay, 2007).

Phase 3 (2011–2015): A swift shift to career adaptation

As research avenues featured in the previous stage continued, documents between 2011 and 2015 (Phase 3) showed a swift shift to a focus on individual adaptation in career development processes. Major constructs surrounding the adaptation process, which include adapting,

adaptivity, and adaptability, are embedded in the career construction theory (Savickas, 2002, 2005)—the key theoretical perspective guiding the empirical studies during this phase. This shift was stimulated by the Savickas and Porfeli's (2012) measure of career adaptability, which has been validated around the world (e.g. Hou et al., 2012; Porfeli & Savickas, 2012; Pouyaud et al., 2012; Rossier et al., 2012; Soresi et al., 2012; Teixeira et al., 2012; van Vianen et al., 2012). Researchers in this phase, meanwhile, emphasized the role of career adaptability in directing individuals to construct and develop careers, and they devoted efforts to investigating associated adaptation processes, in which one needs to be agentic, active, and purposeful. For example, Guan and colleagues (Cai et al., 2015; Guan et al., 2013; Guo et al., 2014) highlighted how and under what conditions adaptability (or lack of adaptability) could influence constructs denoting active behaviors or behavioral tendencies, including job search (Guan et al., 2013, 2014), exploration (Guan, Wang, et al., 2015), developing competencies (Guo et al., 2014), and forming career-related intentions (e.g. turnover intention) (Guan, Zhou, et al., 2015). Key findings suggest that career adaptability equips one with self-efficacy, triggers career calling, and shapes career well-being, thereby allowing an individual to plan or execute vocational behaviors. The work by other scholars (e.g. Negru-Subtirica et al., 2015; Tolentino et al., 2013; Zacher, 2014) similarly focused on the relationships of career adaptability with career behaviors and progress.

Despite these theoretical and empirical advancements on career adaptability, few studies have directly addressed the proactive nature of vocational adaptation, except for scattered empirical attention paid to the positive link between proactive personality and career adaptability (Cai et al., 2015; Tolentino et al., 2014). In the career or vocational adaptation process, goal-oriented, ability-driven, and energy-boosting self-construction is essential to make an individual a personal agent who directs and regulates his or her own actions (Savickas, 2013). It appears clear that proactivity, which involves individual agency and goals, should be a key construct that enables successful career adaptation. Although research in this period has linked career adaptability to a series of career-relevant behaviors and outcomes, which may be interpreted as having a proactive nature, a clear focus on career proactivity remains hidden in this line of investigation.

Other themes more or less continued their development as in previous phases. First, topics relating to proactivity in career choice and exploration still centered around personal agency, active engagement, and planning and were still largely driven by SCCT (Lent et al., 1994) and its derivations (e.g. Lent & Brown, 2013). Although under continuous investigation in career contexts that require proactivity, such as for university students (Guan, Wang, et al., 2015) and the unemployed/underemployed (Blustein et al., 2013), these topics appeared to have reached a ceiling point in generating new knowledge. To break this ceiling, empirical attempts (e.g. Guan, Wang, et al., 2015) were made to link exploration to career adaptability, a newly growing area in this time period. Second, the theme focusing on broader vocational development progress, which burgeoned in Phase 2, went on to showcase topics of competency development (Akkermans et al., 2013), self-management (Direnzo et al., 2015), and coping with career environments (Briscoe et al., 2012) that contribute to career success in general (De Vos et al., 2011) and to difficult circumstances (Seibert et al., 2013). Being proactive is largely reflected in these topics, although more explicit examination is warranted. Third, this phase continued to witness research endeavors on the manifestation of career proactivity in a bounded/organizational context (and occasionally in a boundaryless setting). Although the volume of this research appears to be small, compared to previous phases, these endeavors stepped closer to the explication of proactivity in career-specific behaviors, such as career-related proactive goal regulation (Bindl et al., 2012), career development initiative (Porath et al., 2012), and active adjustment in organizational socialization (Fang et al., 2011).

