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Future work-self salience and proactive career behavior among college student-athletes in Taiwan: A career construction model of adaptation

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ABSTRACT

Career adaptability has been frequently applied for understanding the career development of students and adults; however, the concept has rarely been exploited for understanding the career adaptation of college student-athletes. The present study used the career construction model of adaptation as the framework for identifying the moderated mediation of student-athletes' career behaviors. A total of 233 college student-athletes were recruited as participants in this study. Data collection was conducted through the use of paper questionnaires. The results indicated that career adaptability could partially mediate the relationship between future work self-salience and proactive career behavior among college student-athletes. In addition, athletic identity moderated the relationship between future work self-salience, career adaptability and proactive career behaviors. When an individual has a weak athletic identity, the mediating effect of career adaptability in this relationship is strengthened. By expanding the use of the career construction model of adaptation, the research results can offer guidance to university and consultation centers in the cultivation of student-athletes' career development.

1. Introduction

Over the past three decades, the literature on college student-athletes' career development has increased substantially and has become a well-delineated topic in the field of sports education (Alfermann, Stambulova, & Zemaityte, 2004; Brown & Hartley, 1998; Crook & Robertson, 1991; Lally & Kerr, 2005). While many student-athletes consider sports to be a part of their life work, giving priority to the amount of time and effort in their pursuit of improved performance, there are limited opportunities for college student-athletes to become professional athletes (Aquilina, 2013). For example, according to reports from the NCAA in 2018, approximately 490,000 student-athletes participate in the NCAA from Divisions I to III; however, fewer than two percent of NCAA student-athletes advance to the ranks of professional sports (NCAA, 2018). Similarly, in Taiwan, only outstanding athletes have a chance of advancing to the professional sports leagues. Most college student-athletes depend on academic and career skills to obtain employment after graduation. Thus, it is important to understand how and when Taiwan's college student-athletes develop their career strategies during their career transitions.

Strauss, Griffin, and Parker (2012) introduced the concept of future work self as the key element in facilitating career-related behaviors. Future work self refers to an aspect of self-concept associated with an individual's hopes and aspirations toward future

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work life (Strauss et al., 2012). Moreover, future work self can expand an individual's aspirations and broaden his/her imagination regarding future possibilities and lead him/her to actively strive for his/her possible future self (Strauss et al., 2012). Past studies have illustrated that a clear future work self can promote positive career outcomes, such as greater career plans, skill development, networking (Taber & Blankemeyer, 2015) and employment status (Guan et al., 2014). Although there is rich evidence of the positive relationship between future orientation and proactive career development, little research has identified the motivational process between future work self and proactive career outcomes (Taber & Blankemeyer, 2015). In other words, there have been few studies examining theory-based mediators and moderators to identify when, how, and why future work self engages in proactive career behavior (Guan et al., 2014; Zhang, Liao, Yan, & Guo, 2014). To address this gap in the literature, the present study investigated the relationship between future work self-salience and proactive career behavior, with career adaptability playing a mediating role. This study may provide more knowledge about the context of career development among college student-athletes.

Career adaptability, as a central aspect of the career construction model of adaptation, refers to a psychological construct that helps shape strategies for directing adaptive behaviors (Savickas, 1997; Savickas & Porfeli, 2012). Past studies have shown that career adaptability is a key component that positively predicted career and work outcomes such as work engagement (Coetzee, Ferreira, & Shunmugum, 2017) and career success (Zacher, 2014). A meta-analysis also showed that career adaptability has been frequently applied for understanding the career development of both students and adults (Rudolph, Lavigne, & Zacher, 2017). However, the concept has seldom been exploited for understanding the career adaptation of athletes (Navarro, 2014; Ryba, Zhang, Huang, & Aunola, 2017). Since past studies have indicated that college student-athletes might face unique challenges during their career adaptation (Park, Lavalley, & Tod, 2013; Wylleman, Alfermann, & Lavalley, 2004), this guiding concept of career adaptability may provide theoretical and practical advice for university athletes in developing their career behaviors.

