



Parental career-related behaviors and their associations with career adaptability among Chinese college student: a latent profile analysis

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Abstract

To explore the latent profiles of parental career-related behaviors and analyze their relationship with college students' career adaptability, with implications for improving career development programs and practices. A sample of 3,017 college students completed the Parental Career-Related Behavior Scale and the Career Adaptability Scale. Latent profile analysis was used to explore the profiles of parental career-related behaviors and compare the differences of different latent types of college students' career adaptability. (1) Parental career-related behaviors could be divided into three latent profiles: high parental career support group (HighPS, 56.3%), low parental career support group (LowPS, 26.8%), and high parental career interference and lack of parental career engagement group (HighPI-LackPE, 16.9%); (2) Parental career support has a significant impact on the development of college students' career adaptability. The career adaptability of college students in HighPS and HighPI-LackPE is significantly higher than that of those in LowPS; (3) Career-related behaviors with high parental support, low interference, and high engagement are most conducive to the career development of college students. The findings highlight the significant role of parental career behaviors in college students' career adaptability, indicating that high support, low interference, and high engagement enhance adaptability. Tailored interventions for different parental profiles are necessary to improve students' career development, which would benefit to guiding the college student's career planning.

Keyword Parental career-related behaviors · Latent profile analysis · Career adaptability · College student

Introduction

As the numbers of those obtaining higher education increase, college graduates face increasingly fierce competition for jobs. According to China's Ministry of Education, the number of the nation's college graduates in 2023 is expected to reach 11.58 million, an increase of 820,000 compared to 2022. As the number of graduates continues to maintain a high growth trend, the employment situation becomes more challenging and uncertain. In terms of their

personal development, college students are in the stage of early adulthood (Costa et al., 2019) and can engage in various career explorations which can help them not only determine the direction of their future career development, but also cultivate the relevant skills and abilities to cope with various challenges they may face in their career. As such, the career adaptability of college students has been increasingly attracting researchers' attention (Chen et al., 2020).

Career adaptability refers to the ability of individuals to adapt to situations while coping with changes and uncertainties in their career (Savickas, 1997). More specifically, it can be understood as the preparation state or the social psychological resources individuals require to adjust themselves as they deal with various work tasks and changing roles, representing their core ability to cope with external challenges throughout the development of their career. Career adaptability includes four dimensions (Dietrich & Kracke, 2009) which correspond to four core career development issues: career concern refers to whether individuals believe they have a promising career ahead of them ("Do I

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have a future?"); career control refers to whether individuals believe they can make independent decisions and control their career development ("Who owns my future?"); career curiosity refers to the kind of work and role individuals want to eventually attain ("What do I want to do in the future?"); and career confidence refers to whether individuals believe they can overcome difficulties and achieve their career goals ("Can I do it?"). Through comprehensive cultivation and development of these four dimensions, individuals can enhance their career adaptability, better adapt to changes in career roles and complex and changeable career environments, build a solid foundation for their career development, and achieve more meaning in life.

According to career construction theory (CCT), in addition to personal factors, external environmental factors also have a great impact on career development (Savickas et al., 2009). The family environment is one of the most important environments in the growth process, having a potentially significant impact on one's career development and adaptation through the support and encouragement of family members, role modeling, educational resources, and transmission of values. In a collectivist cultural context, family factors play an important role in individual career choices, even exceeding the influence of individual factors (Akosah-Twumasi et al., 2018; Tang et al., 1999). Based in career construction theory, this study explored the impact of parental career-related behaviors on college students' career adaptability from the perspective of the family environment to gain a deeper understanding of the mechanism by which the family environment affects individual career development, and provides theoretical guidance and practical suggestions for cultivating and promoting college students' career adaptability.

Parental career-related behaviors refer to the specific guiding behaviors taken by parents during their children's career development, and is comprised of three dimensions: parental career support, parental career interference, and lack of parental career engagement (Dietrich & Kracke, 2009). Parental career support refers to parents encouraging their children to explore career development possibilities and providing advice and support when needed. Parental career interference refers to parents imposing their own career development preferences on their children, attempting to control their children's career interests and aspirations. Lack of parental career engagement refers to parents' lack of ability or willingness to participate in their children's career development. According to ecosystem theory, of all external environments, individuals are exposed to the family environment first and most often, making it the external environment which has the most significant impact on their development (Bronfenbrenner, 2000). Studies have shown that parents are an important influencing factor in their

children's career development. Students who frequently discuss future career plans with their parents have higher levels of career adaptability in the four dimensions of career focus, career control, career curiosity, and career confidence as compared to students who discuss future career plans with their parents only occasionally or never (Zeng et al., 2022). Therefore, studying parental career-related behaviors is critical to understanding the impact of family on individual career development, and can provide a theoretical basis for promoting positive family support and healthy career adaptation.