Phase 4 (2015–): The continuing story of adaptation and proactivity

The bibliometric map presents a clear picture (yellow) for Phase 4 (after 2015) flagged by research on career adaptability, which is extended from the prior phase. Because this phase is very recent, it would still take time for bibliometric citations to sculpture a more mature frame that demonstrates the most influential works that have shaped and directed the research lines. The literature in this phase is slowly accumulating to articulate topics on career competencies and crafting (Akkermans & Tims, 2017), the roles of career agency on vocational success (Spurk et al., 2019), and self-management of career exploration and choice (Lent et al., 2016). These topics are mainly a reflection and continuation of scholarly conversations occurring in previous phases.

What has been noteworthy is that the field continues with the story of career proactivity along with the research line of career adaptation, which is driven by career construction theory (Savickas, 2002, 2005). The documents linking proactivity to career adaptation processes echoed our earlier arguments that being proactive and agentic is essential for an individual to progress and succeed in constructing a career. Studies have attempted to integrate trait proactivity, which was also attended to in previous phases (e.g. Tolentino et al., 2014), and behavioral proactivity, to answer questions concerning how to achieve best career adaptation results. For instance, Jiang (2017) reported that proactive personality would foster one's thriving experiences to help the individual gain career adaptability resources. Two important reviews on career adaptability have posited trait proactivity as a fundamental attribute of adaptive readiness, and behavioral proactivity as an adapting response during career adaptation or construction (Johnston, 2018; Rudolph et al., 2017). Specifically, in conceptualizing the framework of their meta-analytical review, Rudolph et al. (2017) demonstrated that proactive personality, due to its facilitation in the acquisition of adaptability resources, could trigger adapting responses such as career planning and exploration. Extending this perspective, Johnston expanded the scope of adapting responses to explicate proactive career behaviors, including proactive skill development and proactive networking behavior.

Despite wandering the various research avenues in the investigations of career adaptability, career proactivity itself has long been denied the role of protagonist that it deserves. As it surfaces in the career adaptability research, some researchers have recently placed career proactivity in the center of the adaptation process. For example, Klehe et al.'s (2021) model of career adaptation and proactivity emphasizes that the situation and individuals' personal adaptivity (e.g. trait proactivity) collectively drive their proactive motivations (e.g. "reason to," "can do," and "energized to" motivational pathways), which further guide career-related actions towards positive career development. Although, as highlighted previously, this model is limited to a relatively narrowed context and, due to its recency, still needs to undergo a test period to verify or extend its applicability, it has set a promising example that concentrates on, rather than vaguely hints at, career proactivity.

A FUTURE RESEARCH AGENDA ON CAREER PROACTIVITY

As reviewed above, many diverse concepts have been studied and can be understood under the umbrella of career proactivity. Its core intellectual structure, manifested by the eight major research clusters (citation analysis), has underscored specific forms of proactivity, either explicit or implicit, as well as various contexts where proactivity is present. As shown in our temporal

co-word analysis, key themes captured in the eight citation clusters have been evolving and dynamically changing over time. Despite various approaches to understanding career proactivity, it is still premature to argue that it is a standalone research area because of the scattered concepts and unintegrated research programs. To move forward and establish career proactivity as a research area, there are several challenges to be overcome in future research.

Cleaning up concepts

There is a need to clean up concepts in the career proactivity literature. Although proactivity can be used as a unifying concept, we cannot fully understand individuals' career proactivity without understanding the differences between the diverse concepts that have been studied so far. There are two problems with the concepts in career proactivity research: construct redundancy and the confusion between a concept and a process.

Regarding construct redundancy, as we summarized in Table 1, we can easily see that concepts such as proactive career behavior, CSM, and career adaptability are multi-dimensional concepts involving common, though not exactly the same, dimensions. Those overlapping concepts may reflect a jangle fallacy, which refers to "the belief that things are different from each other because they are called by different names" (Pedhazur & Schmelkin, 1991, p. 74). Studying overlapping concepts can generate several problems. First, it can create unnecessary proliferation of constructs (Pedhazur & Schmelkin, 1991; Singh, 1991) and difficulty in summarizing and interpreting research findings because researchers cannot tell the commonalities and differences across those studies. Second, it undermines the efficiency in accumulating knowledge in the literature, as scholars may conduct redundant work to study the same or similar phenomena (Le et al., 2010). This redundancy poses "a problem if we take parsimony in scientific explanation seriously" (Schwab, 1980, p. 25). Regarding the confusion between concepts and a process, we observe that concepts, such as personal growth initiative and CSM, cover cognitive and behavioral subconcepts that reflect different activities at different stages in a career goal-regulation process. When those subconcepts are put together under a broad concept, their temporal meanings in a goal-regulation process are brushed off. Consequently, studying those broad concepts could prevent us from understanding how (i.e. the process) people regulate themselves to proactively approach their career goals.

