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Parental career-related behaviors and adolescents' career adaptation: Evidence from college students in transition from school to work

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Abstract: This study examined parental career-related behaviors and adolescents' career adaptation and the role of personal growth initiative and future work self salience in that relationship. Survey data were from 794 college students (female ratio = 46.85%; age = 21.22 ± 0.75), attending three universities in Central China. Results following structural equation modeling show that higher parental career-related behavior is associated with higher adolescents' career adaptation. However, parental interference and lack of engagement are associated with lower adolescents' career adaptation. Moreover, parental supportive behaviors are associated with adolescents' career adaptation through adolescents' personal growth initiative and future work self-salience. Conversely, parental interference and lack of engagement are associated with lower adolescents' personal growth initiative and future work self salience. The findings align with Career Construction Theory and highlight that student counseling and development services should emphasize the importance of considering the family environment in adolescents' career development.

Keywords: parental career-related behaviors; career adaptability; personal growth initiative; future work self salience

Introduction

The family environment, as an essential starting point for individual socialization, significantly shapes adolescents' values, worldviews, and career perceptions (Young et al., 2001). Within the family system, parental career-related behaviors play a crucial role (Denault et al., 2019; Dietrich & Kracke, 2009). These activities not only compensate for potential shortcomings in other areas among adolescents, but within a collectivist cultural context, the influence of parental behavior often outweighs the individual interests and hobbies of the adolescents themselves (Lent et al., 2000). Research indicates that parental support fosters adolescents' personal growth initiative by fulfilling their fundamental psychological needs, thereby promoting a clearer future work self salience. and enhancing career adaptability (Angelini et al., 2025; Xu et al., 2025). Conversely, parental interference or absence may indirectly undermine adaptability by inhibiting these intrinsic psychological resources. Although previous studies have revealed the aforementioned indirect pathways, significant limitations remain. Most existing literature focuses on the independent effects of single behavioral types (such as support), making it difficult to uncover the complex interplay among variables. More importantly, few studies have systematically examined the chain-mediated effects that personal growth initiative and future work self-clarity may have on the relationship between parental career-related behaviors and career adaptability. Therefore, this study aims to address this research gap by examining the chain mediation pathway to inform the development of more targeted career interventions.

Parental career-related behaviors and career adaptability

Dietrich and Kracke explicitly categorized parental career-related behaviors into three main areas: support, interference, and lack of engagement (Dietrich & Kracke, 2009). Support is manifested in the provision of help and guidance when the adolescent needs it, as well as the granting of appropriate autonomy to the adolescent; interference refers to the attempts of parents to impose their will on the adolescent even if it is not in line with the adolescent's desires; and lack of engagement refers to a state of parental disengagement or neglect in the adolescent's career planning and decision-making process (Dietrich & Kracke, 2009). This categorization framework provides a theoretical basis for understanding how parental behaviors diversely influence adolescent career development.

Career adaptability is the key to successful career preparation, including preparation for future job roles, exploration of career options, and continued career growth and adjustment (Savickas, 2013). Parental career-related behaviors are critical to understanding adolescents' career adaptability (Zhou et al., 2019). Research has shown that support is crucial in promoting adolescents' career adaptability and contributes to their career success (Zhang et al., 2019). However, parental interference may result in adolescents lacking the necessary career problem-solving skills and self-regulation, affecting their career adjustment process (Rousseau & Scharf, 2015). Although studies have pointed out the strong link between parental career-related behaviors and career adaptability, the literature on the link between lack of parental involvement and career adaptability is still scarce. Given the positive effects of family support on college students' career adaptability, it can be inferred that a lack of parental involvement may leave adolescents without critical guidance and resources in their career exploration and decision-making processes, which may affect adolescents' career progress, leading to unstable career paths (Mortimer et al., 2002). In summary, different aspects of parental career-related behaviors play

diverse roles in developing adolescents' career adaptability and require more careful consideration.

Personal growth initiative mediation

It is widely recognized in academia that the personal growth initiative is critical in transitioning from college to career (Soylu et al., 2021). The personal growth initiative reflects an individual's pursuit of self-improvement as they grow and autonomy, including readiness for change, planning, resource utilization, and proactive behavior (Robitschek & Cook, 1999). Many studies have found that individuals with a high level of personal growth initiative are more proactive in their career development and are more likely to achieve their career goals (Fuller & Marler, 2009). During college, individuals begin to plan for their future and progressively improve themselves. Especially those students who have a high personal growth initiative are motivated to develop and implement plans to achieve the set goals (Yalçın & Malkoç, 2013). In addition, the college years are a critical stage in forming a career identity, and personal growth initiative directly affects their career exploration and commitment (Robitschek & Cook, 1999; Weigold et al., 2020). Career Construct Theory suggests that individuals continuously adjust and adapt to their careers based on the experiences they gain, which is a dynamic and continuous process (Savickas, 2013). Personal growth initiative is reflected in the active participation and conscious action of individuals in the process of self-transformation, i.e., the ability of individuals to adopt positive plans and goal-achievement strategies to change their environment, thereby promoting personal development (Robitschek et al., 2012). This ability allows individuals to adapt to their environment consciously, encouraging individual career development.