Parental career-related behaviors and the career adaptability of their children

Numerous empirical studies have shown that parental career-related behaviors can affect their children's career adaptability both directly and indirectly. Parental career support can positively predict the career adaptability of college students (Guan et al., 2018). College students whose parents provide them with support in their career development face fewer career decision-making difficulties (Zhao et al., 2012) and report higher levels of life satisfaction (Parola & Marcionetti, 2021). The level of parental career support is positively correlated with adolescents' level of career exploration (Maftei et al., 2023). Receiving less engagement from parents in their career development can lead to unstable career development paths and more difficulties in adolescence (Mortimer et al., 2002), while excessive parental career interference can negatively affect children's career adaptability (Amarnani et al., 2018). Zhou and colleagues (2020) found that, compared to the "support but no intervention group", adolescents in the "unsupportive but not permissive group" had a higher level of career conflict psychology and a lower level of career adaptability. Meanwhile, parental career support or interference can also indirectly affect children's career adaptability by influencing their psychological resilience and hope, psychological capital, self-efficacy, and career identity (Zhang et al., 2021; Guan et al., 2015; Zeng et al., 2022; Li et al., 2022; LeBlanc & Lyons, 2022).

The advantage of using a person-centered approach

Existing research on parental career-related behaviors has predominantly employed variable-centered approaches. These approaches aim to identify significant predictors influencing outcome variables and describe relationships between independent and dependent variables (Muthén & Muthén, 2000). However, in studying individual development processes, variable-centered approaches overlook individual specificity by assuming uniform effects of influencing

factors for all individuals, disregarding variations (Howard & Hoffman, 2018). In contrast, a person-centered approach takes individual characteristics into account, better addressing individual differences and data interdependencies.

In the context of studying parental career-related behaviors, these limitations become particularly pronounced. Parental career-related behaviors, as an organic whole composed of multiple dimensions, are often not limited to a specific way when parents conduct their children's career behaviors (Dietrich & Kracke, 2009). A father or mother may have multiple career behavior styles simultaneously, but different career behavior styles have different proportions and levels. For example, a mother is supportive towards her child most of the time and in various situations, but occasionally adopts career behaviors such as interference, presenting a multi type combination of career behaviors. Given the diverse nature of such behaviors and the individualized impact on college students, a person-centered approach, specifically latent profile analysis (LPA), is more suitable. LPA considers unique individual characteristics, employing theoretical assumptions, model fitting indices, and reliability indicators to identify latent profiles that accurately capture individual differences. This method enhances the reliability and accuracy of research results (Laursen & Hoff, 2006).

An increasing number of recent career behavior studies have begun applying latent profile analysis to uncover subgroups and understand differences in career-related outcomes (Spurk et al., 2020). For example, recent research has identified distinct career indecision profiles based on configurations of difficulties (Levin et al., 2022), delineated protean career orientation profiles tied to career self-management behaviors (Bazine et al., 2023), and revealed student-athlete career adaptability profiles differentially predicted by expectations (Nikander et al., 2022). Other studies have linked career adaptability profiles to antecedents like supervisor feedback and outcomes like self-efficacy (Gong et al., 2023), as well as mapped motivational profiles to proactive career behaviors among solo self-employed individuals (Van Den Groenendaal et al., 2021). These applications demonstrate the value of latent profile analysis for elucidating patterns in career behaviors and their connections to other variables. By taking a person-centered approach, LPA overcomes limitations of variable-centered methods and provides greater insight into subgroup differences with implications for targeted interventions.

Therefore, adopting a person-centered approach like LPA in our study on parental career-related behaviors allows for a more nuanced understanding of the diverse and individualized nature of these behaviors and their impact on college students' career development.

The current study

Adopting a person-centered approach, the current study used LPA to construct a latent profile model using different dimensions of parental career-related behaviors as explicit variables in order to explore the internal structure, characteristics, and differences of parental career-related behaviors, and to explore the relationships between different latent profiles of parental career-related behaviors and college students' career adaptability.

