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Resilience and Career Adaptability Among Students: A Systematic Review of Associations and Proposed Mechanisms

Melati Septiani[1], Olievia Prabandini Mulyana[2*]
[1,2]Universitas Negeri Surabaya, Surabaya, Indonesia

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ABSTRACT

Purpose: This review synthesizes empirical evidence on the association between resilience and career adaptability among students, examining how the direction of the relationship has been modeled and tested and which mechanisms have been proposed. Prior findings are inconsistent, and resilience is often analyzed within composite psychological constructs. **Method:** Following PRISMA 2020, we searched Scopus, PubMed, and ERIC on 19 October 2026 (69 records) and screened the reference lists of included studies. After deduplication and two-stage screening, 20 studies (N = 14,763) met the eligibility criteria. Quality was appraised with the JBI critical appraisal checklist, and findings were synthesized narratively, distinguishing directly estimated paths, indirect effects, and bivariate associations. **Findings:** Seventeen studies were cross-sectional and three longitudinal. Nine studies modeled a forward association from resilience to career adaptability: five with a directly estimated path, two without a reported path coefficient, and two through hope or career decision self-efficacy. Five cross-sectional studies specified the reverse direction without testing the alternative, two longitudinal studies found reciprocal relationships, three reported associations only, and one found no unique association after adjustment. Fourteen studies were rated as providing higher methodological confidence. **Research Implications:** The evidence supports a consistent positive association but cannot establish causal direction. Combining resilience-building with hope- or self-efficacy-focused components is a hypothesis for intervention research rather than an evidence-based recommendation. **Originality:** This review examines resilience as a distinct construct and separates directions that were tested against alternatives from directions that were only specified in a single model.

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INTRODUCTION

Moving from education to the workforce is a challenging developmental period that requires psychological readiness to navigate the complexities of an ever-changing job market. Career and work-related interventions were developed to ease this transition and have been shown to increase career readiness, academic performance, and psychosocial resources, including resilience and career adaptability (Eze et al., 2026). Career adaptability, conceptualized within Career Construction Theory as a set of four self-regulatory processes (concern, control, curiosity, and confidence) through which individuals negotiate career transitions and respond to emerging professional demands (Savickas, 2005; Savickas & Porfeli, 2012; Wang & Li, 2024) has become a central construct in this literature: across ninety studies using the Career Adapt-Abilities Scale (CAAS), it consistently relates to self-esteem, optimism, career exploration, decision-making self-efficacy, and job and life satisfaction (Rudolph, Lavigne, & Zacher, 2017), with each of its four subscales independently predicting these outcomes (Rudolph, Lavigne, Katz, et al., 2017).

The stakes of this transition are shaped by the labor-market context in which it occurs. In developing economies such as Indonesia, graduates often face a mismatch between their education and available job opportunities (Paramitasari et al., 2024; Wicaksono et al., 2023), while school-based career guidance services continue to face gaps in counselor training and role definition (Larran & Hein, 2024), making the psychological resources that help individuals cope with uncertainty and revise career plans especially consequential. This urgency has intensified as the post-pandemic labor market has grown markedly more volatile and as the accelerating adoption of artificial intelligence and automation destabilizes the assumption that a fixed set of

technical competencies will remain relevant, placing greater demand on psychosocial resources that allow students to reorient rather than simply acquire new skills. Under these conditions, recent studies treat resilience, defined as a person's capacity to adapt and respond to adversity, stress, and risk exposure while maintaining well-being under uncertainty (Masten, 2014), as a core mechanism through which students navigate an increasingly unpredictable transition into work rather than as a peripheral trait. Indonesia is used in this review as a motivating context rather than as the scope of the evidence: because primary studies of this relationship have largely been conducted elsewhere, it is necessary to establish what the international evidence can and cannot support before its implications are transferred to Indonesian guidance services.

Theoretically, resilience and career adaptability are argued to be interrelated resources: from a systems theory perspective, McMahon & Abkhezr (2025) identify the capacity to withstand adverse conditions as underlying career adaptability, while Conservation of Resources theory frames resilience as a resource whose accumulation promotes the development of adaptive capacities such as career adaptability (Hobfoll et al., 2018). Empirical support for this relationship spans diverse student populations and contexts. Among students in high-stress professional training pathways, resilience and career adaptability have been found to be mutually predictive over time in Chinese nursing cohorts (J. Zhang et al., 2023), while among vocational high school students, resilience mediates the effect of career-related parental support on the four dimensions of career adaptability (Zeng et al., 2023). Across university student populations in different cultural settings, resilience has been shown to predict career adaptability directly, to transmit the effect of perceived social support on career adaptability, and to operate through career decision self-efficacy, in Turkey (Buyukgoze-Kavas, 2016; Kirikkanat, 2023), including in a two-wave half-longitudinal design (Alkal, 2025), and in Malaysia (Asok Kumar et al., 2025). Resilience has also been examined as one of several psychological capital components predicting job readiness through the mediating role of career adaptability among Chinese undergraduates (Tang et al., 2026), and as a protective resource among new graduates navigating the disruption of the COVID-19 pandemic (He & Yu, 2022).

Despite this accumulating evidence, what remains unclear is not whether resilience and career adaptability are related, but the specific and directional nature of that relationship. The direction is inconsistent across studies: several specify career adaptability as a predictor of resilience rather than the reverse, among middle school students (Santilli et al., 2020), Chinese adolescents (C. Xu et al., 2020), and nursing interns (Y. Xu et al., 2026), while few studies have formally tested reciprocal directionality using cross-lagged designs (Sun & You, 2026; J. Zhang et al., 2023) and only one other study has longitudinally tested a forward pathway from resilience to adaptability through a mediator, career decision self-efficacy (Alkal, 2025). Compounding this, resilience is frequently subsumed within broader composite constructs such as Psychological Capital or Intrapreneurial Self-Capital (Chua et al., 2019), obscuring whether resilience specifically, rather than the composite resource, predicts career adaptability; studies in which career adaptability and resilience are linked only indirectly through a third variable, without a test of the relationship between the two constructs themselves (Rivera et al., 2021), or treated as a co-occurring resource within a person-centered profile rather than a predicted outcome (Parola & Marcionetti, 2025) fall outside what this evidence base can currently clarify. Because resolving this directionality and specificity is a precondition for designing resilience-focused career interventions with confidence, and because the relevant evidence remains fragmented across populations, constructs, and designs, a systematic synthesis is warranted.

Existing evidence syntheses do not resolve these questions. A meta-analysis of studies using the CAAS pooled bivariate correlations between career adaptability and broad categories of adaptivity, adapting response, and adaptation results (Rudolph, Lavigne, & Zacher, 2017), and a companion meta-analysis linked the four adaptability dimensions to adaptation results (Rudolph, Lavigne, Katz, et al., 2017); both pooled correlations, so neither could address how the direction of the resilience–career adaptability relationship has been modeled. A systematic review of the career adaptability literature mapped its conceptualization, measurement, antecedents, and outcomes without focusing on resilience (Johnston, 2018), and a recent systematic review of career and vocational interventions treated resilience and career adaptability as parallel intervention outcomes rather than as related constructs (Eze et al., 2026). The searches conducted for the present review likewise identified no systematic review or meta-analysis focused on the association between resilience and career adaptability among students. The contribution of this review is therefore specific rather than general: it examines resilience as a distinct construct, separates directions that were tested against alternatives from directions that were specified in a single model, and weighs the evidence by methodological quality.

