International Journal for Educational and Vocational Guidance
https://doi.org/10.1007/s10775-026-09808-z

Exploring the link between family support and career adaptability: a meta-analytic perspective

Ezgi Güney Uygun Karakuş[1] · **Seher Merve Erus**[2] · **Seydi Ahmet Satıcı**[2,3,4]

Received: 11 July 2025 / Accepted: 25 April 2026
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Abstract

Social support plays a vital role in shaping individuals' career aspirations and building confidence to overcome academic and professional challenges. Within social support, family support and parental role modeling are particularly influential in guiding career development. This meta-analysis examined the association between family support and career adaptability. A systematic search of Web of Science, Scopus, and ProQuest yielded 26 quantitative studies comprising 28 independent samples ($N = 35{,}821$). Using Comprehensive Meta-Analysis software, results indicated a positive and statistically significant association, moderated by cultural orientation, developmental stage, and the measurement of career adaptability. Overall, the findings suggest that while the relationship remains positive, its magnitude varies across developmental, cultural, and measurement contexts.

Keywords Family support · Career adaptability · Career construction theory · Meta-analysis

Resumen

El apoyo social desempeña un papel fundamental en la formación de las aspiraciones profesionales de los individuos y en el fortalecimiento de la confianza para superar

✉ Ezgi Güney Uygun Karakuş
ezgi.uygun@izu.edu.tr

Seher Merve Erus
smerve@yildiz.edu.tr

Seydi Ahmet Satıcı
ahmet.satici@yildiz.edu.tr

[1] Faculty of Education, Department of Psychological Counseling, Istanbul Sabahattin Zaim University, Istanbul 34303, Türkiye

[2] Faculty of Education, Department of Psychological Counseling, Yildiz Technical University, Istanbul, Türkiye

[3] Near East University, Nicosia, Türkiye

[4] Faculty of Education, Biruni University, Istanbul, Türkiye

Published online: 04 June 2026

desafíos académicos y profesionales. Dentro del apoyo social, el respaldo familiar y el modelado parental resultan especialmente influyentes en la orientación del desarrollo profesional. Este meta-análisis examinó la asociación entre el apoyo familiar y la adaptabilidad profesional. Una búsqueda sistemática en Web of Science, Scopus y ProQuest identificó 26 estudios cuantitativos que comprenden 28 muestras independientes (N = 35,821). Utilizando el software Comprehensive Meta-Analysis, los resultados indicaron una asociación positiva y estadísticamente significativa , moderada por la orientación cultural, la etapa de desarrollo y la medición de la adaptabilidad profesional. En conjunto, los hallazgos sugieren que, si bien la relación se mantiene positiva, su magnitud varía según los contextos de desarrollo, culturales y de medición.

Résumé

Le soutien social joue un rôle essentiel dans la formation des aspirations professionnelles des individus et dans le développement de la confiance nécessaire pour surmonter les défis académiques et professionnels. Au sein du soutien social, le soutien familial et le rôle de modèle parental exercent une influence particulièrement marquée sur l'orientation de la carrière. Cette méta-analyse a examiné l'association entre le soutien familial et l'adaptabilité de carrière. Une recherche systématique dans Web of Science, Scopus et ProQuest a permis d'identifier 26 études quantitatives comprenant 28 échantillons indépendants (N = 35 821). À l'aide du logiciel Comprehensive Meta-Analysis, les résultats ont mis en évidence une association positive et statistiquement significative , modulée par l'orientation culturelle, le stade de développement et la mesure de l'adaptabilité de carrière. Globalement, les résultats suggèrent que, bien que la relation demeure positive, son ampleur varie selon les contextes développementaux, culturels et de mesure.

Zusammenfassung

Soziale Unterstützung spielt eine entscheidende Rolle bei der Entwicklung beruflicher Aspirationen und beim Aufbau von Selbstvertrauen, um akademische und berufliche Herausforderungen zu bewältigen. Innerhalb der sozialen Unterstützung sind insbesondere familiäre Unterstützung und elterliches Rollenverhalten maßgeblich für die Steuerung der beruflichen Entwicklung. Diese Metaanalyse untersuchte den Zusammenhang zwischen familiärer Unterstützung und beruflicher Anpassungsfähigkeit. Eine systematische Recherche in Web of Science, Scopus und ProQuest ergab 26 quantitative Studien mit insgesamt 28 unabhängigen Stichproben (N = 35.821). Mithilfe der Software Comprehensive Meta-Analysis zeigten die Ergebnisse einen positiven und statistisch signifikanten Zusammenhang, der durch kulturelle Orientierung, Entwicklungsphase und die Messung der beruflichen Anpassungsfähigkeit moderiert wurde. Insgesamt deuten die Befunde darauf hin, dass der Zusammenhang zwar positiv bleibt, seine Ausprägung jedoch je nach Entwicklungsstand, kulturellem Kontext und Messmethode variiert.

Introduction

Career adaptability, emerging as a significant focus of research in recent years, is a vital skill that empowers individuals to navigate the complexities of modern work life, enhancing their resilience, job performance, and satisfaction (Savickas, 1997, 2013). It supports the ability to learn and grow in diverse career pathways, enabling individuals to manage career changes effectively across industries and roles, particularly in dynamic labor markets (Brown et al., 2012; Ohme & Zacher, 2015; Rudolph et al., 2017). Amid economic, social, and technological transformations, the ability to adapt, adjust, or demonstrate flexibility has emerged as a highly valued trait. Contemporary career concepts, such as protean and boundaryless careers, highlight the individual's responsibility for actively managing their career and underline the necessity of adaptability for achieving success (Johnston, 2018). Following Savickas's (1997) development and emphasis on the importance of career adaptability, research on this concept has gained increasing significance. Savickas (1997) defined career adaptability as the ability to cope with predictable tasks in preparation for and participation in work roles, as well as to respond to the unexpected adaptation demands arising from changes in job and working conditions. To more fully conceptualize career adaptability, it is essential to consider its underlying dimensions. As one of the cornerstones of career construction theory (Savickas, 2002), career adaptability is conceptualized as a multidimensional construct comprising four psychosocial resources: concern, control, curiosity, and confidence. Concern refers to individuals' orientation toward and preparation for the future, encompassing the extent to which they think about and plan for their vocational trajectories. Control denotes a sense of agency and responsibility over one's career development, highlighting self-discipline and decision-making autonomy. Curiosity involves the tendency to explore possible selves and alternative career scenarios, thereby facilitating information seeking and openness to new experiences. Finally, confidence represents individuals' beliefs in their ability to solve problems and overcome obstacles encountered in career development tasks. Together, these four dimensions function as adaptive resources that enable individuals to cope effectively with vocational developmental tasks, transitions, and career-related challenges (Savickas, 2013).