One approach to addressing these two problems is to use a bottom-up approach to first break down the existing concepts into subconcepts, as appropriate, and then conceptually clarify their meanings from a goal-regulation process perspective, a fundamental theoretical lens shared by different research traditions as reviewed earlier. Specifically, based on a goal-regulation process perspective, we suggest that differentiating subconcepts based on their cognitive, motivational, or behavioral nature will help capture activities at different stages in a goal-regulation process, which will then help delineate a process of how individuals identify a career goal, motivate themselves for goal striving, and take specific actions to approach the goal. For example, we argue that career planning is a cognitive concept that captures individuals' mental activities and information processing in career goal generation, whereas career efficacy or confidence can be regarded as a motivational concept that reflects an individual's capability to approach career goals. Concrete proactive career actions, such as networking and acquiring new skills, are behavioral concepts that depict behaviors that individuals can take to achieve their career goals. In addition, empirical differentiations between measures of those concepts should also be established (see Morrow, 1983; Pedhazur & Schmelkin, 1991; Singh, 1991;

Tornau & Frese, 2013, for examples). By mapping specific career proactivity subconcepts onto different stages in a goal-regulation process and establishing the discriminant validity of the measures, we believe that research on career proactivity can be better integrated from the shared theoretical lens in different traditions.

Integrating context into career proactivity

Another important task for future research is to escalate and refine the focus on contexts in career proactivity research. As we reviewed earlier, the manifestation of career proactivity can vary with context (implied by the identified research clusters). To date, although the need to contextualize proactivity has started to be flagged in careers research, in many cases, the study of career proactivity has neglected some key contexts. For example, career proactivity literature has largely centered on the active pursuit of career goals and advancement in adolescents (e.g. secondary school students choosing majors and engaging in academic goals), early adulthood (e.g. university students transitioning to job markets), and established adulthood (young and mature adults seeking career progression) (Jiang et al., 2019). However, career is a lifespan concept, one which covers various stages that go beyond adolescence and early/established adulthood, and it involves a broader range of differential career and life roles across contexts (Jiang et al., 2019; Super, 1980). The field of career proactivity and its subdomains are currently left behind in terms of responding to the vocational development contexts facing children and old populations. The importance of proactivity starts from interest development (e.g. what one wants to do and who one wants to be in the future) at an early age as a child and persists throughout the course of one's entire career (Lent & Brown, 2013; Watson & McMahon, 2008). Future research is warranted to bring a lifespan focus to the conceptualization and empirical investigation of the nature of career proactivity, its contextual triggers, and its roles in meaningful career development.

In addition to this neglect of some key time-bounded contexts, current career proactivity research falls short of recognizing or establishing the connections and interplays among diverse contexts (e.g. social networks, economic environments, professional climates, and individual conditions). The current basis for identifying, integrating, ruling out, and analyzing contexts that trigger, or are shaped by, career proactivity (or its subdomains) is weak. This basis has been largely informed by popularly referenced, broadly defined career theories (e.g. SCCT and career construction theory) (Lent et al., 1994; Savickas, 2002), which, in most cases, highlight individual contexts, the person–context interactions, and the ways they drive career-related behaviors or cognitions. Although it should be acknowledged that these "big" theories provide a relatively simplified way to contemplate how contexts can influence career proactivity (e.g. via interacting with personal characteristics), these theories may not offer sufficient insights regarding how career contexts are interconnected and how this connection affects proactivity. Also, focusing more on the influence of contexts on career cognitions and behaviors, these theories do not lend insights on how contexts can be accurately identified and conceptualized. To advance this area, we call for future research to use a more systematic and structured approach to analyzing and integrating contexts into the proactivity process in career development. For instance, one important consideration in identifying and theorizing the nature of contexts is to consider when and where the benefits of career proactivity could be maximized and the costs minimized, and such a consideration is crucial to ensure that individuals' career proactivity is wise and can lead to positive career outcomes (Parker et al., 2019).