This review focuses on students rather than working individuals because students are approaching or undergoing the transition from education to the workforce and typically have not yet developed stable strategies for managing career-related challenges, making them particularly receptive to psycho-educational intervention. This rationale is consistent with evidence that college graduates' career adaptability follows distinct developmental trajectories during the school-to-work transition (Fu et al., 2023). Despite extensive separate research on resilience and career adaptability, to our knowledge, no existing systematic review has isolated resilience as a distinct construct in relation to career adaptability among student populations, disentangled its contribution from broader

composite constructs, or mapped the mechanisms linking the two across this fragmented literature, a gap that matters for career counseling programs that combine resilience-focused and career adaptability components (Zammitti et al., 2023). This study therefore aims to synthesize empirical evidence on the relationship between resilience and career adaptability among students, with particular attention to how its direction has been modeled and tested and which mechanisms have been proposed. Specifically, it addresses four research questions: (RQ1) How strongly is resilience associated with overall career adaptability among students, and what evidence is available for its four dimensions of concern, control, curiosity, and confidence? (RQ2) In which direction has the relationship been modeled, which directions have been tested against alternatives, and what does the available longitudinal evidence indicate? (RQ3) What mediating and moderating mechanisms have been examined in explaining this relationship? (RQ4) What implications and research priorities does this evidence suggest for career guidance in educational settings, and to what extent can they be transferred to developing labor-market contexts such as Indonesia?

METHOD

Research Design

This study used a Systematic Literature Review (SLR) design, following the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA 2020) guideline (Page, McKenzie, et al., 2021; Page, Moher, et al., 2021), to ensure the identification, screening, and selection process was transparent and replicable. PRISMA was used strictly as a *reporting guideline*, not as a study quality-assessment instrument. This design was selected because this review aims to narratively synthesize findings from empirical studies examining the relationship between resilience and career adaptability among student populations. The review protocol was not prospectively registered in PROSPERO or the Open Science Framework. The absence of a registered protocol is acknowledged as a limitation; to support transparency, the following documentation is provided as supplementary material: the exact search strings, interfaces, fields searched, limits, search dates, and number of records retrieved per database (Supplementary Table S1); the full-text reports excluded, with reasons (Supplementary Table S2); and the item-level quality appraisal with a justification for every rating and the confidence classification by direction of the relationship (Supplementary Table S3).

Search Strategy

The literature search was conducted on 19 October 2026 in Scopus, PubMed, and ERIC (eric.ed.gov). It updated and expanded an initial search run on 24 September 2026: the population block was broadened to capture adolescents, youth, trainees, and interns, and the resilience and career adaptability blocks were harmonized so that the same three concept blocks (resilience, career adaptability, and student populations) were searched in every database (Table 1). In Scopus, terms were searched within article titles, abstracts, and keywords (TITLE-ABS-KEY); in PubMed, within titles and abstracts ([Title/Abstract]); and in ERIC, within the default bibliographic fields. Because truncation is not reliably supported in eric.ed.gov, term variants were written out in full for the database. Records were limited, using each database's built-in filters, to English-language journal articles published between 2016 and 2026, an approximately 10-year window intended to capture contemporary evidence on students' school-to-work transitions. PsycINFO and Web of Science were also considered, but they could not be searched because the authors' institution does not subscribe to them. Scopus was used as the main source because it is a large multidisciplinary database covering psychology, education, and career guidance journals; PubMed was added to capture studies of nursing and other health-professions students, a population frequently sampled in this literature; and ERIC was added to capture education and guidance journals. Backward citation searching was used to partially offset the absence of PsycINFO and Web of Science, and the possible effect of this coverage gap is considered in the Limitations. To reduce the risk of missing relevant studies, the reference lists of all studies included from the database search were screened (backward citation searching).

Table 1. Search String

Database	Search String
Scopus	TITLE-ABS-KEY (resilien*) AND TITLE-ABS-KEY ("career adaptab*" OR "career adapt-abilit*") AND TITLE-ABS-KEY (student* OR undergraduate* OR pupil* OR adolescen* OR youth* OR "young people" OR "young adult*" OR trainee* OR intern OR interns OR internship*)
PubMed	(resilien*[Title/Abstract]) AND ("career adaptab*"[Title/Abstract] OR "career adapt-abilit*"[Title/Abstract]) AND (student*[Title/Abstract] OR undergraduate*[Title/Abstract] OR pupil*[Title/Abstract] OR adolescen*[Title/Abstract] OR youth*[Title/Abstract] OR "young people"[Title/Abstract] OR "young adult*"[Title/Abstract] OR trainee*[Title/Abstract] OR intern[Title/Abstract] OR interns[Title/Abstract] OR internship*[Title/Abstract])

Database	Search String
ERIC	(resilience OR resiliency OR resilient) AND ("career adaptability" OR "career adaptabilities" OR "career adapt-abilities" OR "career adapt-ability") AND (student OR students OR undergraduate OR undergraduates OR pupils OR adolescent OR adolescents OR adolescence OR youth OR "young people" OR "young adults" OR trainee OR trainees OR intern OR interns OR internship)

Note. All searches were run on 19 October 2026. In every database, results were limited with the built-in filters to publication years 2016–2026, English language, and journal articles (Scopus: document type Article, source type Journal; PubMed: Journal Article; ERIC: Journal Articles). Records retrieved: Scopus n = 41, PubMed n = 16, ERIC n = 12. Field tags: Scopus, TITLE-ABS-KEY (title, abstract, keywords); PubMed, [Title/Abstract]; ERIC, default bibliographic fields, with term variants written out in full because truncation is not reliably supported. Full search documentation is provided in Supplementary Table S1.

Inclusion and Exclusion Criteria

Table 2. Inclusion and Exclusion Criteria

Aspect	Inclusion Criteria	Exclusion Criteria
Publication period	Studies published between 2016 and 2026	Studies published before 2016 or after the search date (19 October 2026)
Language	Articles published in English	Publications in languages other than English
Source type	Peer-reviewed journal articles	Conference papers, book chapters, theses, dissertations, reports, editorials, commentaries, or other non-journal outputs
Study type	Primary empirical, quantitative studies	Reviews, meta-analyses, or bibliometric/scientometric analyses
Population	Students (secondary, vocational, undergraduate, graduate, or doctoral) in an educational or school-to-work transition context	Working professionals or general adult samples with no student status
Resilience measure	Resilience is measured as a distinct variable (general or domain-specific, e.g., academic resilience) using a named validated instrument or subscale with its own separable statistical coefficient	Resilience fully subsumed within a composite score (e.g., overall Psychological Capital total) with no separable coefficient
Career adaptability measure	Career adaptability formally measured (CAAS or an equivalent validated instrument), overall and/or its four dimensions	Career adaptability mentioned only narratively, or "career resilience" used loosely without a validated CA instrument
Statistical test	A statistical test of the resilience–career adaptability association reported as part of the study's substantive analysis (bivariate correlation with significance testing, regression, SE, mediation, or cross-lagged/longitudinal analysis), including studies modeling the reverse direction	No statistical test linking the two constructs, or an association reported only within measurement-model diagnostics (e.g., discriminant validity matrices) without significance testing
Data sufficiency	Full text retrievable for screening and extraction	Full text could not be retrieved

These criteria were established before screening to ensure that inclusion and exclusion decisions were not influenced by study outcomes. During revision, the statistical-test criterion was clarified to specify that an association reported only within measurement-model diagnostics (e.g., discriminant validity matrices) without significance testing does not qualify; the clarified criterion was applied uniformly to all full-text reports. Three further decision rules were made explicit when the two reviewers disagreed during screening, and were then applied to all records and reports: (a) samples of recent graduates were ineligible even when they were in a school-to-work transition, because the population criterion requires current student status; (b) mixed samples were eligible only when results were reported separately for students; and (c) a study met the statistical-test criterion when resilience was modeled as a separate variable whose association with career adaptability was tested within the structural model (e.g., through a significant indirect effect), even if the direct coefficient was not reported, whereas an association reported only in a discriminant validity matrix, or a model in which resilience entered only as part of a composite such as psychological capital, did not qualify.