In recent years, research on career adaptability has increasingly emphasized its importance as a psychosocial resource in individuals' career development. A growing body of literature has examined its associations with various individual, contextual, and psychological factors. For example, studies have shown that career adaptability is positively associated with career self-efficacy (Li et al., 2023), emotional intelligence (Hamzah et al., 2021), and academic engagement (Datu and Buenconsejo, 2021). Moreover, literature highlights the critical role of career adaptability during periods of crisis and underscores its positive associations with constructs such as hope, resilience, and life satisfaction (Rivera et al., 2021). In addition to these correlational findings, recent research has also examined the effectiveness of structured online career interventions designed to enhance career adaptability. A recent meta-analysis of online career counseling interventions reported a large overall effect, indicating that such programs can significantly strengthen career-related

psychological resources, particularly career adaptability (Yiğit et al., 2026). One of the key factors often highlighted and frequently examined in relation to career adaptability is family support, which is a form of social support (Song et al., 2022; Zeng et al., 2023; Zhang et al., 2021). Shumaker and Brownell (1984) define social support as a resource exchange between individuals with the goal of improving well-being. Among social bonds, family support is recognized as one of the primary contexts where such exchanges are most prominent. Career-focused studies on family support have particularly highlighted career-related parental support, which refers to parental assistance in their children's educational and career development (Turner et al., 2003). Such support is essential for shaping individuals' career goals and strengthening their confidence in managing academic and professional challenges. Career construction theory suggests that individuals develop their identity and construct their career path over time, primarily through interactions and observations of others in different roles and contexts, including family and school environments (Savickas, 2013). Savickas (2002) emphasized that the concept of vocational self begins to form at home as children learn to perceive themselves and the world through their parents' perspectives. Therefore, it can be stated that family support and parental role modeling play a critical role in individuals' career journeys. In addition to career construction theory, social cognitive career theory (SCCT; Lent et al., 1994, 2000) emphasizes the critical role of contextual supports in career development. Within social cognitive career theory, family support is conceptualized as a key environmental resource that shapes self-efficacy beliefs, outcome expectations, and career-related goals. Accordingly, perceived family support may function as an important contextual influence that facilitates the development of adaptive career behaviors, including career adaptability. Furthermore, the psychology of working theory (PWT; Duffy et al., 2016) underscores the importance of contextual and relational supports in shaping individuals' work experiences and career development. From this perspective, access to supportive relationships—including family support—can foster work volition, career adaptability, and meaningful career engagement, particularly in contexts characterized by structural constraints. Taken together, these theoretical perspectives suggest that family support functions as a critical contextual and relational resource that strengthens individuals' adaptive capacities within the broader career development process.

Present study

Building on career construction theory, social cognitive career theory, and the psychology of working theory, the present study seeks to synthesize existing findings on the association between family support and career adaptability within a comprehensive meta-analytic framework. Research on career adaptability has shown a growing trend over time. Upon reviewing the literature, it is evident that numerous studies examine the relationship between family support and career adaptability (see Guan et al., 2018; Han & Rojewski, 2015; Parola & Marcionetti, 2022; Xiao et al., 2024). The collective findings of these studies highlight the critical role of parental support in fostering career adaptability. They reveal that family support significantly

contributes to the development of young individuals' career skills and adaptability. Moreover, parental involvement is essential in guiding career decision-making and adjustment processes. Additionally, a meta-analysis examined the relationships between career adaptability, family support, career-related parental behaviors (support, interference, and lack of engagement), and family socioeconomic status. The findings indicated that family-related factors had a small effect size on career adaptability (see Wang & Dong, 2024). Although this meta-analysis provides important insights, the existing literature still lacks a focused and comprehensive synthesis that specifically examines family support as a distinct construct in relation to career adaptability. Prior meta-analytic work has generally combined diverse family-related variables, such as parental behaviors and family socioeconomic status, which may have obscured the unique contribution of perceived family support. Moreover, variations in this association across cultural contexts and developmental stages have not yet been systematically examined within a single meta-analytic framework. By isolating perceived family support and simultaneously examining cultural orientation and developmental stage as moderators, the present study offers a more conceptually precise and contextually grounded estimation of this relationship. In addition, the inclusion of recent empirical studies published in 2024 (e.g., Salim et al., 2024; Shu et al., 2024; Zhou et al., 2024) ensures that the synthesis reflects the most up-to-date evidence in this rapidly expanding area of research. In addition, a recent meta-analysis by Stead et al. (2025) examined the association between social support and career adaptability across multiple sources of support, including family, peers, teachers, and workplace-related supports. While this broader synthesis confirmed the overall importance of social support, the aggregation of diverse support sources may obscure the unique contribution of specific relational contexts. Given that family support constitutes a foundational and developmentally salient component of social support, isolating perceived family support allows for a more conceptually specific and context-sensitive estimation of its association with career adaptability.

Furthermore, career adaptability develops within broader sociocultural systems; therefore, the meaning and impact of family support may vary across individualistic and collectivistic contexts. Geert Hofstede's (2011) cultural dimensions theory differentiates between individualistic and collectivist societies, emphasizing how cultural values shape various aspects of life, including family support and career adaptability. While individualistic cultures prioritize personal success and independence, collectivist cultures place greater importance on group harmony and family expectations, making family support a key factor in career-related decision-making. Furthermore, a review of the literature shows that research findings from collectivist countries (e.g., China and Türkiye) indicate a stronger relationship between family support and career adaptability compared with individualistic countries (e.g., the USA and Australia) (Creed et al., 2009; Kenny & Bledsoe, 2005; Oral Ataç et al., 2018; Tian & Fan, 2014). Therefore, analyzing the link between family support and career adaptability across different cultural contexts through a meta-analysis is deemed crucial, and the findings can provide valuable insights for assessing individuals' career adaptability. Similarly, the developmental stage may also moderate the association between family support and career adaptability. Contemporary developmental theories emphasize that the transition from adolescence to adulthood is not an abrupt shift occurring at 18 years of age but rather a gradual process marked by exploration and

identity development. Arnett (2000, 2015) conceptualizes the period between approximately 18 and 25 years as emerging adulthood, a distinct developmental stage characterized by identity exploration, instability, and increasing autonomy, particularly in the domains of education and work. Likewise, Levinson (1986) proposed that early adulthood involves a transitional phase during which individuals begin constructing their life structure, including career-related commitments. In many societies, age 18 years nevertheless represents a legally and institutionally significant transition point, often coinciding with the period preceding entry into undergraduate education and the beginning of more independent educational or occupational pathways. For analytical purposes, and to reflect this widely recognized structural transition, developmental stages were categorized as below 18 years and 18 years and above. This categorization does not imply a rigid developmental boundary but rather serves as a practical grouping variable to examine potential developmental differences in the relationship between family support and career adaptability. Taken together, these considerations highlight the need for a meta-analytic synthesis that not only estimates the overall effect size but also delineates the theoretical and contextual