According to previous research, parental career-related behaviors may significantly impact the development of personal growth initiative. Several studies have explored the relationship between the two. Findings suggest that an autonomy-supportive parenting environment can satisfy individuals' basic psychological needs, such as autonomy, sense of competence, and sense of belonging, thus promoting cognitive and behavioral growth and effectively enhancing adaptive behaviors (Xu et al., 2019). On the contrary, excessive parental interference or control may weaken adolescents' autonomy and reduce their autonomy in exploring career interests and goals, an important component of personal growth initiative (Xu et al., 2019). However, insufficient parental involvement may have complex effects on adolescents' personal growth initiative. On the one hand, parental neglect may result in adolescents lacking the necessary career guidance and support, hindering their career development and personal growth initiative (Mortimer et al., 2002). On the other hand, for some adolescents, a moderate amount of parental letting may help to reduce their dependence on their parents when faced with challenges and provide more opportunities for self-directed career exploration, which may unintentionally contribute to their development (Wolf et al., 2009). In summary, different parental behavioral styles play seemingly contradictory roles in adolescents' career adjustment, and their complex relationship needs to be explored further.

Future work self salience mediation

From an occupational psychology perspective, future work self salience is a key predictor of individuals' career adaptability (Strauss et al., 2012; Talluri et al., 2025). This construct reflects how clearly people perceive their prospective career roles and identities, including definite career expectations, developmental visions, and value orientations. A recent meta-analysis further identified it as a critical predictor of future career fit (Rudolph et al., 2017). Notably, future work self salience can drive individuals to actively engage in career planning activities (Joanne Chan & Chan, 2021). Prior studies have demonstrated that adolescents with a salient future work self can follow their envisioned career paths, take the initiative to collect career-related information and resources, and thereby improve their career adaptation potential (Guan et al., 2014). Accordingly, a clear future work self is essential for promoting individuals' career adaptability and long-term career development (Guan et al., 2014).

Parental career behaviors exert a crucial influence on the shaping of adolescents' future work self (Lent & Brown, 2013). Supportive parenting can facilitate teenagers' career exploration and strengthen their career decision-making self-efficacy (Tian et al., 2021), which, in turn, helps them construct a positive future work self and form a clear understanding of upcoming career roles (Ma & Yeh, 2011). On the contrary, overparenting and excessive parental intervention tend to undermine adolescents' sense of autonomy and exploratory motivation (Guan et al., 2014). Similarly, parental disengagement also brings higher career uncertainty, as adolescents cannot obtain adequate guidance and emotional support to build their future work self-image (Parola & Marcionetti, 2021; Parola et al., 2022). In light of the above theoretical and empirical evidence, this study proposes that future work self salience may serve as a mediating variable linking parental career-related behaviors to adolescent career adaptability.

Personal growth initiative and future work self salience

Existing literature suggests that individuals with higher personal growth initiative demonstrate more remarkable persistence and perseverance in pursuing career growth opportunities and are more willing to take on challenges in career exploration in pursuit of excellence (Soylu et al., 2021; Weigold et al., 2020). Career Construct Theory proposes that individuals adapt their career paths through ongoing experiences and that this process is dynamic and ongoing (Savickas, 2013). Specifically, the personal growth initiative enhances certainty about career paths by stimulating intrinsic motivation and prompting individuals to explore their career interests, abilities, and values in depth (Gregor et al., 2020; Robitschek & Cook, 1999). In addition, the personal growth initiative is closely linked to active career planning and goal setting, providing individuals with strategies and action plans for realizing their career visions and establishing a clear psychological connection between individuals and their future work selves. Thus, the personal growth initiative serves as a valuable resource that can facilitate college students' self-perception deepening and career goal clarification

during career development and has a significant predictive effect on enhancing self-perception clarity (Bott & Duffy, 2014; Weigold et al., 2020; Wilkins et al., 2014). In summary, personal growth initiative is crucial in adolescents' career development, enhancing an individual's motivation and initiative in career exploration and improving future work self salience (Soylu et al., 2021).