Study Selection Procedure

Records retrieved from the three databases were imported to Rayyan, where duplicate records were identified and removed before title and abstract screening. Both authors independently screened all records at the title/abstract stage and assessed all retrieved reports at the full-text stage against the predefined eligibility criteria (Table 2), using the blind mode in Rayyan so that neither reviewer could see the other's decisions. Inter-rater agreement was 97.8% at the title/abstract stage (Cohen's κ = .96; 46 records) and 92.9% at the full-text stage (κ = .83; 28 reports, including one report whose full text was obtained during revision and screened independently by both authors in the same way; Gheyassi & Alambeigi, 2024). The three disagreements concerned a sample of recent graduates (He & Yu, 2022; title/abstract stage), a sample that combined students with working teachers (Kalafat, 2018), and a study in which the resilience–career adaptability path coefficient was not reported (Tang et al., 2026). They were resolved through discussion until consensus was reached, and the decision rules that resolved them were applied uniformly to all reports (see Inclusion and Exclusion Criteria). Reports identified through backward citation searching were assessed against the same criteria and following the same procedure. The selection process is reported in the PRISMA 2020 flow diagram (Figure 1), which distinguishes studies identified through databases from those identified through citation searching.

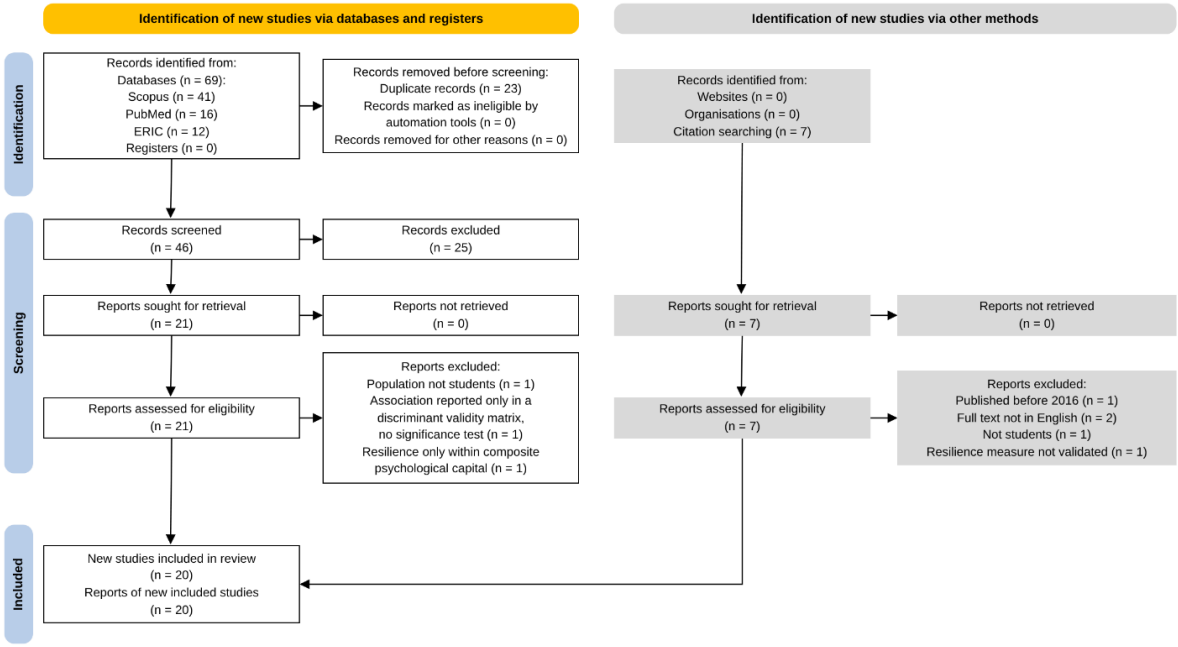

Figure 1. PRISMA 2020 Flow Diagram

Quality Appraisal

Methodological quality was appraised using the JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies (eight items) for cross-sectional studies and the JBI Checklist for Cohort Studies (eleven items) for longitudinal studies (Moola et al., 2020). Because all included studies examined continuous predictor-criterion relationships rather than comparisons between exposed and unexposed groups, cohort items 1, 2, and 6 were rated not applicable. For each study, the variable modeled as the predictor of the resilience–career adaptability relationship was treated as the exposure and the variable modeled as the criterion as the outcome; for studies reporting only bivariate associations, the exposure and outcome measurement items were applied to resilience and career adaptability, respectively. Measurement items (cross-sectional items 3 and 7; cohort items 3 and 7) were rated yes when a validated instrument was used, and internal consistency in the study sample was at least .70, no when it was below .70, and unclear when it was not reported. Confounding was rated as addressed when the resilience–career adaptability coefficient was estimated in a model that adjusted for at least one demographic covariate or co-predictor. Each item was rated yes, no, unclear, or not applicable, and a brief justification was recorded for every rating (Supplementary Table S3). No total score was computed. Instead, each study was classified as providing higher methodological confidence (both measurement items rated yes and confounding addressed, that is, cross-sectional item 6 or cohort item 5 rated yes), lower methodological confidence (either measurement item rated no or unclear), or moderate confidence (all remaining studies). This rule-based classification was used instead of a summed score because summary quality scores weight items of unequal importance equally and can misclassify studies (Jüni et al., 1999). The rules prioritized the two domains that bear

most directly on the validity of the quantity synthesized in this review, the coefficient linking resilience and career adaptability. Measurement was treated as the critical domain because an instrument without demonstrated reliability in the study sample attenuates and destabilizes that coefficient; a study with a measurement item rated no or unclear was therefore placed in the lower category regardless of its other ratings. Confounding was used to distinguish higher from moderate confidence because an unadjusted coefficient may partly reflect variance shared with demographic characteristics or adjacent psychological resources, which is the main alternative explanation for the association. The remaining items (e.g., explicit inclusion criteria and a detailed description of the sample and setting) bear mainly on generalizability rather than on the internal validity of the coefficient and are reported descriptively. Because these categories are author-defined rather than derived from a validated risk-of-bias tool, the item-level ratings are reported in full (Table 3; Supplementary Table S3) so that readers can apply alternative criteria, and a sensitivity analysis excluding the lower-confidence studies is reported in the Results. Appraisal was conducted by the first author and verified by the second author, with disagreements resolved through discussion. Quality ratings were not used to exclude studies; instead, they determined the interpretive weight given to each finding during synthesis, as described below.