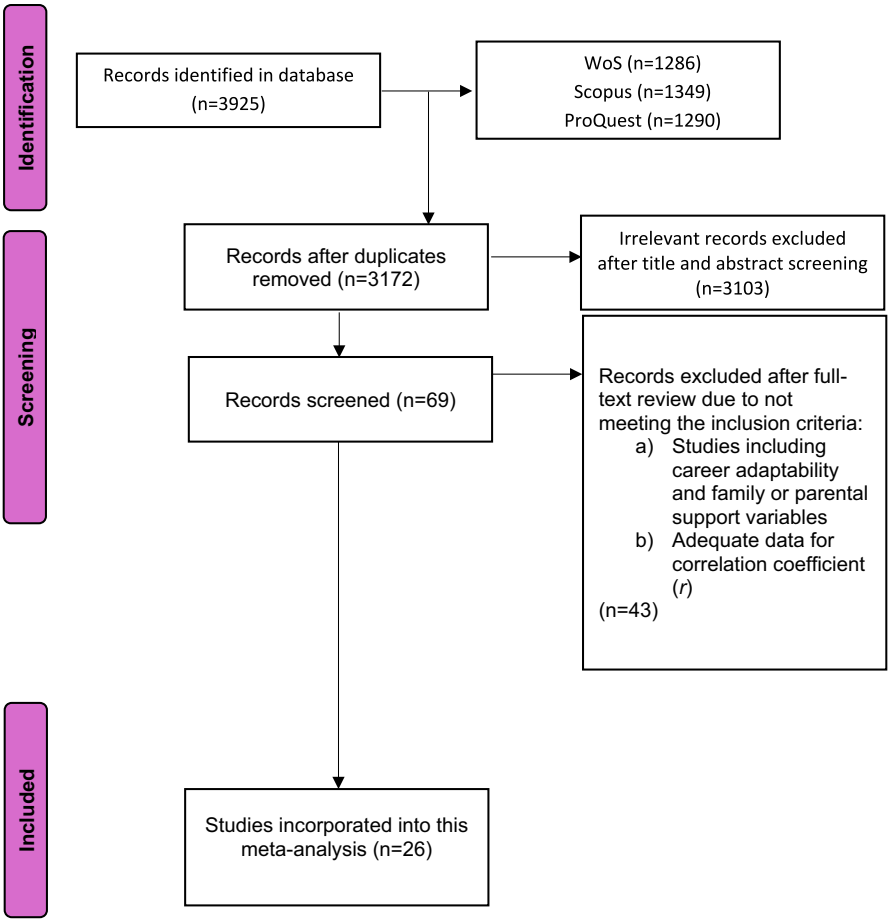

Fig. 1 PRISMA flow diagram for the meta-analysis on family support and career adaptability

boundaries of the association between family support and career adaptability. By conceptualizing perceived family support as a distinct relational resource rather than a diffuse component of broader support structures, the present study clarifies its unique position within the nomological network of career adaptability. Moreover, by integrating cultural orientation and developmental stage as contextual moderators, this study extends career construction theory and related socio-cognitive frameworks by demonstrating how adaptability is not solely an individual regulatory capacity but also a contextually embedded process shaped by relational, cultural, and developmental dynamics. In light of these considerations, the research questions addressed by the present study are as follows:

RQ1. Is there a significant relationship between family support and career adaptability?

RQ2. Does developmental stage have a moderating effect on the relationship between family support and career adaptability?

RQ3. Does cultural orientation have a moderating effect on the relationship between family support and career adaptability?

Method

Search strategies

Data collection was carried out through the stages of identification, screening, and eligibility assessment, in alignment with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines (Moher et al., 2010). First, literature was searched in December 2024 in various databases, including ProQuest, Scopus, and Web of Science (WoS). In this study, family support has been examined in relation to concepts such as family functioning, family communication, parent–child relationships, and family cohesion to achieve broader outcomes. The Boolean search strategy applied in this study was ("career adaptability") AND (family* OR parent* OR functioning OR coherence OR communication OR support OR child OR relationship), and the complete database-specific search strings, including Boolean logic, search fields, dates, and applied filters, are provided in Supplementary Material 1 to ensure transparency and reproducibility.

Inclusion and exclusion criteria

Studies were included in the meta-analysis if they met the following criteria: (1) inclusion of both career adaptability and family or parental support variables; (2) publication in English; (3) status as a peer-reviewed academic article; and (4) reporting sufficient statistical data to obtain a correlation coefficient (r). Studies were excluded on the basis of the following criteria: (1) status as a review or theoretical article; (2) use of clinical trial or experimental designs; (3) application of qualitative research methods; and (4) absence of sufficient statistical data for effect size calculation. The inclusion and exclusion process is shown in Fig. 1. A total of 26 studies conducted between 2005 and 2024 met the inclusion criteria. One study (Parola & Marcionetti, 2022) reported results from more than one

Table 1 Key characteristics of the studies included in this meta-analysis

Studies	*N*	Mean age, years	Country	Cultural orientation	Measures for family support variable	Measures for career adaptability variable	*r*
Kenny and Bledsoe (2005)	322	14.29	USA	Individualistic	Parent Subscale of the Social Support Scale for Children and Adolescents (Harter, 1985)	The Career Planning Subscale of the Career Development Inventory (CDI) (Super et al., 1981)	0.21**
Creed et al. (2009)	245	20	Australia	Individualistic	Family Subscale of MSPSS (Zimet et al., 1988)	Career Thinking and Planning Subscale of Career Salience Scale (Greenhaus, 1971)	0.06
***Yousefi et al. (2011)	307	21	Iran	Collectivist	Family Subscale of MSPSS (Zimet et al., 1988)	1. Career Thinking and Planning Subscale of Career Salience Scale (Greenhaus, 1971) 2. Career Exploration Subscale of Career Exploration Survey (Stumpf et al., 1983) 3. Self-Exploration Subscale of Career Exploration Survey (Stumpf et al., 1983) 4. Indecision Subscale of the Career Decision Scale (Osipow, 1987) 5. Self-Regulation Questionnaire (Neal & Carey, 2005)	0.089
Tian and Fan (2014)	431	21.93	China	Collectivist	Family Subscale of MSPSS (Zimet et al., 1988)	Career Adapt-Abilities Scale (CAAS) (Hou et al., 2012)	0.42**

Table 1 (continued)

Studies	*N*	Mean age, years	Country	Cultural orientation	Measures for family support variable	Measures for career adaptability variable	*r*
Guan et al. (2015)	244	21.11	China	Collectivist	The Career-Related Parental Support Subscale of PCB (Guan et al., 2015)	CAAS (Hou et al., 2012)	0.21**
Han and Rojewski (2015)	3869	Unknown (all participants were high school graduates)	Korea	Individualistic	Perceived Self-Exploration Support (PSES)	Career Planning (CP)	0.236**
Guan et al. (2016)	731	21.29	China	Collectivist	Career-Related Parent Support Scale (CRPSS) (Turner et al., 2003)	CAAS (Hou et al., 2012)	0.20**
Oral Ataç et al. (2018)	313	22.6	Türkiye	Collectivist	Family Subscale of MSPSS (Zimet et al., 1988)	CAAS (Kanten, 2012)	0.50**
Guan et al. (2018)	264	21.00	China	Collectivist	The Career-Related Parental Support Subscale of PCB (Guan et al., 2015)	CAAS (Hou et al., 2012)	0.27**
Takawira (2020)	606	35.41	South Africa	Collectivist	Family Subscale of MSPSS (Zimet et al., 1988)	CAAS (Savickas &Porfeli, 2012)	0.18**
Zhou et al. (2020)	5388	15.79	China	Collectivist	Parental Support Subscale of PCB (Guan et al., 2015)	CAAS (Hou et al., 2012)	0.42*
Jiang et al. (2022)	1930	15	China	Collectivist	Parental Autonomy Support Scale (Qin et al., 2013)	CAAS (Savickas & Porfeli, 2012)	0.30**
Newman et al. (2022)	111	37.76	Australia	Individualistic	Family Social Support Scale (Walen & Lachman, 2000)	CAAS-Short Form (Maggiori et al., 2017)	0.17