Theoretical foundations

This study integrates Self-Determination Theory and Career Construction Theory to systematically elucidate the underlying mechanisms through which parental career-related behaviors influence adolescents' career adaptability. Self-Determination Theory reveals dual pathways through which parental behaviors influence adolescents' career adaptability (Ryan & Deci, 2017). On the one hand, the theory posits that the fulfillment or frustration of basic psychological needs is the core mechanism explaining how the external environment is transformed into individual intrinsic motivation. Supportive parental behaviors effectively stimulate adolescents' initiative for personal growth by satisfying their needs for autonomy and relatedness (Xu et al., 2019); conversely, interference and lack of engagement produce inhibitory effects by thwarting these needs (Mortimer et al., 2002; Rousseau & Scharf, 2015). On the other hand, this theory also explains the direct impact of parental behavior on career adaptability: adequate support enhances adolescents' autonomy and reduces career adaptation challenges (Guay et al., 2003); interfering behaviors weaken their problem-solving and self-regulation abilities (Rousseau & Scharf, 2015), while lack of engagement deprives them of crucial guidance and resources (Mortimer et al., 2002), thereby hindering the development of career adaptability.

Career Construction Theory further elucidates the internal logic by which individuals guide career adaptation behaviors through the active construction of self-meaning (Savickas, 2013). Within this research framework, personal growth initiative serves as a core psychological resource, driving adolescents to actively explore their interests, abilities, and values, thereby constructing a clear future work self-schema (Robitschek & Cook, 1999; Soylu et al., 2021). This cognitive schema ultimately guides adolescents to engage in proactive career planning and exploration behaviors, thereby promoting the development of their career adaptability (Guan et al., 2014; Strauss et al., 2012).

The China context

In China, parents typically have high expectations for their children's education and career development and tend to adopt a stricter, more controlling parenting style (Fang et al., 2021; Ma et al., 2018). These attitudes and behaviors deeply reflect the values of filial piety and family collectivism in traditional Chinese culture, prompting adolescents to adjust their academic and career goals in accordance with family expectations (Hui et al., 2011; Zhou, 2024).

Within this cultural context, the mechanisms described by self-determination theory take on unique characteristics. On the one hand, while high parental involvement stems from care and responsibility, it may inadvertently undermine adolescents' career autonomy and sense of self-determination (Liang et al., 2023; Xu et al., 2023). Chinese parents tend to play a more proactive and intervening role in their children's career decisions, including selecting majors on their behalf, influencing internship opportunities, and even directly participating in the job search process. This over-involved parenting style restricts adolescents' space for autonomous exploration, leading to a lack of necessary career problem-solving skills and self-regulation abilities (Luebbe et al., 2016; Rousseau & Scharf, 2015), and even a gradual loss of agency in career decision-making (Germeijs & De Boeck, 2002). On the other hand, some Chinese families experience insufficient parental involvement. Constrained by factors such as work pressure, educational attainment, or traditional beliefs, some parents fail to provide their children with adequate career guidance and emotional support. This deprives adolescents of critical information resources and psychological support during career exploration and decision-making, increasing uncertainty and confusion regarding their career development (Mortimer et al., 2002; Parola et al., 2022). Consequently, within the Chinese cultural context, the influence of parents' career-related behaviors on adolescents' career adaptability is complex. This cultural specificity provides an important cultural context for understanding the relationship between parental behaviors and adolescents' career development.

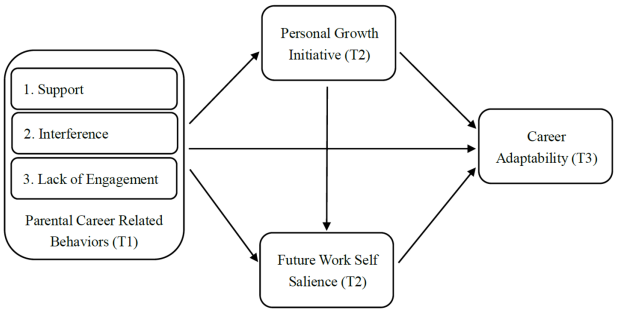

Figure 1. Research framework

Goals of the study. This research intends to explore how future work self salience and personal growth initiative function in the association between parental career behaviors and adolescents' career adaptability. The conceptual research framework is displayed in Figure 1. Drawing on relevant theoretical foundations and existing literature findings, the current study puts forward the research hypotheses as follows:

H1: Parental career-related behaviors (support, interference and lack of engagement) is associated with career adaptability among adolescents. Specifically, support is positively associated with career adaptability, interference and lack of engagement are negatively associated with career adaptability.

H2: Personal growth initiative mediates the relationship between parental career-related behaviors and career adaptability. Specifically, support positively is associated with personal growth initiative, interference and lack of engagement are negatively associated with personal

growth initiative; personal growth initiative positively is associated with career adaptability.

H3: Future work self salience mediates the relationship between parental career-related behaviors and career adaptability. Specifically, support positively is associated with future work self salience, interference and lack of engagement are negatively associated with future work self salience; future work self salience is positively associated with career adaptability.

H4: Personal growth initiative and future work self salience play a chain mediation role in the relationship between parental career-related behaviors and career adaptability. Personal growth initiative is positively is associated with future work self salience.