Table 3. Methodological Quality Appraisal Using the JBI Critical Appraisal Checklist

(a) Analytical cross-sectional studies (n = 17)

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Confidence
Buyukgoze-Kavas (2016)	U	Y	Y	Y	Y	Y	Y	Y	Higher
Kirikkanat (2023)	U	Y	Y	Y	Y	Y	Y	Y	Higher
Asok Kumar et al. (2025)	U	Y	Y	Y	Y	Y	Y	Y	Higher
Tang et al. (2026)	U	Y	Y	U	Y	Y	Y	Y	Higher
Zeng et al. (2023)	U	Y	N	Y	Y	Y	Y	Y	Lower
Pellegrino et al. (2025)	Y	Y	Y	Y	Y	Y	Y	Y	Higher
Santilli et al. (2020)	U	Y	Y	U	Y	N	Y	Y	Moderate
C. Xu et al. (2020)	U	Y	Y	Y	Y	Y	Y	Y	Higher
Y. Xu et al. (2026)	Y	Y	Y	Y	Y	Y	Y	Y	Higher
C. Xu et al. (2025)	U	U	Y	Y	Y	Y	Y	Y	Higher
Doğrusever & Padır (2026)	Y	Y	Y	Y	Y	Y	Y	Y	Higher
Fang & Xu (2025)	U	U	Y	Y	Y	N	Y	Y	Moderate
Ning et al. (2024)	U	Y	U	U	Y	N	U	Y	Lower
C. Zhang & Li (2026)	Y	Y	Y	Y	Y	Y	Y	Y	Higher
Matos & De Andrade (2023)	Y	Y	Y	Y	N	N	Y	Y	Moderate
Pang et al. (2021)	U	Y	Y	Y	N	N	Y	Y	Moderate
Wen et al. (2023)	U	Y	Y	Y	Y	Y	Y	Y	Higher

Note. Y = yes; N = no; U = unclear. Q1 = inclusion criteria clearly defined; Q2 = subjects and setting described in detail; Q3 = exposure measured validly and reliably; Q4 = objective, standard criteria used to measure the condition; Q5 = confounding factors identified; Q6 = strategies to deal with confounding stated; Q7 = outcome measured validly and reliably; Q8 = appropriate statistical analysis. Exposure = the variable modeled as predictor; outcome = the variable modeled as criterion (for association-only studies, Q3 = resilience and Q7 = career adaptability). Item-level justifications are provided in Supplementary Table S3.

(b) Longitudinal studies, appraised with the JBI Checklist for Cohort Studies (n = 3)

Study	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Confidence
Alkal (2025)	NA	NA	Y	Y	Y	NA	Y	Y	Y	N	Y	Higher
J. Zhang et al. (2023)	NA	NA	Y	Y	Y	NA	Y	Y	Y	Y	Y	Higher
Sun & You (2026)	NA	NA	Y	U	Y	NA	Y	Y	Y	NA	Y	Higher

Note. NA = not applicable. Q1 = groups similar and recruited from the same population; Q2 = exposures measured similarly to assign groups; Q3 = exposure measured validly and reliably; Q4 = confounding factors identified; Q5 = strategies to deal with confounding stated; Q6 = participants free of the outcome at baseline; Q7 = outcome measured validly and reliably; Q8 = follow-up time reported and sufficient; Q9 = follow-up complete or loss described and explored; Q10 = strategies to address incomplete follow-up; Q11 = appropriate statistical analysis. Confidence: Higher = both measurement items rated yes and confounding addressed (cross-sectional Q6 or cohort Q5 rated yes); Lower = either measurement item rated no or unclear; Moderate = all other studies.

Data Extraction and Synthesis

Data from each included study were extracted using a standardized form comprising author(s) and year, journal, country, instruments used to measure resilience and career adaptability (with reliability coefficients), study design and statistical model, sample characteristics, the reported statistic linking the two constructs, and the direction in which the relationship was modeled; the extracted data are presented in Table 4. Data extraction was conducted by the first author and verified by the second author against the full texts. Given the heterogeneity of designs, measures, and models, findings were synthesized narratively following established guidance (Popay et al., 2006) and reported in line with the Synthesis Without Meta-analysis (SWiM) guideline (Campbell et al., 2020). Studies

were grouped by the direction in which the relationship was modeled (forward, reverse, reciprocal, association only, or non-significant) and, within each group, by the type of evidence reported: a directly estimated path coefficient, an indirect effect only, a bivariate correlation only, or longitudinal cross-lagged estimates. A direction was described as tested only when a study compared it with an alternative direction (cross-lagged panel models or competing-model comparison); otherwise, it was described as specified in the study's model. For each pattern of findings, the number of supporting studies in each methodological confidence category is reported, and patterns supported only by lower-confidence studies are described as tentative.

RESULTS

The results are organized around the four research questions guiding this review: the strength of the association between resilience and career adaptability and its four dimensions (RQ1), how the direction of this relationship has been modeled and tested (RQ2), the mechanisms proposed to link resilience and career adaptability (RQ3), and the implications and research priorities for career guidance practice (RQ4).

Search and Selection Outcomes

The database search conducted on 19 October 2026 identified 69 records (Scopus n = 41, PubMed n = 16, ERIC n = 12). After 23 duplicates were removed, 46 unique records were screened at the title/abstract level, of which 25 were excluded. All 21 reports sought were retrieved and assessed for eligibility; three were excluded: one because its participants were medical residents in standardized residency training rather than students, one because the resilience–career adaptability association was reported only within a discriminant validity matrix without significance testing, and one because resilience was analyzed only as part of a composite psychological capital score. Eighteen studies were therefore included from the database search. Backward citation searching of these 18 studies identified seven further potentially relevant reports, all of which were retrieved and assessed; five were excluded (published before 2016, n = 1; full text not in English, n = 2; sample including teachers, with no analysis reported separately for students, n = 1; resilience not measured with a named validated instrument, n = 1), and two met the eligibility criteria (Pang et al., 2021; Wen et al., 2023). In total, 20 studies were included (Figure 1); excluded full-text reports are listed with reasons in Supplementary Table S2. Studies conducted with graduates rather than current students, such as He & Yu (2022), fell outside the population criterion (Table 2).

Characteristics of Included Studies

The 20 included studies were published between 2016 and 2026, with a marked concentration since 2023 (n = 16). Studies were conducted in six countries. Counted by study, 12 were conducted in China, four in Turkey, two in Italy, one in Brazil, and one in Malaysia; one of the two Italian studies also sampled students in Belgium (Santilli et al., 2020). Sample sizes ranged from 244 (Kirikkanat, 2023) to 1,928 participants (Fang & Xu, 2025), with a combined total of 14,763 participants. Populations comprised middle or high school students (n = 5 studies), vocational high school students (n = 1), pre-university students (n = 1), university students (n = 9), doctoral students (n = 1), nursing interns (n = 1), and pre-service teacher education students (n = 2).