While discussing the career development of student-athletes, the subject of athletes' identities following their career transitions has been shown to be of additional importance in the literature (Brewer, Van Raalte, & Linder, 1993; Lally, 2007). Athletic identity, which refers to self-identity in the athlete role (Brewer, Van Raalte, & Petitpas, 2000), is a central concept in the sports psychology domain and has garnered increasing research attention in regard to sports careers. Athletic identity seems to play the role of a double-edged sword in the transition of athletes through different life phases. While empirical studies have supported that high athletic identity may help athletes focus on sports commitment (Brown & Hartley, 1998) and have high self-esteem (Young & Bursik, 2000), other studies have revealed that both an intense athletic identity and a high tendency toward identity foreclosure are negatively associated with athletes' career plans during career transitions (Lally & Kerr, 2005; Park et al., 2013). A past study argued that an early developing athletic identity may lead young individuals to prioritize athletic development over academic development (Pummell, Harwood, & Lavalley, 2008) and lack coping strategies during career transitions (Crook & Robertson, 1991). Murphy, Petitpas, and Brewer (1996) implied that collegiate student-athletes with strong and exclusive athletic identities might experience delayed career development. Issues concerning the potential corrosive effects of high athletic identity toward careers have been reported in both quantitative and qualitative research (Alfermann et al., 2004; Ronkainen, Kavoura, & Ryba, 2016). However, other studies have reported that athletic identity helps individuals make mature career-related decisions (Lavalley, Gordon, & Grove, 1996) and that such individuals are generally more active in coping (Alfermann et al., 2004).

Comparisons of the investigations of student-athletes' career development show inconsistent results, which may be due to the following reasons. One reason is the differences in the chosen participants. Some past studies recruited participants who were already retired from sports competitions (Alfermann et al., 2004; Lavalley et al., 1996), while others used on-the-spot student-athletes (Lally & Kerr, 2005; Pummell et al., 2008; Tyrance, Harris, & Post, 2013). The different life stage and competition level of participants may lead to large disparity in their athlete identities and finally lead to inconsistent findings. To address these gaps in the literature, the present study explored the moderating effect of athletic identity toward proactive career behavior using senior collegiate student-athletes as participants.

In addition, while a rich body of the literature has focused on the relationship between athlete identity and career behaviors (Alfermann et al., 2004; Grove, Fish, & Eklund, 2004; Lally, 2007; Murphy et al., 1996), very few researchers have explored the reasons why some student-athletes adapt better when they gradually discard their sports career ambitions (Grove et al., 2004; Lally & Kerr, 2005). Further research is warranted to clarify the effect of athletic identity during student-athletes' career development. Concerning the importance of athletic identity for college student-athletes, we test the capacity of athletic identity as a moderator for predicting the proactive career behaviors of student-athletes. In addition, our study employed the career construction model of adaptation (Rudolph et al., 2017) as its guiding theory, which may lead to a better understanding of the career development process of college student-athletes.

As shown in Fig. 1, we attempted to examine the links among athletic identity, future work self-salience, career adaptability, and proactive career behavior among college student-athletes from a theoretical perspective. An increasing number of studies have applied

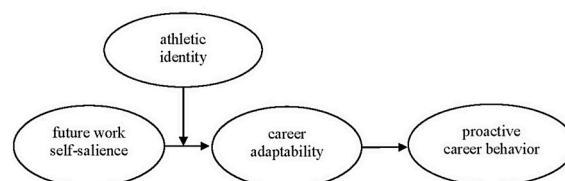


Fig. 1. The conceptual model in the present study.

the concept of adaptation to the literature on student-athletes (Navarro, 2014; Taylor & Ogilvie, 1994; Taylor, Siegele, Smith, & Hardin, 2018), and these results have provided new insights regarding the career setting, especially in the sports domain, where the necessity of career adaptability for student-athletes is highly emphasized. Therefore, our goal was to validate the mediating role of career adaptability in the relationship between future work self-salience and proactive career behavior and examine the moderating effect of athletic identity in the above indirect relationship. The conceptual moderated mediation model in the present study is as follows:

1.1. Theoretical concept

The career construction model of adaptation (Rudolph et al., 2017) is derived from career construction theory and proposes that when individuals possess a high level of career adaptability, they are able to cope with challenges in the ever-changing environment with prompted psychological resources. The career construction model of adaptation exploits the process of career construction during an individual's life span through relations between dimensions of adaptivity (psychological traits and personality), adaptability resources (career adaptability), adapting responses (performing adapting behaviors) and adaptation results (the outcomes of adaptive behaviors) (Hirschi & Valero, 2015; Rudolph et al., 2017; Šverko & Babarović, 2019). In this model, an individual's adaptivity positively influences career adaptability, which, in turn, is positively related to adapting response and adaptation results (Rudolph et al., 2017). Career adaptability as an adaptability resource mediates the relations between adaptivity and adapting response as well as adaptation results (Hirschi & Valero, 2015; Šverko & Babarović, 2019).