Material and Methods

Participants and setting

Participants were fourth-year university students from three universities in Central China (females = 46.861%, mean age = 21.22 ± 0.75). A total of 794 participants was obtained. The sample consisted of 422 boys (53.149%) and 372 girls (46.851%), with a mean age of 21.22 years (SD = 0.75). Of the participants, 332 (41.814%) held rural hukou, 78 (9.824%) came from single-parent families, and 525 (66.121%) were the only child in their family.

Measures

This study completed a three-wave longitudinal follow-up, with an initial valid sample of 921 participants (T1). At T2, 863 participants were retained (attrition rate: 6.30%); at T3, 801 participants were retained (attrition rate: 7.19%). The cumulative retention rate was 86.97%, indicating good sample stability. After excluding respondents with patterned responses (e.g., identical answers across items), a final valid sample of 794 participants was obtained for data analysis.

Parental career-related behaviors (PCRB)

The 15-item Parental Occupational Behavior Scale (Dietrich & Kracke, 2009; Li et al., 2022) comprises three dimensions: support (5 items, e.g., my parents talk to me about my career interests and abilities), interference (5 items, e.g., my parents have their own ideas about my future career and try to influence me), and lack of involvement (5 items, e.g., my parents aren't interested in what career I might pursue in the future). The items are on a 5-point Likert scale (1 = not applicable, 5 = fully applicable). In this study, the scale had good reliability (Cronbach's α of total scale, support, interference, and lack of involvement dimensions is 0.720, 0.852, 0.767, and 0.745) and validity (χ^2/df = 1.137, CFI = 0.996, GFI = 0.983, AGFI = 0.977, TLI = 0.996, RMSEA = 0.013).

Personal growth initiative (PGI)

The 16-item Personal Growth Initiative Scale (PGIS-II) comprises four dimensions: readiness for change (4 items, e.g., I figure out what I need to change about myself), planfulness (5 items, e.g., I know steps I can take to make intentional changes in myself), using resources (3 items, e.g., I use resources when I try to grow), and intentional behavior (4 items, e.g., I am constantly trying to grow as a person) (Robitschek et al., 2012). Items are on a 6-point scale (0 = disagree strongly, 5 = agree strongly). In this study, the scale had good reliability (Cronbach's α = 0.709) and validity (χ^2/df = 1.425, CFI = 0.993, GFI = 0.978, AGFI = 0.970, TLI = 0.992, RMSEA = 0.023).

Future work self salience (FWSS)

The 4-item Future Work Self Scale developed (Guan et al., 2014; Strauss et al., 2012) asks adolescents to visualize their ideal FWSS (e.g., I have a clear understanding of the type of work-related future I want) and to rate all items used in this scale on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). In this study, the scale had good reliability (Cronbach's α = 0.848) and validity (χ^2/df = 5.761, CFI = 0.994, GFI = 0.993, AGFI = 0.963, TLI = 0.981, RMSEA = 0.077).

Career adaptability (CA)

The 24-item Career Adapt-Abilities Scale (Savickas & Porfeli, 2012; Zhou et al., 2019). comprises 4 dimensions: concern (6 items, e.g., thinking about what my future will be like), control (6 items, e.g., making decisions by myself), curiosity (6 items, e.g., exploring my surroundings), and confidence (6 items, e.g., performing tasks efficiently). Items are on a 5-point Likert scale (1 = not strong, 5 = strongest). In this study, the scale had good reliability (Cronbach's α = 0.921) and validity (χ^2/df = 2.057, CFI = 0.971, GFI = 0.947, AGFI = 0.936, TLI = 0.967, RMSEA = 0.037).

Procedure

This study completed a three-wave longitudinal follow-up. The first survey started in September 2023 (T1); with the help of the school counselor-teacher, participant recruitment information was posted through social media platforms, and links to online surveys were distributed. The surveys included personal information such as gender, age, household registration, family structure, and Parental Occupational Behavior Scale. Moreover, collected phone number, QQ, and e-mail information for follow-up. T2 and T3 surveys were conducted in January and June 2024, respectively, and in T2, participants were invited to complete the Personal Growth Initiative Scale and the Future Work Initiative Scale. T2 and T3 surveys were conducted in January and June 2024, respectively; in T2, we invited participants to fill in the Personal Growth Initiative Scale and Future Work Self Scale, and in T3, we invited participants to fill in the Career Adapt-Abilities Scale. The design of this study followed the guidelines and regulations of the Declaration of Helsinki and was approved by the Academic Ethics Committee of Nanyang Institute of Technology (Approval No. NYISTIRB2023-021). Participants signed the informed consent form before the survey.