Seventeen studies used a cross-sectional design and three used a longitudinal design: a two-wave half-longitudinal mediation design (Alkal, 2025), a two-wave cross-lagged panel design (J. Zhang et al., 2023), and a three-wave cross-lagged panel design (Sun & You, 2026). Career adaptability was measured with the Career Adapt-Abilities Scale (CAAS; Savickas & Porfeli, 2012), its short form, or a validated adaptation such as the CAAS-China Form (Hou et al., 2012) in 17 studies. Two studies used the Career Adaptability subscale of the Career Futures Inventory (Buyukgoze-Kavas, 2016; Kirikkanat, 2023), a validated measure of career adaptability that is not based on the four-dimension CAAS model, and one used a 21-item Career Adaptability Scale developed for Chinese college students (J. Zhang et al., 2023). Resilience was measured with versions of the Connor-Davidson Resilience Scale (Connor & Davidson, 2003; n = 7), the Brief Resilience Scale (Smith et al., 2008; n = 4), the Resilience Scale for Chinese Adolescents (n = 2), and seven other instruments or subscales, including one domain-specific measure of academic resilience (C. Zhang & Li, 2026). One study described its 10-item resilience measure as the Brief Resilience Scale, although the cited source corresponds to the 10-item Connor-Davidson Resilience Scale (Sun & You, 2026). Table 4 presents the characteristics and findings of each study.

Table 4. Characteristics and Findings of Included Studies (n = 20)

No.	Author & Year	Journal	Country	Resilience & CA Instruments (α)	Design & Method	Sample	Key Findings (Direction)
1	Buyukgoze-Kavas (2016)	The Career Development Quarterly	Turkey	Ego Resiliency Scale (.83); CA subscale, Career Futures Inventory (.84)	Cross-sectional; simultaneous multiple regression	400 undergraduates (415 recruited)	Resilience β=.31, $p<.001$, $R^2=.48$; forward, direct
2	Kirikkanat (2023)	International Journal for Educational and Vocational Guidance	Turkey	Resilience Scale (.89); CA subscale, Career Futures Inventory (.82)	Cross-sectional; multivariate regression	244 undergraduates	Resilience β=.45, $p<.01$, $R^2=.51$; forward, direct, strongest predictor of CA
3	Asok Kumar et al. (2025)	British Journal of Guidance & Counselling	Malaysia	Brief Resilience Scale (.74); CAAS (.87)	Cross-sectional; PLS-SEM	1,294 university students	Resilience→CA β=.37, $p<.001$, $f^2=.16$; partial mediator of social support→CA (indirect β=.10, $p<.001$); forward, direct (resilience also as mediator)
4	Tang et al. (2026)	BMC Psychology	China	CD-RISC (.87); CAAS (.92)	Cross-sectional; SEM moderated mediation	1,279 university students	Indirect resilience → CA → job readiness β=.11, 95% CI [.07, .16]; resilience → CA path not reported; r=.50 only in discriminant validity matrix; forward, evidence limited to indirect effect
5	Alkal (2025)	BMC Psychology	Turkey	Brief Resilience Scale (.94/.91); CAAS-SF (.84/.96)	Two-wave longitudinal; half-longitudinal mediation model	376 university students	Resilience T1 → CDSE T2; CDSE T1 → CA T2; reverse model did not fit; forward, indirect via CDSE
6	Zeng et al. (2023)	Current Psychology	China	Brief Resilience Scale (.57); CAAS 4 dimensions (.90–.95)	Cross-sectional; serial mediation	636 vocational high school students	Indirect resilience → hope → CA β=.03; direct path non-significant; forward, fully mediated by hope
7	Pellegrino et al. (2025)	Journal of Adolescence	Italy	BESSI Emotional Resilience Skills (.89); CAAS 4 dimensions (.83–.92)	Cross-sectional; multivariate regression + SEM	350 high school students	Bivariate significant, multivariate/SEM non-significant; null
8	J. Zhang et al. (2023)	BMC Nursing	China	CD-RISC (.97/.98); 21-item Career Adaptability Scale (.95/.94)	Two-wave longitudinal; cross-lagged panel model	692 nursing undergraduates	CA T1 → resilience T2 (β=.22) and resilience T1 → CA T2 (β=.18), both significant; reciprocal
9	Santilli et al. (2020)	The Career Development Quarterly	Italy & Belgium	Design My Future–Resilience (.83); CAAS-Italy/Belgium forms (subscales .70–.79)	Cross-sectional; two-step SEM	316 middle school students	Indirect CA → resilience → life satisfaction β=.30; reverse
10	C. Xu et al. (2020)	Children and Youth Services Review	China	Resilience Scale, 27-item (.88); CAAS-China Form (.95)	Cross-sectional; PROCESS mediation	372 high school students	CA → resilience a=.46, full mediation to mental health; reverse
11	Y. Xu et al. (2026)	Journal of Advanced Nursing	China	CD-RISC (.91); CAAS-China Form (.92)	Cross-sectional; SEM mediation	512 nursing interns	CA → resilience β=.62, direct; reverse

No.	Author & Year	Journal	Country	Resilience & CA Instruments (α)	Design & Method	Sample	Key Findings (Direction)
12	Sun & You (2026)	Teaching and Teacher Education	China	10-item resilience scale[a] (.943–.950); CAAS (.946–.970)	Three-wave longitudinal; cross-lagged panel model	1,518 pre-service teachers (practicum)	Resilience T1 → CA T2 β=.128, T2 → T3 β=.073 (p≈.05); CA T1 → Resilience T2 β=.280, T2 → T3 β=.308; reciprocal (reverse paths larger)
13	C. Xu et al. (2025)	Current Psychology	China	Resilience Scale for Chinese Adolescents, 27-item (.88); CAAS-China (.95)	Cross-sectional; PROCESS moderated mediation	366 high school students	Resilience → CA β=.50–.51[b], p<.01 (controlling for parental career support, parent-child relationship, demographics); r=.52; forward, direct
14	Fang & Xu (2025)	Journal of Psychology in Africa	China	CD-RISC Chinese, 25-item (.96); CAAS-China (.97)	Cross-sectional; PROCESS moderated mediation	1,928 university students	r=.64, p<.01; CA modeled as moderator of resilience → employment anxiety; association only
15	Ning et al. (2024)	International Journal of Statistics in Medical Research	China	Chinese 25-item resilience scale (α not reported); CAAS (α not reported)	Cross-sectional; regression mediation and moderation	578 university students	r=.088, p<.05; CA modeled as moderator; association only
16	C. Zhang & Li (2026)	Frontiers in Psychology	China	Academic Resilience Scale-30 (.94); CAAS-SF Chinese (.886)	Cross-sectional; SEM serial mediation	865 doctoral students	CA → academic resilience β=.354, p<.001; r=.421; reverse
17	Matos & De Andrade (2023)	Psico-USF	Brazil	PsyCap-S resilience subscale, 3-item (ω=.73); CAAS-Brazil (dimensions .83–.89)	Cross-sectional; correlation and hierarchical regression	1,398 pre-university students	Resilience with concern r=.30, control r=.39, curiosity r=.36, confidence r=.37 (all p<.01); association only
18	Doğrusever & Padır (2026)	Australian Journal of Career Development	Turkey	Brief Resilience Scale, Turkish (.78); CAAS, Turkish (.89)	Cross-sectional; PROCESS mediation	580 high school students	Resilience → CA B=.10, 95% CI [.05, .16], p<.001; indirect EI → resilience → CA ab=.046, 95% CI [.021, .073]; r=.31; forward, direct
19	Pang et al. (2021)	Psychology	China	CD-RISC, Chinese version, 25-item (.946); CAAS-China (.948)	Cross-sectional; SEM mediation	666 university students	r=.742, p<.01; resilience → CA β=.84 shown only in path diagram (Figure 2), not in text or tables; forward
20	Wen et al. (2023)	Behavioral Science	China	CD-RISC revised, 25-item (.96); CAAS-SF (.95)	Cross-sectional; SEM chain mediation	393 pre-service teacher education students	Career calling → CA → decent work → resilience (chain mediation); CA specified as antecedent of resilience; reverse