Materials and methods

Participants

The sample size calculation formula used is $n = Z^2 P(1-P)/E^2$, where n is the required sample size; Z is the statistic, $Z = 1.96$ at a confidence level of 95%; P is the expected value of the proportion of the target population, which is generally taken as 0.5; and E is the acceptable margin of error. In the absence of prior information on the expected proportion, a conservative approach is adopted by setting ($P = 0.5$) to accommodate the widest possible range of potential values while maintaining an acceptable margin of error (Arya et al., 2012; Sun, 2013). The chosen margin of error ($E = 3\%$) is consistent with methodological conventions in social science research, representing a widely accepted balance between statistical precision and practical constraints (Arya et al., 2012; Zheng & He, 2020). Given these parameters, the calculated sample size is ($n = 1067$) at a 95% confidence level.

The questionnaires were distributed using convenient sampling method. First, we contacted instructors at various universities located primarily in Guangdong province of China and requested them to randomly select classes covering different majors and academic years. The instructors then sent a notification containing the QR code link to the online questionnaire to the selected classes of students. During the distribution process, participants received a brief introduction to the study and were informed that their participation was entirely voluntary and anonymous. If they wished, they could choose to complete the questionnaire online. To ensure data validity, participant inclusion criteria are currently enrolled college students. Exclude participants who respond in an obviously patterned manner or whose response times are less than three standard deviations below the mean assessment duration. Through this distribution process, a total of 3,131 questionnaires were collected, and after applying the aforementioned quality control measures, 3,017 valid questionnaires remained, resulting in an effective response rate of 96.36%. Regarding the demographics

of those who returned valid responses, 1,115 were male (39.96%), 1,902 were female (63.04%), 673 were only children (22.31%), and 2,344 were not-only children (77.69%). The mean age of participants was 20.10 years ($SD=1.78$).

Measures

Parental career-related behavior scale

Parental career-related behaviors were measured using the Parent Career-related Behavior Scale (PCRBS) developed by Dietrich and Kracke (2009). This scale includes 15 items which measure three subscales: parental career support, parental career interference, and lack of parental career engagement. Each subscale comprises five items, each of which is rated using a Likert four-point scoring method ranging from 1 (does not apply at all) to 4 (applies perfectly). The higher the score, the stronger the respondent's tendency in this dimension. In this study, the Cronbach's alpha coefficient of this scale was 0.87, and the Cronbach's alpha coefficients for each of the subscales was between 0.88 and 0.92.

Career adaptability scale

Career adaptability was measured using the Career Adaptability Scale (CAS) developed by Hou et al. (2012). The CAS includes 24 items which measure four subscales: career concern, career confidence, career curiosity, and career control. Each subscale is assessed using six items which are rated using a Likert five-point scoring method ranging from 1 (not strong) to 5 (very strong). The higher the score, the stronger the respondent's adaptability in this dimension. In the current study, the Cronbach's alpha coefficient of the full scale was 0.96, and the Cronbach's alpha coefficients of each of the subscales was between 0.85 and 0.88.

Data analysis

First, SPSS26.0 software was used for common method deviation testing and descriptive statistical analysis. Data was collected using the self-report method, and thus a common method bias test was conducted. Exploratory factor analysis was conducted using the Harman univariate test method. The results showed that six common factors with eigenvalues greater than 1 were obtained without rotation. The variation explained by the first factor was 34.27% which was less than the critical value of 40%, indicating that there was no serious common method bias in this study (Podsakoff et al., 2003).

Second, Mplus 8.0 software was used to perform LPA to explore the latent profiles of parental career-related

behaviors, starting from the initial model, and gradually increasing the number of profiles in the model until the best fitting model was found. The model fitting index included model adaptation indicators such as the Log Likelihood test, and information evaluation indicators, specifically the Akaike Information Criterion (AIC), the Bayesian Information Criterion (BIC), the Sample-Size Adjusted Bayesian Information Criterion (aBIC) and Entropy index (Collins & Lanza, 2010). When comparing models, the vuong-lo-mendell-rubin likelihood ratio test (VLMR), the adjusted lo-mendell-rubin likelihood ratio test (aLRT), and the bootstrap likelihood ratio test (BLRT) were used to compare the fitting differences between $k-1$ and k class models. If the p -value was significant, it indicated that the k -class model was superior to the $k-1$ class model. When using Entropy to evaluate classification accuracy, $Entropy \geq 0.80$ indicates that the classification accuracy exceeds 90%, which is an acceptable range (Lubke & Muthén, 2007). Next, to examine the impact of the latent profiles of parental career-related behaviors on the outcome variables of college students' career adaptability, the Bolck cron Hagenaaers method was used as currently, it is the most robust data processing method of classification analysis methods available (Bakk & Vermont, 2016).