Analysis process

First, we used SPSS software for the initial processing of the data. Then, we used AMOS software to construct structural equation modeling to explore the relationship between variables. Finally, we tested the significance of

Table 1. Descriptive statistics and correlation analysis

Variables	1	2	3	4	5	6
1. Career adaptability	1.000					
2. Support	0.371**	1.000				
3. Interference	−0.356**	−0.034**	1.000			
4. Lack of engagement	−0.336**	−0.171**	0.487**	1.000		
5. Personal growth initiative	0.317**	0.229**	−0.243**	−0.237**	1.000	
6. Future work self salience	0.374**	0.267**	−0.305**	−0.264**	0.377**	1.000
Mean	3.33	2.66	1.82	1.78	3.38	3.07
SD	0.61	0.97	0.63	0.61	0.75	0.85

Note. **$p < 0.01$.

direct and indirect effects using the Bootstrap method in AMOS.

Result

Preliminary analysis

We performed Harman's one-factor test for common method bias. The first latent factor accounted for 22.117% of the total variance, far below the critical cutoff value of 40% proposed by Podsakoff (Podsakoff et al., 2003). This result suggests that common method bias was not a serious concern in the present research.

Table 1 presents the descriptive statistics and correlation analysis among variables. Pearson correlation analyses revealed that CA was significantly and positively correlated with support (r = 0.371, $p < 0.01$), personal growth initiative (r = 0.317, $p < 0.01$), and FWSS (r = 0.374, $p < 0.01$), and negatively associated with interference (r = −0.356, $p < 0.01$) and lack of engagement (r = −0.336, $p < 0.01$). In addition, PGI was positively associated with FWSS (r = 0.377, $p < 0.01$).

Structural equation model

Structural equation modeling (SEM) was employed as the primary analytical technique due to its ability to simultaneously assess multiple dependence relationships. Unlike traditional regression analysis, SEM accounts for measurement errors by estimating latent variables, thereby providing more unbiased and reliable estimates of the structural paths. This approach is particularly suitable for our study as it allows for the comprehensive testing of the hypothesized theoretical framework in a single, systematic analysis (Byrne, 2012; Collier, 2020).

We constructed a structural equation model in AMOS to assess the relationships among the variables. Age, gender, domain, single parent, and single child were included as control variables in the model. The overall fit of the model was good (χ^2/df = 2.229, CFI = 0.964, GFI = 0.957, AGFI = 0.943, TLI = 0.957, RMSEA = 0.039) (Fornell & Larcker, 1981), and the results of the structural equation model estimation are shown in Table 2 and Figure 2.

As Table 2 shows, the factor loadings of each latent variable were greater than 0.6, except for FWSS4 ($\lambda = 0.563$). FWSS4 was also greater than the minimum criterion of 0.4, suggesting that the latent variables in the model were all effectively estimated by the observed variables (Fornell & Larcker, 1981). *Parental involvement and adolescent career adaptation*. Then, based on the path estimation results in Table 2, support significantly and positively predicted PGI ($\beta = 0.211$, $p < 0.001$), FWSS ($\beta = 0.180$, $p < 0.001$), and CA ($\beta = 0.305$, $p < 0.001$); Interference negatively predicted PGI ($\beta = -0.183$, $p < 0.001$), FWSS ($\beta = -0.205$, $p < 0.001$), and CA ($\beta = -0.238$, $p < 0.001$); Lack of Engagement negatively predicted PGI ($\beta = -0.117$, $p = 0.004$) and CA ($\beta = -0.138$, $p < 0.001$) but could not significantly predict FWSS ($\beta = -0.075$, $p = 0.057$).

At the same time, PGI significantly and positively predicted FWSS ($\beta = 0.294$, $p < 0.001$) and CA ($\beta = 0.126$, $p = 0.002$); FWSS significantly and positively predicted CA ($\beta = 0.186$, $p < 0.001$) as well.

We further tested the direct and indirect effects in the model using the Bootstrap method, and the results are shown in Table 3 (Hayes, 2013). The results showed that support had a significant positive direct effect on CA (Effect = 0.152, SE = 0.024, 95% CI [0.107, 0.202], $p < 0.001$). Interference had a significant negative direct effect on CA (Effect = −0.183, SE = 0.043, 95% CI [−0.268, −0.100], $p < 0.001$). Lack of engagement also had a significant negative direct effect on CA (Effect = −0.109, SE = 0.047, 95% CI [−0.207, −0.026], $p = 0.015$). These findings indicated that all three dimensions of PCRB significantly influenced CA among adolescents. Thus, H1 was supported.