Note. CA = career adaptability; CAAS = Career Adapt-Abilities Scale; CAAS-SF = Career Adapt-Abilities Scale Short Form; CD-RISC = Connor-Davidson Resilience Scale; BESSI = Behavioral, Emotional, and Social Skills Inventory; CDSE = career decision self-efficacy; EI = emotional intelligence; PsyCap-S = Psychological Capital Scale in the Student Context; SEM = structural equation modeling; PLS-SEM = partial least squares structural equation modeling; T1/T2 = Time 1/Time 2. [a] Reported as the Brief Resilience Scale; the cited 10-item source corresponds to the 10-item CD-RISC. [b] The source text reports β = .28 for this path, whereas its Tables 2–3 report β = .51 and .50; table values are shown. Buyukgoze-Kavas (2016): 15 of 415 participants were excluded before analysis (6 with missing data, 9 outliers).

Methodological Quality of Included Studies

Table 3 summarizes the JBI appraisal. Fourteen studies were classified as providing higher methodological confidence, four as moderate (Fang & Xu, 2025; Matos & De Andrade, 2023; Pang et al., 2021; Santilli et al., 2020), and two as lower (Ning et al., 2024; Zeng et al., 2023). The lower ratings reflected measurement: Zeng et al. (2023) used a resilience measure with low internal consistency (Brief Resilience Scale, α = .57), and Ning et al. (2024) did not report internal consistency for either construct. The moderate ratings reflected that the resilience–

career adaptability association was not adjusted for any covariate or co-predictor, either because it was reported only as a bivariate correlation or because resilience was the only predictor of career adaptability.

The most common weakness concerned sample description: 12 of the 17 cross-sectional studies did not state explicit inclusion criteria (item 1), and most relied on convenience samples from one or a few institutions. Measurement was generally strong, with validated instruments and adequate internal consistency for both constructs in 18 of the 20 studies. Among the longitudinal studies, follow-up was largely complete (attrition 0.1% to 15.9%). J. Zhang et al. (2023) used full information maximum likelihood for missing data and found no differences between completers and non-completers, whereas Alkal (2025) analyzed matched completers only, without a missing-data strategy. No study was excluded on the basis of quality; ratings are used below to weight the evidence. In a sensitivity analysis, excluding the two lower-confidence studies (Ning et al., 2024; Zeng et al., 2023) did not change the direction or overall pattern of any finding: all remaining bivariate correlations were positive (r = .28 to .742), and the five directly estimated forward paths and the three longitudinal studies were unaffected. The only changes were that forward evidence through a third variable rested on a single study (Alkal, 2025) and that the evidence for hope as a mediator and for dimension-specific indirect effects was removed.

RQ1: Strength of the Association Between Resilience and Career Adaptability

All bivariate correlations extracted from the included studies were positive, ranging from r = .088 (Ning et al., 2024) to r = .742 (Pang et al., 2021), with most between .30 and .70. Five studies estimated a direct path from resilience to career adaptability, all rated as higher confidence: Buyukgoze-Kavas (2016; β = .31), Kirikkanat (2023; β = .45), Asok Kumar et al. (2025; β = .37), C. Xu et al. (2025; β = .50–.51, controlling for parental career support, parent-child relationships, and demographic variables), and Doğrusever & Padır (2026; B = .10, 95% CI [.05, .16], alongside emotional intelligence). In Tang et al. (2026), the resilience–career adaptability path was not reported; the evidence consists of a significant indirect effect of resilience on job readiness through career adaptability (β = .11, 95% CI [.07, .16]). Pang et al. (2021) specified resilience as a predictor of career adaptability but reported the path coefficient (β = .84) only in a path diagram. Two further studies modeled the forward association only through a third variable. In Alkal (2025), rated as higher confidence and the only longitudinal study in this group, resilience at T1 predicted career decision self-efficacy at T2 (β = .37, 95% CI [.23, .49]), which in turn predicted career adaptability (β = .27, 95% CI [.15, .39]), without a direct resilience-to-career-adaptability path being estimated; in Zeng et al. (2023), rated as lower confidence, the effect was fully mediated by hope.

One study found no unique association. Pellegrino et al. (2025) reported significant bivariate correlations between emotional resilience and all four career adaptability dimensions (r = .28–.38) that became non-significant once other social, emotional, and behavioral skills, gender, grade, academic achievement, and academic self-efficacy were controlled. Together with the attenuation observed when closely related resources were modeled (e.g., from r = .57 to β = .31 when hope and optimism were entered in Buyukgoze-Kavas, 2016), this indicates that part of the bivariate association reflects variance shared with adjacent psychological resources.

Dimension-specific evidence was limited to three studies. Matos & De Andrade (2023) reported positive correlations between resilience and concern (r = .30), control (r = .39), curiosity (r = .36), and confidence (r = .37); Zeng et al. (2023) reported significant indirect effects of resilience through hope on all four dimensions (estimates .03 to .04); and Pellegrino et al. (2025) found no significant association with any dimension after adjustment. With so few studies, one of them rated as lower confidence, RQ1 can be answered only for overall career adaptability; differences between the four dimensions cannot be established from the current evidence.

RQ2: Modeled and Tested Direction of the Resilience–Career Adaptability Relationship

Table 5 summarizes the direction in which the relationship was modeled across the 20 included studies, the type of evidence available, and the methodological confidence of each study.

Table 5. Directional Pattern of the Resilience–Career Adaptability Relationship Across Included Studies

Direction modeled	Type of evidence	k	Studies (methodological confidence)
Forward (resilience → CA)	Direct path estimated (cross-sectional)	5	Asok Kumar et al. (2025); Buyukgoze-Kavas (2016); Doğrusever & Padır (2026); Kirikkanat (2023); C. Xu et al. (2025) (all higher)
Forward	Path not reported in text (indirect effect or figure only)	2	Tang et al. (2026) (higher); Pang et al. (2021) (moderate)
Forward	Indirect through a third variable	2	Alkal (2025) (higher; longitudinal); Zeng et al. (2023) (lower)
Reverse (CA → resilience)	Specified in a single cross-sectional model; alternative not tested	5	Santilli et al. (2020) (moderate); C. Xu et al. (2020); Wen et al. (2023); Y. Xu et al. (2026); C. Zhang & Li (2026) (all higher)

Direction modeled	Type of evidence	k	Studies (methodological confidence)
Reciprocal	Both directions estimated in cross-lagged panel models	2	Sun & You (2026); J. Zhang et al. (2023) (both higher)
Association only	Bivariate correlation; CA modeled as moderator or parallel variable	3	Fang & Xu (2025) (moderate); Ning et al. (2024) (lower); Matos & De Andrade (2023) (moderate)
Non-significant	Association not significant after adjustment	1	Pellegrino et al. (2025) (higher)

Note. CA = career adaptability. Confidence refers to the JBI-based methodological confidence category (Table 3). Only Alkal (2025), J. Zhang et al. (2023), and Sun & You (2026) tested a direction against an alternative; in all other studies, the direction reflects how the relationship was specified in the study's model.