Results

The latent profiles of parental career-related behaviors

To explore the latent profiles of parental career-related behaviors, a LPA model was established based on participants' scores in parental career support, parental career interference, and lack of parental career engagement. The latent profiles of parental career-related behaviors were set up as four separate profiles and the models were compared one by one. The fitting indicators for the latent profile models are shown in Table 1. As the profiles increased, the AIC, BIC, and aBIC gradually decreased, indicating that the model fitting gradually improved. When using three or four profiles, the LMRT, LMRT, and BLRT results were all $p < 0.001$ and the Entropy values were all greater than 0.8, indicating that the grouping accuracy was greater than 90%. Nylund-Gibson and Choi (2018) provides an excellent basis to support the LPA profile selection decision, solutions with small profile proportions below 8% should be critically examined in terms of reproducibility and utility. When the smallest class proportion ratio is less than 5%, there is a lack of credibility in promoting the results (Ye et al., 2017). In four profile solution of our study, the smallest profile constituted only 2% of the sample, falling below

Table 1 Comparison of latent profile models of parental career-related behaviors

Model	Log likelihood	AIC	BIC	aBIC	Entropy	VLMR(<i>p</i>)	aLMR(<i>p</i>)	BLRT(<i>p</i>)	Proportions for each profile
Class 1	-24706.20	49424.39	49460.46	49441.40	-	-	-	-	-
Class 2	-23893.96	47807.92	47868.03	47836.26	0.870	<0.001	<0.001	<0.001	0.22/0.78
Class 3	-23648.58	47325.16	47409.33	47364.85	0.829	<0.001	<0.001	<0.001	0.27/0.56/0.17
Class 4	-23385.93	46807.83	46916.07	46858.88	0.89	<0.001	<0.001	<0.001	0.27/0.54/0.17/0.02

AIC = Akaike Information Criteria; BIC = Bayesian Information Criteria; aBIC = Sample-Size Adjusted BIC; LMR *p* = *p* value of the Lo-Mendell-Rubin test; BLRT *p* = *p* value of the Bootstrap Likelihood Ratio Test

Table 2 Average latent profile posterior probabilities of parental career-related behaviors

Class	Latent profile		
	Class1(%)	Class2(%)	Class3(%)
Class 1	0.86	0.10	0.04
Class 2	0.06	0.94	0.00
Class 3	0.04	0.00	0.96

this recommended threshold. With these considerations, the three profiles were determined to be the best.

The average latent class probabilities for the most likely latent class membership of the three profile models ranged from 86 to 96% (see Table 2), with probability values

greater than 80%, indicating the credibility of the three profiles. Based on these indicators, all three profiles models were considered to be the best fitting model.

Naming and characteristics of latent profiles of parental career-related behaviors

The descriptive statistics of the latent profiles of parental career-related behaviors are shown in Table 3, and the scores of each subscale are shown in Fig. 1. Based on the response characteristics of the three latent profiles in each dimension, group names were assigned to Class 1, Class 2, and Class

Table 3 Descriptive statistics of latent profiles of parental career-related behaviors

	LowPS(26.8%)	HighPS(56.3%)	HighPI-LackPE(16.9%)
Parental career support	12.261	14.596	14.896
Parental career interference	10.113	8.639	14.916
Lack of career engagement	10.483	6.343	15.354

LowPS = low parental career support group; HighPS = high parental career support group; HighPI-LackPE = high parental career interference and lack of parental career engagement group