PGI mediation. We further tested whether PGI mediated the relationships between PCRB dimensions and CA. The results revealed that PGI significantly mediated the effect of support on CA (Indirect Effect = 0.013, SE = 0.006, 95% CI [0.004, 0.026], $p = 0.004$). PGI also significantly mediated the effect of interference on CA (Indirect Effect = −0.018, SE = 0.007, 95% CI [−0.036, −0.006], $p = 0.002$). Additionally, PGI significantly mediated the effect of lack of engagement on CA (Indirect Effect = −0.012, SE = 0.007, 95% CI [−0.030, −0.002], $p = 0.006$). Thus, H2 was supported.

FWSS Mediation. We then examined whether FWSS mediated the relationships between PCRB dimensions and CA. The results indicated that FWSS significantly mediated the effect of support on CA (Indirect Effect = 0.017, SE = 0.006, 95% CI [0.007, 0.031], $p < 0.001$). FWSS also significantly mediated the effect of interference on CA (Indirect Effect = −0.029, SE = 0.010, 95% CI [−0.053, −0.014], $p < 0.001$). Furthermore, FWSS significantly mediated the effect of lack of engagement on CA (Indirect

Table 2. Results of structural equation model (Standardized estimate)

Path	β	SE	t	Path	β	SE	t
Measurement Paths				**Structural Paths**			
PGI → RFC	0.917	—	—	SUP → PGI	0.211	0.028	<0.001
PGI → PLA	0.915	0.024	<0.001	SUP → FWSS	0.180	0.022	<0.001
PGI → UR	0.606	0.035	<0.001	SUP → CA	0.305	0.019	<0.001
PGI → IB	0.850	0.028	<0.001	INT → PGI	−0.183	0.049	<0.001
CA → CONC	0.625	—	—	INT → FWSS	−0.205	0.038	<0.001
CA → CONT	0.674	0.078	<0.001	INT → CA	−0.238	0.032	<0.001
CA → CURI	0.678	0.080	<0.001	LOE → PGI	−0.117	0.051	0.004
CA → CONF	0.717	0.076	<0.001	LOE → FWSS	−0.075	0.037	0.057
FWSS → FWSS4	0.563	—	—	LOE → CA	−0.138	0.031	<0.001
FWSS → FWSS3	0.833	0.089	<0.001	PGI → FWSS	0.294	0.031	<0.001
FWSS → FWSS2	0.838	0.091	<0.001	FWSS → CA	0.186	0.037	<0.001
FWSS → FWSS1	0.840	0.093	<0.001	PGI → CA	0.126	0.026	0.002
Covariances							
LOE ↔ INT	0.487	0.015	<0.001				
INT ↔ SUP	−0.034	0.022	0.339				
LOE ↔ SUP	−0.171	0.021	<0.001				

Note. CA = Career Adaptability, SUP = Support, LOE = Lack of Engagement, INT = Interference, PGI = Personal Growth Initiative, FWSS = Future Work Self Salience, RFC = Readiness for Change, PLA = Planfulness, UR = Using Resources, IB = Intentional Behavior, CONC = Concern, CONT = Control, CURI = Curiosity, CONF = Confidence.

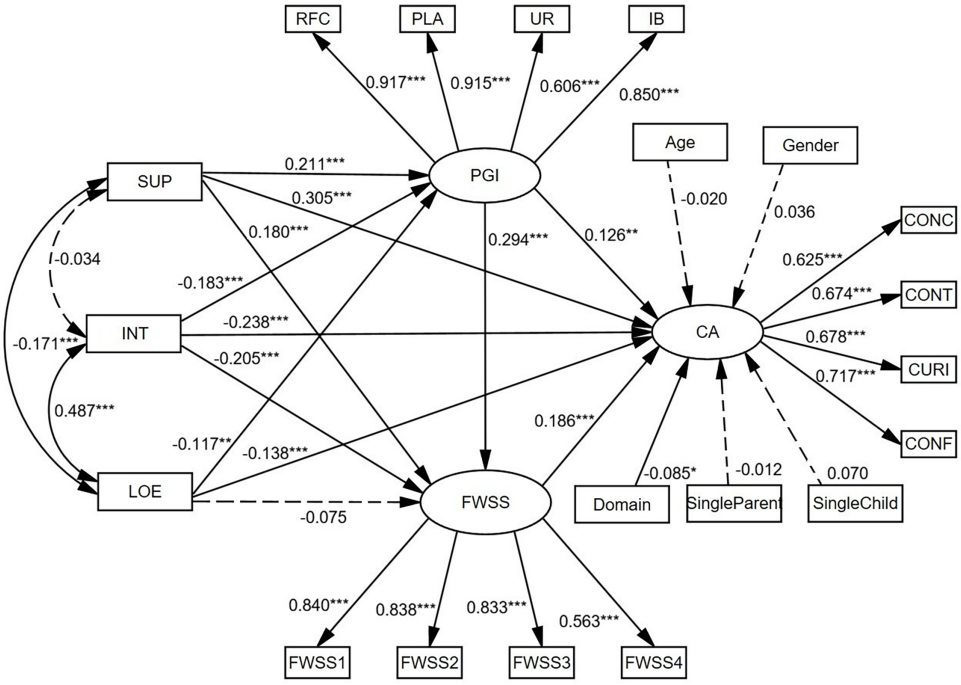

Figure 2. Results of structural equation model. *Note*. ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$. *Note*. CA = Career Adaptability, SUP = Support, LOE = Lack of Engagement, INT = Interference, PGI = Personal Growth Initiative, FWSS = Future Work Self Salience, RFC = Readiness for Change, PLA = Planfulness, UR = Using Resources, IB = Intentional Behavior, CONC = Concern, CONT = Control, CURI = Curiosity, CONF = Confidence.