The forward direction was the most frequently modeled (9 of 20 studies), but in only one of these studies was it compared with the alternative: Alkal (2025) found that a model specifying career adaptability as the antecedent of resilience fitted the data poorly (e.g., CFI = .89, RMSEA = .10), whereas the forward model fitted adequately. Five cross-sectional studies, spanning middle school students, high school students, nursing interns, pre-service teacher education students, and doctoral students, specified the reverse direction, positioning resilience either as a mediator toward a well-being outcome or as the final outcome; none tested the forward alternative. The two studies that estimated both directions within cross-lagged panel models found reciprocal relationships. In J. Zhang et al. (2023), career adaptability at T1 predicted resilience at T2 (β = .22), and resilience at T1 predicted career adaptability at T2 (β = .18) over one year among nursing undergraduates. In Sun & You (2026), resilience predicted later career adaptability (β = .128 from T1 to T2; β = .073 from T2 to T3, p ≈ .05), whereas career adaptability predicted later resilience more strongly (β = .280 and .308) over a six-month teaching practicum. Thus, the only designs capable of comparing directions produced mixed results: one favored the forward model over the reverse model, and two supported reciprocal relationships in which the reverse path was at least as strong as the forward path.

RQ3: Mechanisms Linking Resilience and Career Adaptability

Mediating roles appeared in three configurations. First, two variables mediated the association from resilience to career adaptability: hope (Zeng et al., 2023) and career decision self-efficacy (Alkal, 2025). Second, resilience itself functioned as a mediator between an antecedent and career adaptability, namely perceived social support (Asok Kumar et al., 2025), career-related parental support (C. Xu et al., 2025; Zeng et al., 2023), and emotional intelligence (Doğrusever & Padır, 2026), and, longitudinally, between social-emotional competence at T1 and career adaptability at T3 (indirect effect = .016, 95% CI [.002, .029]; Sun & You, 2026). In the reverse-direction studies, resilience mediated between career adaptability and mental health problems (C. Xu et al., 2020) or life satisfaction (Santilli et al., 2020), and career adaptability mediated between the clinical learning environment (Y. Xu et al., 2026) or career calling (Wen et al., 2023; C. Zhang & Li, 2026) and resilience. Third, career adaptability mediated between resilience and job readiness (Tang et al., 2026) and between resilience and career decision-making difficulties (Pang et al., 2021). Moderators included labor market pressure, which weakened the resilience–career adaptability–job readiness pathway (Tang et al., 2026), and the mother–child relationship, which strengthened the association between parental career support and resilience (C. Xu et al., 2025); career interest did not moderate the resilience–career adaptability paths in J. Zhang et al. (2023). In two association-only studies, career adaptability moderated the association between resilience and employment anxiety (Fang & Xu, 2025) or between COVID-19 risk perception and occupational anxiety (Ning et al., 2024). All mediation estimates except those from the three longitudinal studies were based on cross-sectional data.

RQ4: Implications for Career Guidance Practice

Several included studies drew intervention recommendations from their findings, for example resilience-based components in higher education career counseling (Alkal, 2025), psychological capital programs under labor market pressure (Tang et al., 2026), parental career-support training combined with resilience- and hope-building activities (Zeng et al., 2023), and social-emotional competence training in teacher education (Sun & You, 2026). None of these recommendations was tested within the included studies, none of which evaluated an intervention. No included study was conducted in Indonesia, and only one came from a Southeast Asian country (Asok Kumar et al., 2025, Malaysia). These gaps are considered in the Discussion.

DISCUSSION

This review synthesized empirical evidence on the relationship between resilience and career adaptability among students, addressing the strength of the association, how its direction has been modeled and tested, the mechanisms that have been proposed, and the implications for career guidance. Taken together, the findings confirm that the

two constructs are consistently and positively associated, but they show that the direction and mechanisms of this association are far less settled than the predictive language used in much of the primary literature implies.

Resilience and Career Adaptability: A Consistent but Conditional Association

Consistent with Career Construction Theory (Savickas, 2005) and Conservation of Resources theory (Hobfoll et al., 2018), resilience was positively associated with career adaptability in every study for which a bivariate correlation could be extracted, and five studies rated as higher confidence estimated a significant direct path from resilience to career adaptability. This pattern is compatible with the view that resilience is a resource whose accumulation supports adaptive career capacities. Because 17 of the 20 studies were cross-sectional, however, these findings establish an association within models that assumed resilience to be the antecedent, not that resilience produces later gains in career adaptability. Two further qualifications apply.

First, the contribution of resilience appears sensitive to which related resources are modeled alongside it. Resilience remained a significant predictor when entered with hope and optimism (Buyukgoze-Kavas, 2016), with emotional intelligence and cognitive flexibility (Kirikkanat, 2023), or with emotional intelligence alone (Doğrusever & Padır, 2026), but its association with career adaptability became non-significant once a broad set of social, emotional, and behavioral skills and academic self-efficacy were controlled (Pellegrino et al., 2025). Part of the bivariate association may therefore reflect variance shared with adjacent psychological resources, as well as common-method variance, given that all measures were self-reported.

Second, in the two studies that modeled a proximal cognitive mediator, the association from resilience to career adaptability was transmitted through career decision self-efficacy (Alkal, 2025) or hope (Zeng et al., 2023). This is consistent with the possibility that resilience supports career adaptability by strengthening more career-specific cognitive resources, but it should be treated as a provisional interpretation rather than an established mechanism. Only two studies tested such mediators; one relied on a resilience measure with low internal consistency ($\alpha = .57$) and was rated as lower confidence; and the two-wave half-longitudinal design of Alkal (2025) estimated each link of the mediation chain across a single interval rather than establishing the full temporal sequence of resilience, self-efficacy, and career adaptability.

Direction of the Relationship: Modeled Versus Tested

A central finding is that the forward direction commonly assumed in this literature was not the only direction modeled. Five cross-sectional studies, in different populations and with different outcome frameworks, specified career adaptability as the antecedent of resilience (Santilli et al., 2020; Wen et al., 2023; C. Xu et al., 2020; Y. Xu et al., 2026; C. Zhang & Li, 2026). In every case, however, the direction reflected how the researchers specified their model rather than a test against the alternative, so these studies show that the reverse ordering is theoretically plausible and statistically compatible with cross-sectional data, not that it is empirically stronger. The forward studies share the same limitation, with the single exception of Alkal (2025). A plausible theoretical account, consistent with the systems perspective advanced by McMahon & Abkhezr (2025), is that resilience and career adaptability are reciprocally related resources: career adaptability, as a set of self-regulatory competencies rehearsed through concrete career tasks, may build general resilience, while resilience may support the development of career adaptability. Secondary school samples appear in both forward-direction studies (Doğrusever & Padır, 2026; C. Xu et al., 2025; Zeng et al., 2023) and reverse-direction studies (Santilli et al., 2020; C. Xu et al., 2020), suggesting that age alone does not explain the direction researchers specify or find.

The longitudinal evidence is consistent with, but does not yet establish, this reciprocal account. Both cross-lagged studies found that each construct predicted later levels of the other after controlling for prior levels (Sun & You, 2026; J. Zhang et al., 2023), and in the three-wave study, the path from career adaptability to resilience was larger than the reverse path, which was only marginally significant in the second interval. In contrast, Alkal (2025) found that a model specifying career adaptability as the antecedent fitted poorly. These three studies differ in population (nursing undergraduates, pre-service teachers, and university students), interval length (two months to one year), and model structure, and all relied on self-report, so the direction of the relationship may vary by context and time frame. Cross-lagged panel models also do not separate stable between-person differences from within-person change, which limits causal inference even in longitudinal designs. The contribution of this review lies in documenting this pattern and in distinguishing tested from assumed directions, rather than in resolving the question of direction.