1.2. Future work self-salience and proactive work behavior

According to the extant literature, future work self-salience represents an aspect of the self-concept associated with an individual's hopes and aspirations for his or her future work life (Strauss et al., 2012; Taber & Blankemeyer, 2015). Future work self-salience constitutes a future-oriented concept supporting the goal-driven process and enabling people to work toward an imagined future (Strauss et al., 2012). Similarly, past studies have proven that future work self is necessary to shape one's career and adapt to career-related challenges (Guan et al., 2014). Future work self is one of the key elements of the future-oriented self-concept, which is more flexible and adaptable (Strauss et al., 2012), possibly serving as an adaptive readiness to trigger an individual to prepare his/her career tasks when facing career transitions. When people compare their future work selves with their current selves, they may identify discrepancies, which form the basis of future self-directed changes in behaviors (Strauss et al., 2012; Taber & Blankemeyer, 2015). Thus, salient future work selves serve as antecedents for individuals in preparing their careers and staying aligned with their values and priorities (Strauss et al., 2012) and further driving their actions toward an imagined future. Previous research has also shown that a clear and accessible future work self promotes an individual's self-directed behavior aimed at self-development (Hoyle & Sherrill, 2006). According to the above finding, we proposed that student-athletes with high future work self-salience will reveal high proactive career behaviors.

Hypothesis 1. (H1): Future work self-salience has a significant positive influence on proactive career behaviors.

1.3. The mediating role of career adaptability

Adaptability, a crucial concept in the career construction model of adaptation (Rudolph et al., 2017), has been defined as a psychosocial construct that assists individuals in coping with career-related experiences and self-regulation in their occupational roles (Savickas, 2005; Savickas & Porfeli, 2012). Future work self-salience and career adaptability are expected to be positively related. A previous study indicated that future work self-salience captures an individual's "career adaptivity," which refers to the volition to change himself/herself to adapt to career transition (Guan et al., 2014). For example, when people are concerned about their future careers and capture the discrepancy between their current selves and ideal future selves, they may be triggered to cultivate psychological resources for coping with changing environments. Career adaptability consists of the psychological resources that individuals possess for resolving critical problems in their career development (Savickas, 2005). A number of studies have also confirmed the relationship between an individual's personality tendencies and career adaptability (Johnston, 2018; Rudolph et al., 2017; Zacher, 2014). Thus, future work self-salience could serve as a positive psychological trait for individuals to improve their psychological strengths such as career adaptability.

In addition, career adaptability serves as an important self-regulatory resource necessary for future-oriented actions (Taber & Blankemeyer, 2015). Savickas and Porfeli (2012) proposed a four-dimension framework of adaptability: career concern, control, curiosity, and confidence. People with strong career adaptability may be concerned about and prepare for their future career tasks (concern), be responsible for their career development (control), facilitate a good fit between their selves and the future environment (curiosity), and develop the ability to solve career-related problems (confidence) (Maggiori, Rossier, & Savickas, 2017; Rudolph et al., 2017; Savickas & Porfeli, 2012; Šverko & Babarović, 2019). In the context of the career literature, the abovementioned adaptability resources are shown to be crucial elements in developing proactive career behaviors from school to work (Guan et al., 2014; Taber & Blankemeyer, 2015). According to the above suggestions, we proposed that student-athletes with high career adaptability would exhibit high proactive career behavior. When people are confronted with difficult or unfamiliar issues associated with career adjustment, they then draw from their self-regulatory resources, such as career adaptability, to solve problems (Savickas & Porfeli, 2012).

According to previous studies, career adaptability acts as a mediator in the relationship between adaptive readiness and adaptive responses, creating a link between personal psychological traits and future-oriented adaptive behaviors (Johnston, 2018; Neureiter & Traut-Mattausch, 2017; Rudolph et al., 2017; Sverko & Babarović, 2019). In line with the above findings, we assume that future work self-salience presents a motivational incentive to bring about a desired future that triggers career adaptability. Career adaptability in turn provides psychosocial resources for the promotion of adaptive responses such as proactive career behaviors to attain better career outcomes.

Hypothesis 2. (H2): Career adaptability can mediate the relationship between future work self-salience and proactive career behavior.

1.4. The moderating role of athletic identity

Mature career plans emerge from a series of self-exploration and identity development actions (Lally & Kerr, 2005); however, some findings suggest that many high-profile college student-athletes do not engage in these exploration stages while maintaining a strong athletic identity (Lally & Kerr, 2005; Navarro, 2014). When athletes invest heavily in their athletic roles, they make sense of life projects in connection to athletic improvements, records, and achievements (Ryba, Ronkainen, & Selänne, 2015). Under such salient athletic identity, university athletes may ignore other possible life roles (Lally & Kerr, 2005) and overestimate their ability to adapt to a future career, which may result in a weak connection between their future work selves and career adaptability resources. Conversely, as the prominence of athletic identity decreases, salient future work selves serve as important factors in an individual adapting better. Once student-athletes start to consider who they might become in the domain of work, their salient future work selves develop over time and further trigger them to accumulate their adaptability resources for work. In light of the above factors, we propose that when college student-athletes possess low athletic identity, the more they hold a clear and accessible view of their future selves at work, the more adaptability resources such as concern, control, curiosity, and confidence they can draw upon.