Table 1 (continued)

Studies	*N*	Mean age, years	Country	Cultural orientation	Measures for family support variable	Measures for career adaptability variable	*r*
****Parola and Marcionetti (2022)	182	13.14	Italy	Individualistic	Parental Support Subscale of PCB (Marcionetti & Rossier, 2016)	CAAS (Soresi et al., 2012)	0.33**
	141	18.38	Italy	Individualistic	Parental Support Subscale of PCB (Marcionetti & Rossier, 2016)	CAAS (Soresi et al., 2012)	0.33**
	190	22.97	Italy	Individualistic	Parental Support Subscale of PCB (Marcionetti & Rossier, 2016)	CAAS (Soresi et al., 2012)	0.22**
Rençber & Paşaoğlu Baş (2023)	171	Not reported (the age range is 18–57 years)	Türkiye	Collectivist	Family Subscale of MSPSS (Eker et al., 2001)	CAAS-Short Form (Işık et al., 2018)	0.01
Kvasková et al. (2023)	3126	18.8	Czech Republic	Individualistic	Parent Career Behavior Checklist (PCBC) (Hlaďo & Ježek, 2018)	CAAS (Hlad'o et al., 2020)	0.215**
Leung and Zhou (2024)	8766	16.57	China	Collectivist	Parental Career Support-Behavior Scale (Support-B) (Zhou, 2012)	CAAS (Hou et al., 2012)	0.24**
Li (2024)	600	21.94	China	Collectivist	Parental Support Subscale of PCB (Guan et al., 2015)	CAAS-Short Form (Maggiori et al., 2017)	0.43**
Salim et al. (2024)	176	Not reported (all participants were undergraduate student)	Indonesia	Collectivist	Parents Subscale of the Social Provisions Scale (SPS) (Thohiroh et al., 2019)	CAAS (Sulistiani et al., 2019)	0.280**
Shu et al. (2024)	408	16.10	China	Collectivist	Network of Relationships Inventory (NRI) (Tian et al., 2013)	CAAS (Hou et al., 2012)	0.40**

Table 1 (continued)

Studies	*N*	Mean age, years	Country	Cultural orientation	Measures for family support variable	Measures for career adaptability variable	*r*
Wang et al.(2024a)	676	19.29	China	Collectivist	The Career-Related Parental Support Subscale of PCB (Dietrich & Kracke, 2009)	CAAS-Short Form (Maggiori et al., 2017)	0.23**
Wang et al. (2024b)	1268	14.62	China	Collectivist	Family Subscale of MSPSS (Jiang, 2001)	CAAS (Savickas & Porfeli, 2012)	0.38**
Xiao et al. (2024)	516	16.28	China	Collectivist	The Career-Related Parental Support Subscale of PCB (Guan et al., 2015)	CAAS (Hou et al., 2012)	0.42**
Zeng et al. (2024)	521	16.45	China	Collectivist	The Career-Related Parental Support Subscale of PCB (Guan et al., 2015)	CAAS (Hou et al., 2012)	0.53**
Zhao et al. (2024)	482	12.92	China	Collectivist	The Parental Autonomy Support Scale (Wang et al., 2007)	CAAS (Savickas & Porfeli, 2012)	0.46**
Zhou et al. (2024)	3837	16.68	China	Collectivist	The Career-Related Parental Support Subscale of PCB (Guan et al., 2015)	CAAS (Hou et al., 2012)	0.42**

*$p < 0.05$, **$p < 0.01$

***The total score of career adaptability was calculated as the sum of the scores from five scales (Yousefi et al., 2011)

****As Parola and Marcionetti (2022) included three independent samples, the corresponding *r* values were entered into the meta-analysis as separate and statistically independent estimates

independent sample; therefore, the meta-analysis included a total of 28 independent samples derived from 26 studies. These studies are presented in Table 1.

Screening process

The analyses were conducted on the basis of 26 studies, which together provided 28 independent samples. A review of the literature revealed that, between 2005 and 2011, career adaptability was measured using various instruments, including the Career Planning Subscale of the Career Development Inventory (CDI) (Super et al., 1981), the Career Thinking and Planning Subscale of the Career Salience Scale (Greenhaus, 1971), the Career Exploration and Self-Exploration Subscales of the Career Exploration Survey (Stumpf et al., 1983), the Indecision Subscale of the Career Decision Scale (Osipow, 1987), and the Self-Regulation Questionnaire (Neal & Carey, 2005). Studies using these instruments were included in the meta-analysis. After 2011, however, the Career Adapt-Abilities Scale (CAAS) developed by Savickas and Porfeli (2012) became the most used tool for measuring career adaptability in research. Similarly, family support has also been measured using various instruments in the literature. Among the most commonly used instruments are the Family Support Subscale of the Multidimensional Scale of Perceived Social Support (MSPSS) (Zimet et al., 1988) and the Career-Related Parental Support Subscale of the Perceived Career-Specific Parental Behaviors Scale (PCB) (Dietrich & Kracke, 2009). Additionally, studies utilizing a diverse range of other measurement instruments to assess family support and its various subdimensions were included in the meta-analysis; a comprehensive list of these instruments is provided in Table 1.

Data analysis

All analyses in this study were conducted using version 4.0 of the Comprehensive Meta-Analysis (CMA) software. Pearson correlation coefficients (r) reported in individual studies were transformed into Fisher's Z-values to stabilize variance. The meta-analytic mean effect size was computed on the basis of these transformed values and then converted back to the Pearson correlation coefficient (r) to facilitate interpretation and reporting. The process commenced with an assessment of heterogeneity across the included studies, utilizing the Q-test and I^2 statistics. A random-effects model with restricted maximum likelihood estimation was applied to account

Table 2 Random model of the correlation between family support and career adaptability

k	N	r	95% CI	95% PI	Test of null	Heterogeneity			
					Z-value; p-Value	Q	df (Q)	p-Value	I^2
28	35,821	0.302	**[0.259, 0.344]**	**[0.064, 0.508]**	13.021; 0.000	451.884	27	0.000	94.025

Note. Bolded values indicate statistically significant confidence and prediction intervals that do not include zero

for variability across studies and to estimate the average effect size. Subsequently, a test of null was performed to determine whether the overall effect size was significantly different from zero. To identify potential sources of heterogeneity, a meta-analysis of variance (meta-ANOVA) was conducted to examine the moderating effects of developmental stages and cultural orientation. In addition, given the substantial heterogeneity observed, an exploratory moderator analysis was conducted to examine whether the measurement of career adaptability (Career Adapt-Abilities Scale versus other measures of career adaptability) accounted for variability in effect sizes. Finally, publication bias was assessed using various methods, including Egger's regression test (Egger et al., 1997), funnel plot analysis, and the classic Fail-safe N technique.