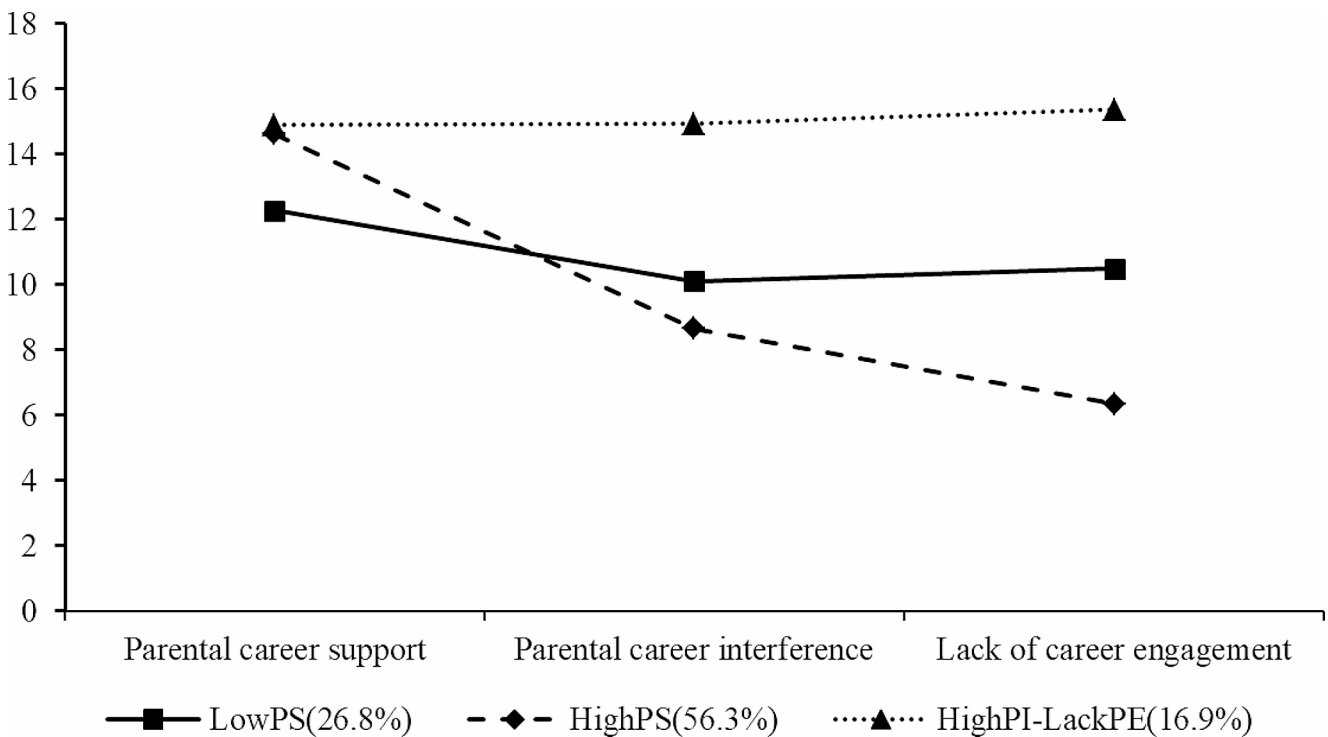


Fig. 1 Latent profiles of parental career-related behaviors based on responses to CAS scores