Hypothesis 3. (H3): Athletic identity moderates the relationship between future work self-salience and career adaptability. When student-athletes have high athletic identity, the relationship between future work self-salience and career adaptability is weak. Conversely, when they have low athletic identity, the above relationship is strengthened.

In addition, we propose a moderated mediation model for college student-athletes' proactive career behaviors: future work self-salience is positively related to proactive career behaviors via improving career adaptability. However, low athletic identity is proposed to form a flexible insight for student-athletes to give rise to their future work selves, which strongly motivates their career adaptability and further triggers proactive career behaviors.

Hypothesis 4. (H4): Athletic identity moderates the indirect effect of future work self-salience on proactive career behaviors through career adaptability. When athletic identity is low, the indirect effects are strengthened.

2. Materials and methods

2.1. Participants and procedures

The present study aimed to validate the predicted variables of proactive career behavior in senior college student-athletes. We collected data from a two-wave survey administered to student-athletes from four colleges and universities around Taiwan and whose confidentiality was assured. Participants completed the first-wave paper questionnaire at the beginning of the semester, providing data on demographics, future work self and athletic identity. Five months later, the participants completed the second-wave questionnaire and provided data on career adaptability and proactive career behaviors.

In the first wave, 280 initial respondents were collected. Of these respondents, 47 were excluded for their invalid data in the second-wave survey, leading to a final sample of 233 participants who completed both waves of the questionnaire. The overall response rate reached 83.2%. Of the participants ($n = 233$), 64.4% were male, and 70% were older than 21 years ($M = 21.19$, $SD = 1.93$). All participants were college student-athletes who participated on competitive teams (e.g., volleyball, basketball, and soccer) and individual sports (track and field, swimming, taekwondo, gymnastics, and triathlons) at various competition levels (3.9% at the Olympic level, 27% at the international level, 35.6% at the national level, and 33.4% at the regional level). Their average training time was 16.26 h per week ($SD = 9.85$).

2.2. Measures

We used back-translation steps (Brislin, 1980) to develop the Chinese version of the questionnaire. First, the instruments were translated from English to Chinese by two bilingual experts. Second, back-translation steps were taken to ensure that the translation did not deviate from the meaning of the original measures. Furthermore, a small group pilot was conducted before the formal survey to ensure that all the sentences were suitable for the participants. The control variables included participants' sex, age, competition level and average training hours per week.

2.3. Athletic identity

We assessed athletic identity by using Brewer et al. (1993) ten-item athletic identity measurement scale (AIMS). Athletic identity is defined as a person identifying with the athlete role (Brewer et al., 1993). A sample item is the following: "I consider myself an athlete." The response scale ranged from 1 (strongly disagree) to 6 (strongly agree). The Cronbach's alpha value was 0.88.

2.4. Future work self-salience

We assessed future work self-salience by using Strauss et al. (2012) five-item future work self-salience scale. Future work self-salience is defined as an individual's representation of himself or herself in the future, which reflects his or her hopes and aspirations regarding work (Strauss et al., 2012). A sample item is the following: "The mental picture of this future is very clear." The response scale ranged from 1 (strongly disagree) to 6 (strongly agree). The Cronbach's alpha value was 0.92.

2.5. Career adaptability

We assessed career adaptability by using Maggiori et al. (2017) Career Adapt-Abilities Scale–Short Form (CAAS-SF), which was extracted from Porfeli and Savickas (2012) CAAS 2.0. The CAAS-SF includes twelve items. In terms of definitions, career adaptability refers to a person's readiness for both predictable tasks, including preparing for and participating their work role, and unpredictable adjustments in working conditions (Savickas, 1997). A sample item is the following: "I am thinking about what my future will be like." The response scale ranged from 1 (strongly disagree) to 6 (strongly agree). The Cronbach's alpha value was 0.95.

2.6. Proactive career behavior

We measured job performance by using Strauss et al. (2012) scale for proactive career behavior, which includes thirteen items. Proactive career behavior is defined as individuals taking initiative in improving their current circumstances involving their careers. A sample item is the following: "I am planning what I want to do in the next few years of my career." The response scale ranged from 1 (strongly disagree) to 6 (strongly agree). The Cronbach's alpha value was 0.93.