Although there are diverse approaches that may fit a specific research topic, the social chronology framework (Gunz & Mayrhofer, 2015) can be a useful tool that helps researchers identify and organize appropriate contexts into career proactivity research. The social chronology framework proposes that career studies should consider the domains of space and time when accounting for the context where one (the ontic or focal individual whose career is under consideration) is attached (Gunz & Mayrhofer, 2018). Drawing upon the spatial and temporal perspectives under this framework, researchers may identify relevant contextual characteristics of career proactivity. The *spatial* perspective focuses on the social space where one's career develops; stresses the need to form a map of key features of this social space based on a specific research question and its core theoretical foundation; and requires the use of boundaries to differentiate a particular space (characterized by a key feature) from others, which need not be analyzed (Gunz & Mayrhofer, 2015). For example, we may contend that a context (social space) within which children may shape proactive, career-oriented mindsets at an early age is their family. A map of career-relevant contextual features of family (e.g. a study room full of career-related books, parents' occupations, parents' active guidance in interest development, and parents' support in skill building) could be defined based on a focal research question (e.g. How does a family climate influence children's career proactivity?) and its underlying theory (e.g. a theory emphasizing social interaction). Drawing boundaries to distinguish the social spaces characterized by these contextual features, one may include parents' active guidance in interest development and parents' support in skill building, as these two more directly involve social interaction. The temporal perspective requires consideration of how these individuals transition across these boundaries and/or social spaces over time. For instance, as children's interests become increasingly well developed, there might be a transition of contextual boundaries from parents' guidance in interest development to parents' support in skill building; in this case, the latter might become more important over time. The spatial and temporal perspectives are interdependent, as the most prominent or relevant social spaces that shape or are shaped by a vocationally proactive individual can change over time. Integrating temporal and spatial perspectives could help narrow the focus and accurately identify relevant contexts, boundaries, or social spaces (Gunz & Mayrhofer, 2015, 2018).

Bridging OB and vocational development traditions

Our bibliometric analysis also reveals a need for future research to build a stronger bridge between the OB literature and the vocational development literature to further advance our understanding of career proactivity. The results of our bibliometric analysis indicate a visible demarcation of these two streams of research. Specifically, although most of the themes we identified were formed by studies from the vocational development literature, a clearly distinguishable theme on employee proactivity emerged, which mostly reflects research endeavors in the OB discipline. Such distinction is also demonstrated in Figure 1, which shows that most research from the OB discipline was clustered together (i.e. the dark blue cluster) and displayed only weak relationships with the vast majority of other studies, which mostly came from the vocational development research. It is thus fair to state the observation that the two streams of research have been conducted in somewhat separate pursuits with little dialog between them, despite often studying similar and/or highly related concepts.

Better integration of the two streams would enable insights to be leveraged from each other and further enrich our understanding of this unique concept. As we have noted earlier, career

proactivity has not been given sufficient attention by OB researchers, who tend to merely treat it as a different and somewhat less prominent context (i.e. the career context, as opposed to the work context) where individuals' proactivity is being applied. This approach has to some extent diminished the value of this construct. We call for OB researchers to actively learn about the deep roots of this concept in the vocational development literature, which can help bring in new perspectives to their investigations. For instance, compared to OB, vocational research is more person centered and often adopts a long-term and sometimes lifespan perspective to understand individuals' continuous pursuit of their careers across different career stages (Klehe et al., 2021). OB researchers can draw on these perspectives to apply a more within-person approach in studying proactive career behaviors and to conduct more longitudinal studies in capturing individuals' career trajectories as associated with their proactive career pursuits (e.g. Sonnentag, 2016; Spurk et al., 2020). Additionally, the constructs related to career proactivity being studied by OB researchers appear far less systematic and comprehensive than those studied by vocational development researchers (e.g. see Table 1 in this paper for an illustration). Hence, drawing on a wider array of constructs that are related to or can be categorized under this umbrella concept would enable more holistic investigations spanning a much broader literature and evidence base.