Results

Effect size and the heterogeneity test

According to the heterogeneity test results presented in Table 2 ($Q = 451.884$, $p < 0.001$, $I^2 = 94.025$), it can be stated that the data from 28 independent samples extracted from 26 studies exhibit heterogeneity. Because the p-value obtained from the Q-test was below the alpha threshold (which is sometimes set at 0.10 for the Q-test; Higgins et al., 2019), it was inferred that the effect sizes varied across the included studies. In the present meta-analysis, 94.025% of the observed variance in effect sizes reflects true heterogeneity rather than sampling error, as indicated by the I^2 statistic (Borenstein, 2024). The I^2 value of 94.025% falls into the high heterogeneity category as it exceeds 75% (Higgins et al., 2003).

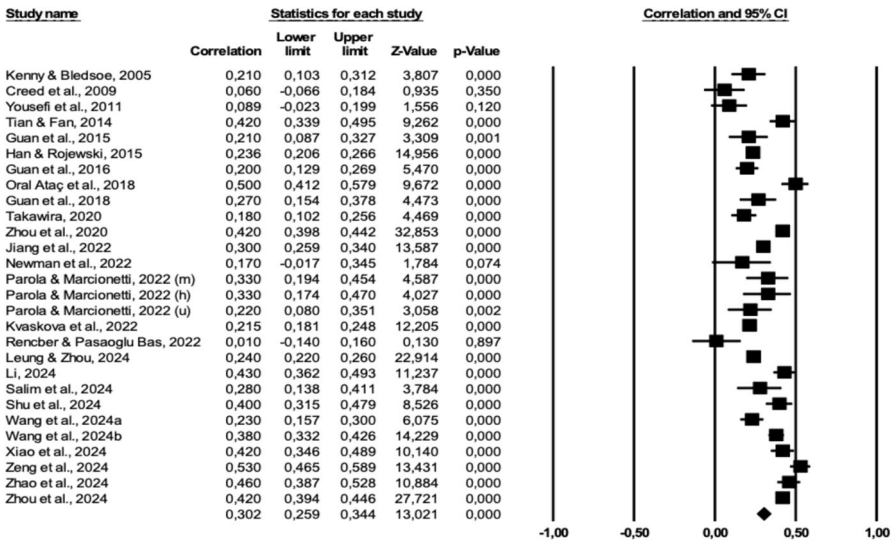

Fig. 2 Forest plot

This finding confirms the appropriateness of using a random-effects model in the meta-analysis. Under the random-effects model, the correlation between family support variables and career adaptability was found to be 0.302 (95% CI [0.259, 0.344], $p < 0.001$), on the basis of a total of 35,821 participants, supporting the effect of family support on career adaptability. This pooled estimate indicates a positive association of meaningful magnitude. According to Cohen's (1988) conventional benchmarks, this value would be classified as a moderate effect. However, contemporary methodological discussions emphasize that effect size interpretation should not rely exclusively on fixed numerical thresholds but should instead be evaluated within the substantive research context (Bosco et al., 2015). In applied psychological research, correlations in the 0.20–0.30 range are frequently observed and may represent practically meaningful associations, particularly when examining contextual predictors such as perceived family support (Funder & Ozer, 2019; Gignac & Szodorai, 2016). Moreover, given the substantial between-study heterogeneity observed in the present meta-analysis, the pooled effect should be interpreted as an average across diverse contexts rather than as a single uniformly "moderate" association. Accordingly, the practical meaning of this correlation is best understood as context-dependent. In addition to the confidence interval (CI), a 95% prediction interval (PI) was computed to estimate the expected range of true effects in a new study. The prediction interval ranged from 0.064–0.508, indicating that although the magnitude of the association varies across studies, the true effect is expected to remain positive in comparable contexts. On the basis of the test of null, the Z-value of 13.021 ($p < 0.001$) demonstrates that the overall effect size significantly differs from zero. This finding indicates that the relationship between family support and career adaptability identified in the meta-analysis is statistically significant and not likely attributable to random sampling error (Borenstein et al., 2009). These overall heterogeneity and effect size results are presented in Table 2.

Furthermore, the effect of family support on career adaptability is shown with a forest plot in Fig. 2. As shown in Fig. 2, the effect sizes are positive overall, and the confidence intervals largely do not include zero, indicating that most estimates are statistically significant.

Moderator analysis

Random-effects models were also utilized in the analysis of moderating effects. A meta-ANOVA was conducted to examine the moderating effects of developmental stages (categorized on the basis of whether the sample's mean age was above or below 18 years), cultural orientation (classified as individualistic or collectivist on the basis of the culture in which the study was conducted), and the measurement approach used to assess career adaptability (Career Adapt-Abilities Scale versus other instruments). The results indicate that developmental stage had a moderating effect on the relationship between family support and career adaptability ($Q = 10.390$, df $= 1$, $p = 0.001$). Specifically, studies with

Table 3 Developmental stage and cultural orientation are moderators of the relationship between family support and career adaptability

Developmental stage	*n*	Q_b	*r* [95% CI]	[95% PI]	*p*
		10.390 (1)			.001
Below average age of 18 years	11		.378 **[0.315, 0.437]**	**[0.093, 0.607]**	.000
Average age of 18 years and above	17		.247 **[0.196, 0.296]**	**[0.053, 0.424]**	.000
Cultural orientation					
		11.365 (1)			.001
Individualistic	8		.221 **[0.183, 0.258]**	**[0.146, 0.293]**	.000
Collectivist	20		.330 **[0.279, 0.380]**	**[0.078, 0.550]**	.000
Measurement of career adaptability					
		10.605 (1)			.001
Other career adaptability measures	4		.160 **[0.068, 0.249]**	**[−0.005, 0.325]**	.000
Career Adapt-Abilities Scale	24		.326 **[0.280, 0.370]**	**[0.095, 0.557]**	.000

Note. Bolded values indicate statistically significant confidence and prediction intervals that do not include zero

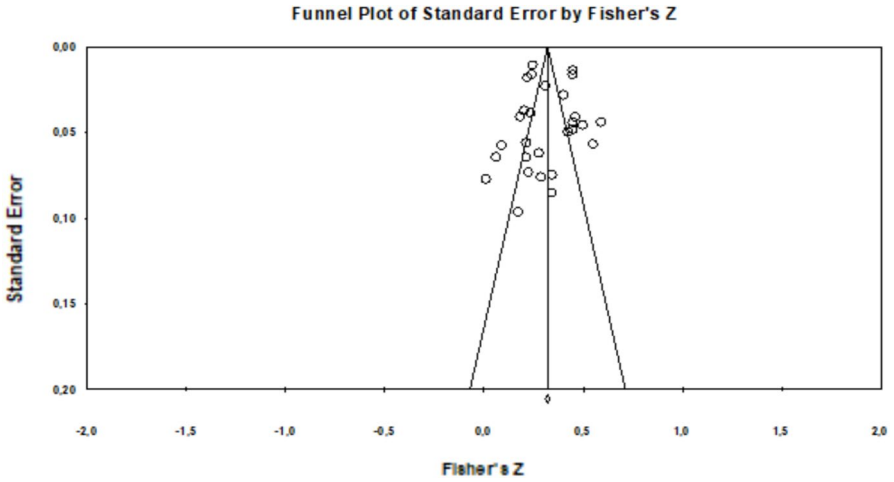

Fig. 3 Funnel plot of the effect sizes of the correlation between family support and career adaptability