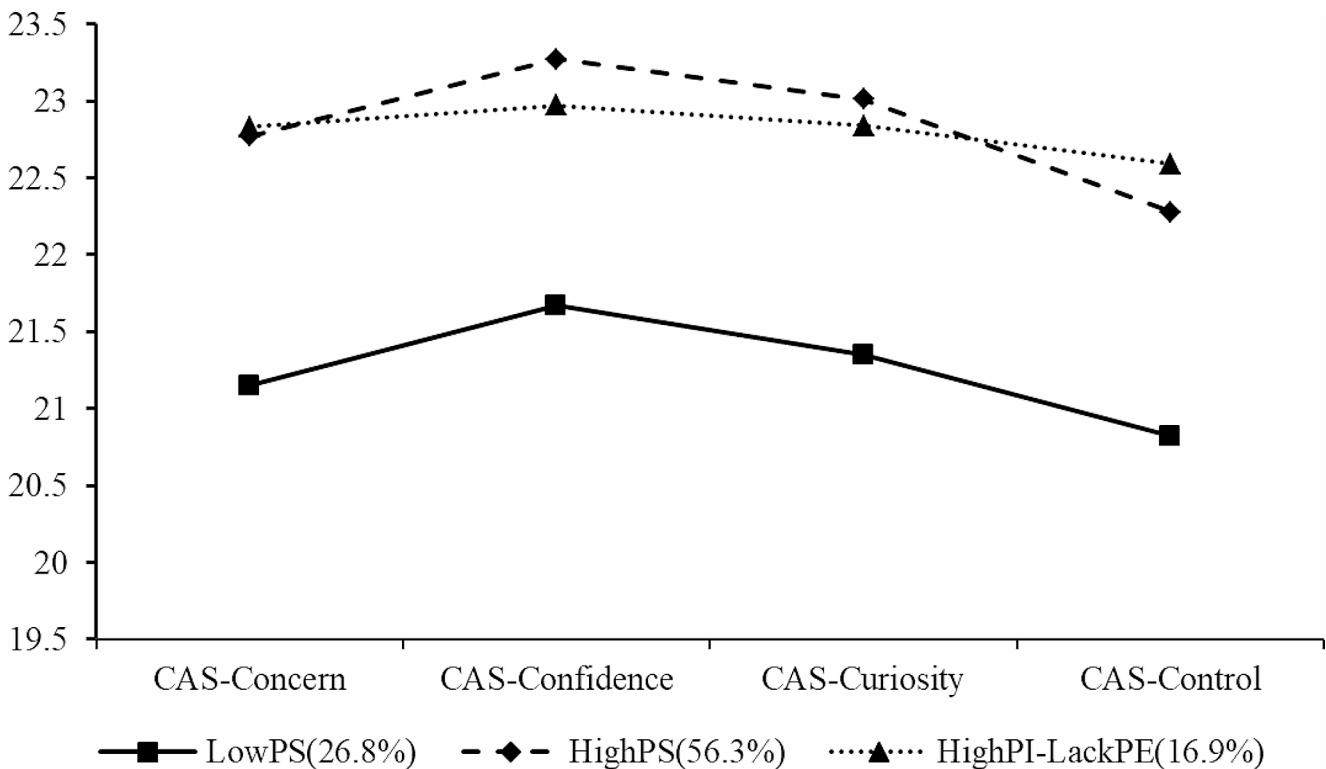


Fig. 2 Career adaptability dimension scores among the different college students groups

3. Class 1 scored lower in the “parental career support” dimension than the other two groups, and was in the middle position in the “parental career interference” and “lack of parental career engagement” dimensions. Therefore, it was named “low parental career support” (LowPS), accounting for 26.8% of the total sample. Class 2 had lower scores than the other two profiles in the dimensions of “parental career interference” and “lack of parental career engagement”, and a higher score in the dimension of “parental career support”, indicating that these parents show more support for college students’ career development, while also demonstrating less interference and less absence, so this class was therefore named “high parental career support” (HighPS), accounting for 56.3% of the total sample. Class 3 had a score similar to the HighPS group in the dimension of “parental career support”, but showed high interference and high lack of engagement. Therefore, it was named “high parental interference and lack of parental career engagement” (HighPI-LackPE), and accounting for 16.9% of the total sample.

The impact of latent profiles of parental career-related behaviors on college students’ career adaptability

Using the career adaptability of college students as the result variable, the regression mixed model was constructed, and the results showed that the three latent profiles of parental

career-related behaviors had significant differences in the career adaptability of college students and all dimensions ($p < 0.001$). The statistical results are shown in Table 4, and the scores of each subscale are shown in Fig. 2.

Discussion

This study used LPA to reveal three different types of parental career-related behaviors related to college students’ career development, and analyzed their internal structures and characteristic differences to provide a richer understanding of career construction theory. Unlike previous studies which have focused on variables, this study focused on individuals, analyzing responses to various questions and the dimensions of parental career-related behaviors. The results reveal the impact of different parental career-related behavior profiles on their children’s career development, providing new perspectives for career development research.

The three latent profiles of parental career-related behaviors and their characteristics

Three latent profiles of parental career-related behaviors were found, emphasizing the heterogeneity of parental career-related behaviors. The HighPS group included the highest percentage of our sample, with over half of parents

Table 4 Differences between profiles of parental career-related behaviors on college students' career adaptability

	Latent profile groups	$M \pm SE$	χ^2	Pairwise comparison
CAS-Concern	LowPS	21.15 ± 0.16	70.52***	2 > 1; 3 > 1; 2 = 3
	HighPS	22.77 ± 0.09		
	HighPI-LackPE	22.83 ± 0.18		
CAS-Confidence	LowPS	21.67 ± 0.15	72.78***	2 > 1; 3 > 1; 2 = 3
	HighPS	23.27 ± 0.09		
	HighPI-LackPE	22.97 ± 0.17		
CAS-Curiosity	LowPS	21.35 ± 0.16	74.20***	2 > 1; 3 > 1; 2 = 3
	HighPS	23.01 ± 0.09		
	HighPI-LackPE	22.84 ± 0.18		
CAS-Control	LowPS	20.82 ± 0.16	64.09***	2 > 1; 3 > 1; 2 = 3
	HighPS	22.28 ± 0.10		
	HighPI-LackPE	22.59 ± 0.18		
CAS-Total	LowPS	84.99 ± 0.59	79.28***	2 > 1; 3 > 1; 2 = 3
	HighPS	91.33 ± 0.34		
	HighPI-LackPE	91.23 ± 0.68		