Effect = −0.011, SE = 0.007, 95% CI [−0.028, −0.001], $p = 0.040$). Thus, H3 was supported.

Chain mediation effect of personal growth initiative and future work self salience. Finally, we tested the chain mediation effect of PGI and FWSS. The results demonstrated that the sequential pathway from support to PGI, then to FWSS, and finally to CA was significant (Chain Indirect Effect = 0.006, SE = 0.002, 95% CI [0.003, 0.011], $p < 0.001$). The sequential pathway from interference to PGI, then to FWSS, and finally to CA was also significant (Chain Indirect Effect = −0.008, SE = 0.003, 95% CI [−0.015, −0.003], $p < 0.001$). Additionally,

Table 3. Results of Bootstrap effect test

Path	Effect	S.E.	95% Bootstrap CI		*p*
			Lower	Upper	
Indirect effect					
SUP->PGI->CA	0.013	0.006	0.004	0.026	0.004
INT->PGI->CA	−0.018	0.007	−0.036	−0.006	0.002
LOE->PGI->CA	−0.012	0.007	−0.030	−0.002	0.006
SUP->FWS->CA	0.017	0.006	0.007	0.031	0
INT->FWS->CA	−0.029	0.010	−0.053	−0.014	0
LOE->FWS->CA	−0.011	0.007	−0.028	−0.001	0.040
SUP->PGI->FWS->CA	0.006	0.002	0.003	0.011	0
INT->PGI->FWS->CA	−0.008	0.003	−0.015	−0.003	0
LOE->PGI->FWS->CA	−0.005	0.002	−0.011	−0.002	0.002
Direct effect					
SUP->CA	0.152	0.024	0.107	0.202	0
INT->CA	−0.183	0.043	−0.268	−0.100	0
LOE->CA	−0.109	0.047	−0.207	−0.026	0.015

Note. CA = Career Adaptability, SUP = Support, LOE = Lack of Engagement, INT = Interference, PGI = Personal Growth Initiative, FWSS = Future Work Self Salience.

the sequential pathway from lack of engagement to PGI, then to FWSS, and finally to CA was significant (Chain Indirect Effect = −0.005, SE = 0.002, 95% CI [−0.011, −0.002], $p = 0.002$). These findings suggested that PCRB influenced CA by first affecting PGI, which in turn affected FWSS. Thus, H4 was supported.

Discussion

This study first confirms that PCRB significantly influences CA among adolescents, highlighting parents' pivotal role in adolescents' career development process. Specifically, parents can effectively foster their children's awareness of and initiative in career planning through supportive behaviors such as providing career information, encouraging exploration, and respecting their choices (Zhao et al., 2012), thereby helping children understand the complexity of the professional world and enhancing their planning and decision-making abilities (Jiang et al., 2022). Conversely, parental excessive interference (e.g., making decisions on their children's behalf and imposing expectations) or insufficient involvement (e.g., insufficient attention and guidance) may undermine students' autonomy, diminish their intrinsic motivation for career exploration, and consequently negatively affect career adaptability (Luebbe et al., 2016). Notably, parental excessive interference, though often rooted in care and protection, may significantly erode children's autonomy and sense of control over their career development within China's family-centered cultural context (Xu et al., 2019), and becomes a key factor contributing to subsequent difficulties in career adaptation (Germeijs & De Boeck, 2002). Compared to the lack of engagement, the control signals conveyed by interference may pose a greater obstacle to an individual's career autonomy. Therefore, active parental support coupled with moderate guidance is crucial for adolescents to establish a solid foundation for their career development.

The mediating role of PGI between PCRB and adolescents' CA. Research findings indicate that supportive parental behaviors foster children's proactive personality traits, motivating them to actively seek information, plan for the future, and set goals independently. This discovery aligns with Self-Determination Theory's perspective that environments supporting autonomy satisfy individuals' fundamental psychological needs, thereby promoting adaptive development (Ryan & Deci, 2000). Conversely, parental interference or lack of engagement may inhibit the development of proactive personality traits in children (Bandura, 1997; Turner et al., 2019). Overbearing interference may deprive individuals of opportunities to learn through trial and error and make decisions, thereby diminishing their sense of self-direction. Lack of engagement, meanwhile, may lead children to feel neglected, placing them in a family environment characterized by frustrated needs (Reed et al., 2016; Soenens et al., 2019), both potentially diminishing motivation for proactive planning and exploration, thereby lowering adolescents' PGI. Contemporary youth generally value autonomy and self-actualization; inappropriate parental interference may conflict with their intrinsic psychological needs and the labor market's emphasis on agency, thereby hindering their career development (Jian & Chen, 2021).