Although studies on constructs related to career proactivity in the vocational development literature are abundant, there could still be useful conceptual frameworks and empirical evidence from the OB discipline that can lend further insights to vocational researchers. As a recent example, in their conceptual review of career adaptation and career proactivity, Klehe et al. (2021) purposefully integrated Parker et al.'s (2010) motivational framework towards proactivity—a model developed from the proactivity research in the OB discipline—into the career literature. This integration allowed them to articulate how the three different motivational states—"reason to," "can do," and "energized to"—can offer a theoretically meaningful framework that brings together a wide range of proximal antecedents for career-related actions inclusive of career adaptation and career proactivity. This example demonstrates how cross-fertilization between the two disciplines could occur, yielding insights that expand conceptual models developed in the vocational literature and provide more nuanced understanding towards the career proactivity concept.

Developing new theories

As indicated throughout the current work, the careers literature does not readily offer a theory that specifically guides career proactivity research. The theories drawn from the OB stream come from the general proactivity literature (e.g. goal-regulation process towards proactive goals, Bindl et al., 2012; the motivational framework towards proactivity by Parker et al., 2010), which mainly apply to proactive work behaviors that are situated within organizational context and hence do not fully apply to all career-related contexts, such as school life, school-to-work transition, and unemployment. Although the vocational research stream contributes useful career theories such as SCCT (Lent et al., 1994) and career construction theory (Savickas, 2002), these are "big" theories that apply to general career behaviors rather than specifically address career behaviors with a proactive nature. For career proactivity research to develop an independent standing, it is necessary to purposefully develop theories that can capture the uniqueness of this construct.

We advocate for the development of meso-level theories and frameworks that could offer more comprehensive and integrated understanding of the key driving factors in individuals' proactive career cognitions, affects, and behaviors. Meso-level theories and paradigms stand in the middle between micro- and macro-theories, assisting in the construction of cross-level linkages between micro- and macro-level phenomena (House et al., 1995). Such theories can be particularly useful for career proactivity studies, where contexts that facilitate or hinder such behaviors can often be a meso-level variable rather than a micro-level variable—if we consider factors such as unit-level structure, resources, and support, regardless of whether such units refer to schools, universities, or organizations (either organizations that individuals work for or organizations that provide career services to individuals). Although the currently utilized theories of career and proactivity research have taken contexts into account (e.g. SSCT, career construction theory, and motivational framework of proactivity), the focus on meso-level constructs and potential cross-level influence has not been explicitly highlighted or categorized in these theories, and accordingly, the empirical studies that have been conducted in light of these theories often stand at the individual-level only. Such an approach is appropriate only in situations where all study variables and their interrelationships are entirely at the individual level, but would fail to disentangle the nuances where the focal concepts are at the unit level and the relationships are either meso-level or cross-level by nature. Therefore, purposeful explication of theoretical frameworks at the meso-level appears a crucial step to further advance research in career proactivity research specifically and career research in general.

CONCLUSION

Studied in various forms, career proactivity as a construct has emerged from diverse research streams, such as vocational development and OB, as well as their subdomains. Although this diversity has broadened our insights regarding career proactivity, no comprehensive review has depicted its full research landscape. This gap in the literature has limited our knowledge of the underlying intellectual structure and trending themes of this field, thereby constraining career proactivity research from proceeding in a clear and meaningful direction. To address this gap, we implemented two major bibliometric analyses, citation analysis and co-word analysis, to visualize the intellectual bases and the development trends that have shaped the current career proactivity research. Based on our bibliometric results, we derived four major research directions that are likely to theoretically advance career proactivity research. Specifically, we call on future researchers to (1) clarify the concepts underlying career proactivity (e.g. map subconcepts against stages of goal regulation, which drive the proactivity process), (2) bring appropriate contexts by integrating both spatial and time perspectives, (3) extend beyond macro-career theories and develop meso-level theories that more directly capture the career proactivity process, and (4) build on these grounds to bridge OB and vocational development approaches to studying career proactivity. We hope that our findings and suggestions presented in this paper can spark improved theoretical and empirical endeavors to advance the field of career proactivity.

CONFLICT OF INTEREST
The authors declare that they have no conflict of interest.

ETHICS STATEMENT
This work has been conducted in line with international ethical standards.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

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ENDNOTE

[1] According to proactivity literature, "personal growth initiative" is also a kind of important individual proactive behaviors aiming at career and self-development. Hence, in addition to the keywords listed above, we also include "personal growth initiative*."

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