LowPS = low parental career support; HighPS = high parental career support; HighPI-LackPE = high parental career interference and lack of parental career engagement; CAS = Career Adaptability Scale

supporting their children and encouraging them to explore career development possibilities without strongly imposing their own career development preferences and interfering with their career development. The LowPS group contained 26.8% of our sample, representing parents who demonstrated less support for their children's career development while also interfering less, which manifests as not caring about their children's career development planning. Finally, parents in the HighPI-LackPE group accounted for the smallest percentage of the sample at 16.9%. These parents show excessive interference in their children's career development but are unable to provide specific career guidance to their children. However, they are very concerned about their children's career development, and support and encourage them to explore career development possibilities. This result is similar to those of previous studies in adolescents which divided parent-related behaviors into three potential profiles (Zhou et al., 2020), but the proportion of high parental career support in the current study was significantly increased. The reason for this could be that with the progress of society and the popularization of evidence-based family education, coupled with the fact that children are more independent by the time they have reached the university stage, parents are increasingly able to better support their children's career development. Although they may not all demonstrate equal engagement in their children's career

development for various reasons, intervention methods are rarely used to interfere with their children's career exploration. Therefore, among the latent profiles of parental career-related behaviors, the HighPS group represented the highest proportion of the total sample, while the HighPI-LackPE groups represented the lowest proportion of the sample.

Characteristics of the different profiles of parental career-related behaviors on college students' career adaptability

No significant difference was found between the total and subscale scores regarding career adaptability between the HighPS and HighPI-LackPE groups, revealing that parental career support is the most critical factor for the positive development of college students' career adaptability, regardless of whether the nature of parental career support is supportive or interventional. The three parental career-related behavior profiles differed in college students' career adaptability characteristics, which supports the view of career construction theory in that the factors of one's family environment have a significant impact on their career development (Savickas et al., 2009).

First, the college students in the HighPS group reported high career adaptability, indicating that parental career support can promote the development of children's career adaptability. Parental support and encouragement provide children with emotional support and the feeling of being understood, as well as enhancing their self-confidence. These provide individuals with the psychological capital to explore different career fields, enhancing their ability to respond to career development needs in the workplace, and thus enhances their career adaptability (Zeng et al., 2022). Parental career support behavior positively predicts children's career adaptability, as parents provide support for and encouragement their children's career explorations, providing them with advice as needed (Guan et al., 2016; Guan et al., 2016). Studies have also shown that children with low levels of parental support also demonstrate lower levels of career exploration, resulting in lower career adaptability (Maftei et al., 2023). Intervention studies have revealed that family psychological group interventions can facilitate parental support and foster an increased understanding of children (Ramkissoon, 2022). Therefore, efforts should be made to develop more parental career parenting intervention programs to enhance parental support and foster the career development of college students in the future.

Second, reducing excessive parental interference once their children are in tertiary education may be more conducive to college students' career development. The current study found that college students in the HighPS group reported better career adaptability. In contrast, compared to

those in the HighPI-LackPE group, the students in both the HighPS and LowPS groups showed higher trends in career confidence than in career control. When the level of parental interference was low, children are able to make their own decisions and choices regarding their career development, which can foster autonomy and self-confidence and give children more opportunities to try out and explore different career fields. Previous studies have also shown that excessive parental interference hinders children's career development, and that excessive parental intervention reduces children's levels of career adaptability and deep exploration (LeBlanc & Lyons, 2022). Parental interference may also lead to increased ambivalence and lower self-efficacy in children (Li et al., 2022) which is detrimental to the children's career development and adaptation. Too much parental control hinders adolescents' career development and weakens their autonomy and ability to make their own career decisions (Ahn et al., 2023).

Third, parents in the HighPI-LackPE group provide higher support for their children's career development, and the college students in this group reported high career adaptability. A lack of parental career engagement can be attributed to differences in the cultural backgrounds of families, as well as to generational gaps between parents and their children which may lead to differences in career planning styles and values between parents and their children, making it difficult for parents to provide their children with comprehensive or appropriate career planning advice. In these situations, although parents may be eager to participate actively in their children's career planning and aim to provide good advice and guidance, they may find it difficult to be involved, resulting in a contradictory state of "eager to help but unable to participate". At the same time, parents may attach more importance to the Confucian values of "Guan", "Jiao", and "Xiao", as is common across traditional Chinese society in terms of educating and disciplining children according to parents' idealized expectations. Particularly in the process of "Guan", these Chinese parents often cross boundaries and interfere in their children's personal affairs (Wang, 2015). Therefore, even if parents are unfamiliar with a particular career field, they will still attempt to intervene to ensure that their children choose a "stable" and "promising" profession. For example, parents may prefer their children to work in the "lifetime employment" system, such as being a civil servant or a teacher, in order to achieve a sense of security and stability. Although parents' seemingly contradictory high support and high expectations also exhibit characteristics of Chinese parenting styles (Kim et al., 2013), college students in the HighPI-LackPE group still show high career adaptability, which also indicates that parental career support has an important impact on the development of college students' career adaptability.