Table 4 Publication bias analysis

Classic Fail-safe N	Egger's intercept	SE	Lower limit	Upper limit	*p*-Value (one-tailed)	*p*-Value (two-tailed)
7446	−0.07932	1.34864	−2.85150	2.69286	0.47678	0.95355

samples where the mean age was below 18 years yielded a stronger association ($r = 0.378$, $p < 0.001$) compared with studies with samples where the mean age was 18 years or above ($r = 0.247$, $p < 0.001$). Although these values correspond

to moderate and small effect sizes according to Cohen (1988), recent scholarship emphasizes interpreting correlations within their research context rather than relying solely on universal cutoffs (Ferguson, 2009; Funder & Ozer, 2019). In this context, the difference suggests that perceived family support may play a more salient role during earlier stages of vocational identity formation. Similarly, cultural orientation emerged as a significant moderator of this relationship ($Q = 11.365$, df = 1, $p = 0.001$). This classification was conceptually grounded in established cross-cultural frameworks emphasizing individualism–collectivism (Hofstede, 2001). Country-level classifications were operationalized using publicly available cultural indices compiled by The Culture Factor Group (n.d.), which synthesizes data from widely cited cross-cultural research. Countries were categorized as collectivist or individualistic on the basis of their dominant cultural orientation as indicated by this source. The association between family support and career adaptability was stronger in collectivist countries (Iran, China, Türkiye, South Africa, and Indonesia; $r = 0.330$, $p < 0.001$) than in individualistic countries (the USA, Australia, South Korea, Italy, and the Czech Republic; $r = 0.221$, $p < 0.001$). Although these estimates correspond to moderate ($r = 0.330$) and small ($r = 0.221$) effect sizes according to Cohen's (1988) benchmarks, their interpretation is better grounded in sociocultural theory, which suggests that family-based relational resources may carry greater developmental weight in collectivist contexts. Finally, an exploratory moderator analysis examined whether the measurement instrument used to assess career adaptability influenced the strength of the association. The results indicated a significant moderating effect of measurement ($Q = 10.605$, df = 1, $p = 0.001$). Studies using the Career Adapt-Abilities Scale (CAAS) yielded stronger associations ($r = 0.326$, $p = 0.000$) than studies using other instruments ($r = 0.160$, $p = 0.000$), including the Career Planning Subscale of the Career Development Inventory, the Career Thinking and Planning Subscale of the Career Salience Scale, the Career Exploration and Self-Exploration Subscales of the Career Exploration Survey, the Indecision Subscale of the Career Decision Scale, and the Self-Regulation Questionnaire. Taken together, these findings indicate that developmental stage, cultural context, and measurement approach significantly shape the magnitude of the association between family support and career adaptability, as summarized in Table 3.

Publication bias

To assess whether the results were influenced by effect sizes from various sources, a funnel plot was created. When there is no bias, the plot takes the shape of a symmetrical inverted funnel. However, if bias exists, the funnel plot is likely to be skewed and asymmetrical (Egger et al., 1997). As shown in Fig. 3, the 28 effect sizes are symmetrically distributed around the mean effect size. Given that the funnel plot serves as a visual and preliminary test for publication bias, additional analyses were conducted using the classic Fail-safe N and Egger's test for more accurate results. Table 4 reveals that the classic Fail-safe N for the association between family support

and career adaptability is 7446, suggesting that 7446 studies would be required to invalidate the findings of this analysis (Rosenthal, 1979). Furthermore, the *p*-values from Egger's test were 0.47678 and 0.95355, both exceeding 0.05, indicating no significant asymmetry in the funnel plot (Egger et al., 1997).

Discussion

Over the past few years, career adaptability has been widely recognized as a vital resource for effective career development, addressing various challenges in professional and occupational contexts, and enhancing overall well-being (Johnston, 2018). Parental support is regarded as one of the most important factors in career adaptability, serving as a significant environmental influence that provides essential emotional and practical resources for effective career decision-making and planning (Han & Rojewski, 2015). This study incorporates 28 independent samples derived from 26 studies to examine the association between family support and career adaptability. The findings contribute to understanding not only the association between family support and career adaptability but also the influence of cultural orientation and developmental stages on this relationship. Additionally, the study emphasizes the importance of raising awareness among families and promoting family support for healthy career development.

Consistent with the first research question (RQ1), the findings revealed a statistically significant association between family support and career adaptability. Studies conducted across different cultures over time have highlighted the positive association between family support and career adaptability (Kenny & Bledsoe, 2005; Kvasková et al., 2023; Oral Ataç et al., 2018; Tian & Fan, 2014). A review of the literature reveals that parental support predicts career adaptability through multiple pathways. For instance, Liang et al. (2020), in their longitudinal study conducted with 441 high school students, found that parental support increases consideration of future consequences, which in turn enhances career adaptability. This finding highlights the mediating role of consideration of future consequences, suggesting that fostering parental involvement may indirectly contribute to adolescents' career adaptability by encouraging them to think more about the long-term outcomes of their decisions. Salim et al. (2024), in their study conducted with university students, found that parental support enhances core self-evaluation, which in turn positively affects career adaptability. This finding suggests that parental support may indirectly enhance career adaptability by positively contributing to individuals' self-efficacy, self-confidence, and self-perception. The present findings should also be interpreted in light of prior meta-analytic work on career adaptability. Consistent with the findings of this study, the meta-analysis conducted by Wang and Dong (2024) demonstrated that family support had a significant and moderate effect size on career adaptability, providing strong evidence for the link between family support and career adaptability. At a broader level, recent meta-analytic findings have demonstrated that social support is positively associated with career adaptability across various relational contexts (Stead et al., 2025). The present study complements this broader