Moreover our study further confirmed the mediating role of FWSS between PCRB and adolescents' CA. Specifically, parental support behaviors, by providing informational resources and emotional encouragement, can help children develop clearer, more concrete visions of their future careers, thereby laying a cognitive foundation for their career planning and exploration (Rottinghaus et al., 2016). Individuals with high FWSS exhibit greater clarity and confidence in their career goals, enabling them to make more effective career decisions and take proactive actions (e.g., participating in relevant training, expanding professional networks), thereby enhancing their career adaptability (Bott & Duffy, 2014; Lent & Brown,

2013). Conversely, excessive parental interference may restrict children's autonomy for self-directed exploration, obscuring their future career visions grounded in personal interests and values. A lack of engagement, however, may deprive children of necessary guidance and reference points as they construct their future careers, increasing uncertainty and confusion in their career development.

Finally, PGI and FWSS had chain mediation effects of in the relationship between PCRB and college students' CA. This indicates that PCRB influences CA also via a sequential process from intrinsic motivational traits to future cognitive construction. Proactivity, as a positive motivational tendency, not only directly drives individuals to engage in career exploration but also promotes more proactive reflection and integration of personal interests, abilities, and values. This, in turn, facilitates the formation of a clearer and more concrete future career self-image (Soylu et al., 2021; Wilkins et al., 2014). Positive personality traits and clear future career cognition complement each other, jointly constituting key psychological resources that promote adaptive career development (Hoyle & Sherrill, 2006). This finding clarifies that parental behavior first shapes children's PGI, a core psychological motivational resource, thereby influencing the clarification process of their FWSS, ultimately synergistically enhancing CA.

Implications for research and practice

The findings of this study have implications for evidence-based interventions to promote adolescents' adaptive career development, which are elaborated below. For schools and educators, it is crucial to integrate family factors into career guidance frameworks. Targeted interventions should be implemented to enhance adolescents' PGI and FWSS and to help them communicate their career needs to parents, thereby fostering a collaborative support system between schools and families. For parent training programs, the focus should be on guiding parents to adopt healthy PCRB, prioritizing autonomy-supportive behaviors (e.g., providing informational and emotional support, respecting adolescents' career choices) rather than excessive interference or insufficient involvement. Parent education should also emphasize the negative effects of overcontrol on adolescents' career autonomy and psychological resources, helping parents establish a family environment that fosters proactive goal-directed personality (PGI) and clear future work self-salience (FWSS). For adolescents, they should recognize family influences on career development, but exercise personal agency. They should actively use campus resources, including internships, peer networking, and career courses, to compensate for limited family support. Meanwhile, they should reflect on their interests and goals to develop a clear career path and strengthen their CA and resilience.

Limitations and future research directions

Although the present study provides new perspectives for understanding the impact of PCRB on adolescents' CA, some limitations remain. First, all variables were measured via adolescent self-reports, and future studies should use multi-source data (e.g., parent reports, teacher ratings, observations). Second, although data were collected at three time points, the design cannot establish causality or reverse causality among variables, there may be bidirectional dynamic relationships between variables. Future research could employ cross-lagged designs or longitudinal tracking data to conduct in-depth examinations of these relationships. Third, the FWSS scale demonstrated acceptable psychometric properties, but one item had a relatively low factor loading, which may have compromised construct precision. Future research should employ more robust measures or integrate qualitative interviews. Moreover, the sample comprised university students from a single region in China, limiting generalizability across cultures and developmental stages. Finally, other factors (e.g., self-esteem, anxiety, social support) may moderate or mediate these processes. Future work should develop more integrated theoretical models.

Conclusion

This study showed that parental supportive behaviors positively affected adolescents' CA. In contrast, parental interference and lack of engagement negatively affected CA. In addition, PGI and FWSS played a key chain mediation role between PCRB and adolescents' CA, suggesting that parental supportive behaviors would promote adolescent CA by enhancing adolescents' PGI and FWSS, which in turn promotes adolescents' CA. Conversely, parental interference and lack of engagement inhibit adolescents' PGI and FWSS, indirectly affecting their CA. These findings emphasize the importance of creating a supportive family environment for adolescents, adopting positive parenting practices, and providing families and schools with practical recommendations to promote adolescents' career growth and adaptability.

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