Previous studies have also found that Chinese adolescents develop better career adaptability under an ambivalent parenting style (Zhou et al., 2020). While in the cultural context of Confucian values, caution must be taken not to overemphasize the benefits of highly controlling parenting approaches. It is necessary to carefully consider both cultural factors and potential limitations associated with high parental interference. Recent studies (Song & Ji, 2020) suggest that contemporary Chinese individuals are gradually departing from traditional cultural norms, particularly in domains such as family relations and parenting practices. This evolution mirrors a societal transition towards a more individualized ethos, emphasizing autonomy and self-expression. As cultural landscapes shift, parenting styles and expectations evolve accordingly. This evolution has profound implications for career development outcomes, prompting a reassessment of the role of parenting in shaping career trajectories. The traditional Chinese parenting practices, often characterized as authoritarian or controlling, may have both positive and negative implications for career development. While authoritarian parenting styles may foster the development of career decision-making skills, crucial for successful career exploration and navigation (Sovet & Metz, 2014), we argue for a more balanced approach that integrates warmth, autonomy support, and open communication. Such an approach can foster resilience and adaptability, two competencies paramount for navigating the complexities of contemporary career paths (Çakmak Tolan & Bolluk Uğur, 2024; Hua et al., 2022). In practical terms for career counselors and educators, these insights necessitate a tailored approach to advising and guidance. Recognizing the interplay between cultural backgrounds, parenting styles, and career development can inform strategies for fostering holistic growth in individuals. Career counselors should be equipped to navigate diverse familial and cultural contexts sensitively, integrating cultural awareness into their counseling frameworks. Encouraging dialogue around the evolving nature of parenting practices and their implications for career development can empower individuals to reflect on their own experiences and aspirations critically. Moreover, educators play a pivotal role in shaping the career readiness of students by promoting a supportive learning environment that values autonomy, critical thinking, and resilience. By fostering a culture of openness and exploration, educators can equip students with the skills necessary to thrive in an ever-changing landscape.

Limitations and future directions

The limitations of the current study must be acknowledged. First, although the study variables included parent-related variables, they are self-reported by the student participants. Future

research should expand the data collection by using measurements inviting reports from parents, and parent-related variables should be analyzed objectively through the comparison of data gathered from multiple reporting sources. Second, this is a cross-sectional study which lacks continuous tracking data and can only explain the relationship between the variables at one single time point. Future research should use tracking research to delve into the development of and changes in college students' career adaptability across time. Third, while latent profile analysis revealed distinct profiles of parental career-related behaviors in this study, it is important to keep in mind the potential limitations of clustering techniques to impose groupings in data. As such, the results should be interpreted with appropriate caution, and further research is needed to conduct replication studies or cross-validation analyses in future research to validate the stability and generalizability of the identified profiles.

Conclusion

This study found that parental career-related behaviors can be divided into three latent profiles: “high parental career support” (HighPS), “low parental career support” (LowPS), and “high parental career interference and lack of parental career engagement” (HighPI-LackPE). Parental career support has an important impact on the development of college students' career adaptability. Students in the HighPS and HighPI-LackPE groups reported significantly higher career adaptability than those in the LowPS group. Parental career-related behaviors of high parental support, low interference, and high engagement are the most conducive to the career development of college students.

The results of the current study suggest that parents should pay attention to and care about their children's career development, and that college students who receive more active support from their parents demonstrate benign development of career adaptability. At the same time, colleges and universities should develop or improve family career education guidance programs to help parents better meet the needs of college students from diverse family backgrounds.

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Data availability The data that support the findings of this study are available from the corresponding author upon reasonable request.

Declarations

Submission declaration The authors declare that this paper has not been published previously and it is not under consideration for publication elsewhere.

Ethical approval The study was approved by the ethics committee of Guangzhou University and school's authority.

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

Conflict of interest The authors declare that they have no conflict of interest.

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