perspective by demonstrating that family support—conceptualized as a central component of social support—plays a particularly meaningful role, especially during earlier developmental stages and within collectivist cultural contexts. This suggests that not all sources of social support may operate uniformly; rather, the salience and magnitude of their influence may depend on developmental and sociocultural conditions. Moreover, Rudolph et al. (2017), drawing on the career construction model of adaptation, synthesized relationships between career adaptability and indicators of adaptivity, adapting responses, and adaptation results. Their results positioned career adaptability primarily within an individual-difference and self-regulatory framework. In contrast, the present meta-analysis shifts the focus toward perceived family support as a contextual and relational resource that may facilitate the development of career adaptability. By examining cultural orientation and developmental stage as moderators, our findings extend the career construction model by integrating socio-contextual influences into the nomological network of career adaptability. According to career construction theory (Savickas, 2013), individuals shape their identity and build their career trajectories over time, largely influenced by their interactions and observations of others in different roles and contexts, including family and school settings. On the basis of this, it can be argued that positive interactions with family, such as receiving support from them, family functioning, family communication, parent–child relationships, and family cohesion positively influence career adaptability. Complementing this view, social cognitive career theory (Lent et al., 1994) explains how family support may enhance career adaptability indirectly by shaping self-efficacy beliefs and positive outcome expectations, which are central mechanisms within the theory. Through encouragement, role modeling, and informational guidance, families may reinforce adaptive career-related beliefs and anticipated outcomes, thereby facilitating adaptive career behaviors. Thus, the present findings align not only with career construction theory but also with social cognitive frameworks that highlight the role of contextual supports in career development. Similarly, the psychology of working theory (Duffy et al., 2016) underscores the importance of contextual and relational supports in fostering work volition and adaptive capacities, particularly in contexts characterized by structural or economic constraints. From this broader socio-structural perspective, supportive family relationships may function as protective resources that enable individuals to navigate career-related challenges more effectively. Taken together, career adaptability develops through dynamic interactions between individual agency and contextual supports. In line with this perspective, Leung and Zhou (2024) highlighted that the adaptability process is influenced by environmental constraints and shifts in opportunity structures. They further pointed out that family and parental interactions, as well as the support received from them, can play a critical role in either fostering or hindering the development of adaptability-related skills, behaviors, and outcomes. Importantly, the prediction interval provides additional insight into the dispersion of true effects across contexts. Although several primary studies reported near-zero or nonsignificant correlations, the prediction interval indicates that the true association in a comparable future study is expected to remain positive. At the same time, the breadth of the interval reflects meaningful variability in effect

magnitude, consistent with the substantial heterogeneity observed. Thus, while the direction of the relationship appears robust, its strength is context-sensitive and may depend on developmental, cultural, and methodological conditions.

Addressing the second research question (RQ2), the results demonstrated that developmental stage significantly moderates the relationship between family support and career adaptability. The findings indicated that in studies involving samples with an average age below 18 years ($k = 11$), the association between family support and career adaptability was stronger, whereas in samples with an average age of 18 years or higher ($k = 17$), the association was comparatively weaker. These results suggest that family support is relatively more influential on career adaptability for those under the age of 18 years. Zulfiani and Khaerani (2021) emphasized that the family is one of the most significant factors influencing career adaptability during high school years, as it serves as the primary environment shaping this adaptability. They further noted that the family is the first and most accessible source of information for adolescents in developing interests and skills related to specific careers. Moreover, according to Savickas's (2002) career construction theory, parental support plays a vital role in fostering personal autonomy and self-efficacy during the growth stage, which encompasses the period before the age of 18 years. This stage is crucial for the development of an individual's vocational self-concept. Mastery of these developmental tasks strengthens career adaptability, facilitating effective functioning in professional roles and ensuring success in later career stages (Guan et al., 2016; Savickas, 2002). Nevertheless, while the importance of family support during middle and high school years has been emphasized, it is observed that family support remains significant even after the age of 18 years, particularly during emerging adulthood, although the relationship is weaker compared with the other group. Notably, the prediction intervals for both developmental stages did not include zero, suggesting that family support remains a positive correlate of career adaptability across developmental stages. However, the wider interval observed in the younger group indicates greater dispersion in effect sizes, implying that contextual factors during adolescence may amplify or attenuate the strength of this association.

Consistent with the third research question (RQ3), cultural orientation was found to significantly moderate the association between family support and career adaptability. In the present study, collectivist contexts included Iran, China, Türkiye, South Africa, and Indonesia, whereas individualistic contexts included the USA, Australia, South Korea, Italy, and the Czech Republic. When the moderating effect across these cultural groups was examined, the association between family support and career adaptability was stronger in collectivist than in individualistic contexts. An examination of the literature reveals that studies conducted in collectivist countries report a stronger link between family support and career adaptability than those conducted in individualistic countries (Creed et al., 2009; Kenny & Bledsoe, 2005; Oral Ataç et al., 2018; Tian & Fan, 2014). Kim et al. (2008) stated that in collectivist cultures, individuals may not need to request support, as there is a widespread belief that people in their close social circles take on the responsibility of anticipating their needs and providing support before it is explicitly requested. This suggests that in collectivist cultures, family support is typically perceived as an inherent and readily available feature of close relationships, rather than a resource that needs to be

actively sought. In line with this interpretation, individuals in collectivist contexts may also be more inclined to provide support to members of their in-group, particularly family members. The emphasis on family in collectivist societies is likely to result in greater levels of support within both nuclear and extended families (van de Vijver & Arends-Tóth, 2009). Accordingly, the greater influence of family support on career adaptability in collectivist cultures can be explained by the presence of strong family bonds, a tighter sense of unity, and the perception of support as a natural part of the social structure. While the importance of family support has been emphasized in collectivist cultures, it cannot be overlooked that family support still plays a significant role in individualistic cultures, even though the relationship is weaker compared with the other group. Importantly, the prediction intervals across cultural contexts did not include zero, indicating that the positive direction of the association is preserved in both individualistic and collectivist settings. Nevertheless, the broader interval observed in collectivist contexts suggests that although family support tends to exert a stronger influence in these societies; its magnitude may vary depending on sociocultural dynamics and family norms.

In addition to developmental and cultural differences, the exploratory moderator analysis further suggested that the measurement of career adaptability contributes to variability in effect sizes. Specifically, studies using the Career Adapt-Abilities Scale (CAAS) reported stronger associations between family support and career adaptability compared with studies employing other instruments (e.g., the Career Planning Subscale of the Career Development Inventory, the Career Thinking and Planning Subscale of the Career Salience Scale, etc.). This finding may reflect differences in conceptual breadth. The CAAS operationalizes career adaptability as a multidimensional construct encompassing concern, control, curiosity, and confidence and was explicitly developed within the framework of career construction theory (Savickas, 2013). As such, it captures a broad set of adaptive psychosocial resources central to the conceptualization of career adaptability. In contrast, some alternative instruments included in the present meta-analysis assess more specific career-related processes (e.g., planning, exploration, or decision-related tendencies) rather than the full multidimensional structure of career adaptability. Nevertheless, these instruments were included because they tap into conceptually related aspects of adaptive career behavior that have been used in prior research to represent elements of career adaptability. Consequently, family support may demonstrate a stronger association when career adaptability is assessed comprehensively rather than through specific subcomponents. At the same time, the prediction interval for studies using non-CAAS instruments approached zero (e.g. Creed et al., 2009; Han & Rojewski, 2015; Kenny & Bledsoe, 2005; Yousefi et al., 2011), suggesting that the strength—and in some contexts even the presence—of the association may depend partly on how career adaptability is operationalized. However, this finding should be interpreted cautiously owing to the relatively small number of non-CAAS studies ($k = 4$). Overall, these results highlight that methodological heterogeneity, particularly differences in measurement approaches and the psychometric properties of instruments used to assess career adaptability, represents an important source of variability and should be considered when interpreting pooled effect sizes.