Proposed Mechanisms: Provisional Interpretations

The two mediators identified in the forward-direction studies, hope and career decision self-efficacy, are both proximal, future-oriented cognitive resources, distinguishable from the more general, coping-oriented character of resilience (Masten, 2014). Positive psychological capital theory, as applied in career research by Zeng et al. (2023) and Tang et al. (2026), frames resilience, hope, self-efficacy, and optimism as related but distinct components of a broader resource pool, and the present findings are compatible with a sequence in which resilience supports these

career-specific resources, which in turn support concern, control, curiosity, and confidence. Other models in the review, however, placed resilience downstream of emotional or social-emotional competencies (Doğrusever & Padır, 2026; Sun & You, 2026) or downstream of career adaptability itself, and almost all mediation evidence was cross-sectional. These configurations are therefore best read as competing hypotheses for longitudinal and experimental testing, not as established causal pathways. This reading also offers one possible explanation for the null result of Pellegrino et al. (2025): when adjacent skills are controlled without modeling a mediating pathway, any contribution of resilience that operates through those resources may not appear as a unique direct effect.

Practical Implications for Career Guidance in Indonesia

No included study was conducted in Indonesia, and only one came from a Southeast Asian emerging economy (Asok Kumar et al., 2025). The evidence base was generated largely in China and Turkey, with smaller contributions from Italy, Belgium, Malaysia, and Brazil, in educational systems, labor markets, and cultural orientations toward career decision-making that differ from the Indonesian context described in the Introduction. The only Indonesian study identified, a PLS-SEM study of 110 final-year university students that reported a positive path from resilience to career adaptability (Alvita & Erlin, 2025), was excluded because resilience was measured with an item set of unclear provenance, half of which was removed after loading screening; this underlines the need for Indonesian studies that use validated instruments. In addition, none of the included studies evaluated an intervention. The implications below are therefore framed as hypotheses for local research and program evaluation rather than as evidence-based recommendations.

Three hypotheses follow from the synthesis. First, because the association from resilience to career adaptability was transmitted through hope or career decision self-efficacy in the two studies that modeled these mediators, career guidance programs in Indonesian schools and universities that pair resilience-building activities with goal-setting and career decision-making components could be evaluated against resilience training alone. Second, because career adaptability predicted later resilience in both cross-lagged studies, programs that target career adaptability skills directly, such as group career counseling for university students (Zammitti et al., 2023), could include resilience as a secondary outcome. Third, given that career-related parental support was associated with career adaptability through resilience in two adolescent samples (C. Xu et al., 2025; Zeng et al., 2023), and that school-based career guidance in the region faces gaps in counselor training and role definition (Larran & Hein, 2024), family-inclusive approaches merit testing in Indonesian vocational and general secondary schools. Before such programs are scaled, the basic association and its direction need to be examined in Indonesian student samples, preferably with longitudinal designs.

Limitations

Several limitations must be considered. Regarding the evidence base, 17 of the 20 studies were cross-sectional, so most directional findings reflect model specification rather than temporal ordering, and even the cross-lagged studies cannot separate within-person change from stable between-person differences. Most samples were convenience samples from one or a few institutions, 12 studies were conducted in China, and all relied on self-report, raising the possibility of common-method variance. Two studies were rated as lower confidence because of low or unreported measurement reliability; two career adaptability measures were not based on the four-dimension CAAS model; and one study measured domain-specific academic resilience. These differences limit the comparability of estimates and precluded meta-analysis. Regarding the review process, the search was limited to three databases because PsycINFO and Web of Science were not accessible to the authors; although backward citation searching identified two additional eligible studies, relevant studies indexed only in those databases may have been missed, and forward citation searching was not conducted. Because PsycINFO is the principal index of psychology and counseling journals, studies published in psychology-specific outlets may be under-represented; the fact that two of the 20 included studies were found only through citation searching (Pang et al., 2021; Wen et al., 2023) indicates that the database searches alone were not exhaustive. The review was restricted to English-language, peer-reviewed journal articles, which excluded two potentially relevant studies published in Turkish and Chinese as well as studies in Indonesian and grey literature. The protocol was not prospectively registered, and, although screening was performed independently by both authors, data extraction and quality appraisal were conducted by the first author and verified by the second author rather than performed independently in duplicate, which may have increased the risk of coding errors. In addition, the methodological confidence categories were defined by the authors from selected JBI items rather than derived from a validated risk-of-bias tool; the item-level ratings are therefore reported in full so that other criteria can be applied. Finally, the eligibility criteria, which were necessary to isolate the distinct contribution of resilience, excluded studies in which resilience was analyzed only within composite constructs such as psychological capital.

CONCLUSION

This systematic review of 20 studies found that resilience and career adaptability are consistently and positively associated among students and that resilience remained a significant predictor in most, but not all, models that included related psychological resources. The direction of the relationship, however, is not established. Most studies were cross-sectional, and the direction they reported reflected model specification: nine studies modeled resilience as the antecedent and five modeled career adaptability as the antecedent, while of the three longitudinal studies, two found reciprocal relationships, and one favored the forward model. The proposed mechanisms, chiefly hope and career decision self-efficacy as mediators, rest on a small number of studies and should be regarded as provisional.

Future research should prioritize longitudinal designs with three or more waves and models that separate within-person from between-person effects, direct comparisons of competing directional models, representative samples from underrepresented regions, including Indonesia, and intervention studies that test whether resilience-building and career adaptability programs affect each other's outcomes. Until such evidence is available, practical implications for career guidance, including the combination of resilience-building with hope- or self-efficacy-focused components, should be treated as testable hypotheses rather than evidence-based strategies.

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AUTHOR CONTRIBUTION STATEMENT

MS conceptualized the review, developed the search strategy, conducted the original and updated database searches, citation searching, independent screening, quality appraisal, and data extraction, and drafted and revised the manuscript. OPM independently screened all records and full-text reports, verified the quality appraisal and data extraction decisions, and critically reviewed the manuscript. All authors read and approved the final manuscript.

AI DISCLOSURE STATEMENT

The authors used Rayyan AI to assist with automated duplicate detection among records retrieved from Scopus, PubMed, and ERIC before title and abstract screening. The authors used Grammarly during preparation to check and improve grammar, spelling, and sentence clarity throughout the manuscript. After using these tools, the authors thoroughly reviewed and edited the content as needed and take full responsibility for this publication. No generative AI tool was used to draft, analyze, interpret, or synthesize the substantive content, screening decision, data extraction, quality appraisal, or findings reported in this manuscript.

Melati Septiani
Department of Psychology
Universitas Negeri Surabaya,
Jl. Raya Kampus Unesa, Surabaya, East Java, 60231, Indonesia
Email: melatiseptiani.23357@mhs.unesa.ac.id

***Olievia Prabandini Mulyana (Corresponding Author)**
Department of Psychology
Universitas Negeri Surabaya,
Jl. Raya Kampus Unesa, Surabaya, East Java, 60231, Indonesia
Email: olieviaprabandini@unesa.ac.id