Taken together, these moderator findings point not only to statistical heterogeneity but also to meaningful practical heterogeneity. The included studies differed substantially in sample characteristics (e.g., secondary school students versus university students versus working adults), cultural settings (e.g., collectivist countries such as Iran, China, and Türkiye versus individualistic countries such as the USA, Australia, and Italy), and measurement approaches (e.g., the Career Adapt-Abilities Scale versus alternative instruments such as the Career Development Inventory or the Career Exploration Survey). For instance, effect sizes tended to be stronger in adolescent samples from collectivist contexts using multidimensional instruments such as the CAAS, whereas weaker associations were observed in adult samples from individualistic contexts or in studies employing narrower operationalizations of career adaptability. These differences suggest that the practical salience of family support may vary depending on the developmental demands individuals face, the sociocultural expectations surrounding family involvement, and the breadth with which career adaptability is conceptualized. Therefore, the pooled effect should not be interpreted as uniformly applicable across all contexts; rather, it represents an average of contextually embedded associations that may be substantially stronger or weaker under specific conditions.

Implications

This study highlights the potential role of family support in relation to career adaptability, suggesting that cultural orientation, developmental stage, and measurement approaches may act as moderating factors in this relationship. The findings indicate that the magnitude of the association between family support and career adaptability tends to vary across developmental stages, cultural contexts, and measurement approaches (e.g., the multidimensional Career Adapt-Abilities Scale versus measures focusing on more specific career-related processes such as planning or exploration). These patterns may offer useful insights for refining intervention-targeting strategies. Rather than suggesting that family support functions as a uniformly beneficial resource across contexts, the results point to the possibility that its influence may be context-sensitive. This has potential implications for the design of developmentally timed and culturally responsive career counseling programs. In particular, the findings suggest that the association between family support and career adaptability may be stronger in collectivist contexts than in individualistic ones and may be more pronounced among individuals younger than 18 years, highlighting the potential developmental and cultural nuances of this relationship. On the basis of the results, it can be suggested that families, particularly in collectivist cultures, should be encouraged to provide emotional and practical support during critical career decision-making processes. Educational institutions and career counseling programs can adopt family centered approaches, such as organizing workshops and parent–student meetings, to strengthen family involvement in the career development process. Furthermore, policymakers can develop school–family collaboration platforms to help bridge gaps in career adaptability development. Taken together, the findings underscore the critical importance of embedding family dynamics within career development frameworks

and advocate for culturally and age-appropriate interventions to optimize the role of family support in enhancing career adaptability. In addition, the findings regarding measurement differences suggest that the practical strength of family support may be more evident when career adaptability is assessed using comprehensive multidimensional instruments such as the CAAS. This highlights the importance of measurement alignment in both research and intervention evaluation. Practitioners and researchers should ensure that the instruments used to assess career adaptability adequately capture its multidimensional nature, as narrower operationalizations may underestimate the role of contextual supports such as family involvement.

Limitations and future directions

This study was subject to certain limitations. First, only studies published in English were included. Future studies could expand their scope by incorporating research published in different languages, reducing language bias and enabling a more comprehensive analysis of the literature. An additional limitation of this study stems from the limited availability of the necessary data. Although efforts were made to gather usable data from 69 studies, only 26 offered adequate information for calculating effect sizes. This limitation may affect the ability to conduct a fully comprehensive synthesis of the included studies. To overcome this, future research should focus on ensuring access to comprehensive datasets by promoting improved communication with authors, encouraging data-sharing initiatives, and advocating for more detailed and transparent reporting standards in academic research. Third, although this study examined cultural orientation, developmental stage, and measurement approach as potential sources of heterogeneity, other moderators may also contribute to between-study variability. Additionally, although an exploratory moderator analysis examined the measurement of career adaptability, the number of studies using instruments other than the CAAS was relatively small. The other measures category also comprised heterogeneous instruments that may differ conceptually and psychometrically. Therefore, the moderating effect of measurement should be interpreted cautiously. Future meta-analyses with more balanced subgroup distributions could examine specific instruments separately to better isolate the role of measurement differences in explaining heterogeneity. Moreover, although developmental stage was categorized using 18 years as a structural and institutional transition point, future meta-analytic research may benefit from adopting a more fine-grained developmental classification based on the emerging adulthood framework (Arnett, 2000, 2015). For instance, distinguishing among adolescence, emerging adulthood, and early adulthood could provide a more fine-grained understanding of how family support relates to career adaptability across developmental periods. Such differentiation may clarify whether the influence of family support gradually decreases, transforms, or operates through different mechanisms across developmental stages. Importantly, substantial heterogeneity remained even within moderator subgroups, suggesting that the examined moderators do not fully account for the variability observed across studies. Unmeasured factors—such as educational level, socioeconomic level, or study year—may also contribute to differences in effect sizes. Therefore, the moderating effects identified in this study should be interpreted as partial

explanations of heterogeneity rather than comprehensive accounts of all sources of variance. Future meta-analytic research could incorporate a broader range of contextual, demographic, and methodological moderators and employ meta-regression approaches to more precisely model residual heterogeneity and clarify the conditions under which family support is more or less strongly associated with career adaptability. Lastly, since this study included cross-sectional studies and single-wave correlations from longitudinal studies, it is not possible to establish causal relationships between the variables examined. Future research should consider employing longitudinal designs to monitor changes over time and utilizing experimental or quasi-experimental methods to determine causal relationships.

Conclusions

This meta-analysis synthesized findings from 26 primary studies, yielding 28 independent samples, to examine the association between family support and career adaptability. The findings indicated a significant association between family support and career adaptability. The study underscores the vital role of family support in fostering career development and adaptability, emphasizing the necessity of actively engaging families in career-related interventions. Moreover, it was found that cultural orientation and developmental stage moderate this relationship. In this context, family support was found to have a stronger effect on career adaptability in collectivist cultures, although its influence in individualistic cultures cannot be overlooked. Similarly, while family support exhibited a stronger effect among individuals under the age of 18 years, its effect was also found to persist in those aged 18 years and above. Additionally, the findings indicated that the magnitude of this association varied according to the measurement approach, with studies employing the multidimensional Career Adapt-Abilities Scale (CAAS) yielding stronger effect sizes. Overall, while the direction of the relationship remained consistently positive, its strength appeared to be context-sensitive, shaped by differences in measurement approach and construct operationalization.

Supplementary Information The online version contains supplementary material available at https://doi.org/10.1007/s10775-026-09808-z.

Funding Open access funding provided by the Scientific and Technological Research Council of Türkiye (TÜBİTAK). The authors received no financial support for the research, authorship, and/or publication of this article.

Data availability Data will be available on request.

Declarations

Conflict of interest No conflicts of interest exist for this manuscript for any of the authors.

Ethical approval The study protocol has been approved by Yildiz Technical University Scientific Research and Ethical Review Board (Issue No: 20241204013). This meta-analysis was based exclusively on data extracted from previously published studies and did not involve the collection of primary data from human participants.

Consent to participate Informed consent was obtained from all the individual participants that were included in the study.

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