2.7. Control variables

To exclude the potential confounding effects of the demographic variables, we measured and controlled for participants' age, training hours per week, sex (1 = male, 2 = female) and competition level (1 = regional, 2 = intercollegiate, 3 = national, 4 = international, and 5 = Olympics) in the current study.

3. Results

3.1. Descriptive analyses

Table 1 presents the means, standard deviations, and correlation matrices for the study variables. The results indicated that future work self-salience was related to sex ($r = -0.21, p < .01$), age ($r = 0.24, p < .01$), competition level ($r = 0.21, p < .01$), training hours ($r = .18, p < .01$), career adaptability ($r = 0.57, p < .01$), proactive career behavior ($r = 0.54, p < .01$), and athletic identity ($r = 0.45, p < .01$). Career adaptability was positively related to age ($r = 0.15, p < .05$), competition level ($r = 0.27, p < .01$), training hours ($r = .19, p < .01$), proactive career behavior ($r = 0.54, p < .01$) and athletic identity ($r = 0.62, p < .01$). Proactive career behavior was positively related to age ($r = 0.16, p < .05$), competition level ($r = 0.18, p < .01$), and athletic identity ($r = 0.37, p < .01$). Additionally, we found that sex, age, and training hours per week were significantly related to future work self-salience, career adaptability, proactive career behavior and athletic identity, suggesting that the above variables might confound with individual background. As such, we addressed sex, age, competition level and training hours per week as the control variables in the regression analysis model.

Table 1
Means, standard deviations, and correlations among study variables (N = 233).

	M	SD	1	2	3	4	5	6	7	8
1 Sex	–	–	–							
2 Age	21.19	1.93	.08	–						
3 Competition level	2.91	1.04	-.09	.31**	–					
4 Training hours per week	16.26	9.85	-.04	.04	.00	–				
5 Future work self-salience	4.56	1.43	-.21**	.24**	.21**	.18**	–			
6 Career adaptability	5.85	.89	-.06	.15 ^a	.27**	.19**	.57**	–		
7 Proactive career behavior	5.17	1.23	-.10	.16 ^a	.18**	.10	.54**	.54**	–	
8 Athletic identity	5.70	.95	-.14 ^a	.12	.24**	.21**	.45**	.62**	.37**	–

^a $p < .05$, ** $p < .01$.

3.2. Future work self-salience and proactive career behavior

Multiple hierarchical regression analysis was adopted for the examination of the mediating role of career adaptability in the relationship between athletic identity and proactive career behavior. Following Baron and Kenny's (1986) procedure, we first predicted proactive career behavior using control variables (sex, age, competition level, and training hours) and future work self-salience. As shown in Table 2 (Model 2), the overall model was significant ($F(5, 227) = 19.37, p < .001$). The results indicated that future work self-salience significantly affected proactive career behavior ($\beta = 0.53, p < .001$) after controlling for the nonsignificant effects of sex, age, competition level and training hours. Hypothesis 1 was supported. Future work self-salience has a significant positive influence on proactive career behaviors.

3.3. The mediating role of career adaptability

In the second step, we used control variables and future work self-salience to predict the mediating variable (career adaptability). As shown in Table 2 (Model 1), the overall model was significant ($F(5, 227) = 25.96, p < .001$). The results revealed that future work self-salience significantly predicted career adaptability ($\beta = 0.55, p < .001$) after controlling for the significant effect of competition level ($\beta = 0.17, p < .01$). Third, the researcher further tested the relationships between the mediating variable (career adaptability) and proactive career behavior. As shown in Table 2 (Model 3), the overall model was significant ($F(5, 227) = 20.01, p < .001$). The results revealed that after controlling for the nonsignificant effect of the demographic variables, career adaptability could significantly predict proactive career behavior ($\beta = 0.53, p < .001$). Finally, the researcher tested the effect of future work self-salience and career adaptability to predict proactive career behavior. As shown in Table 2 (Model 4), the overall model was significant ($F(6, 226) = 22.72, p < .001$). After controlling for the nonsignificant effect of the demographic variables, both future work self-salience ($\beta = 0.34, p < .001$) and career adaptability ($\beta = 0.35, p < .001$) could predict proactive career behavior. According to Baron and Kenny's (1986) suggestions, career adaptability can partially mediate the relationship between future work self-salience and proactive career behavior. Hypothesis 2 was supported.

3.4. The moderating role of athletic identity

Table 3 displays the moderating effects of athletic identity. The control variables of sex, age, competition level, and training hours were included first to predict career adaptability. Both competition level ($\beta = 0.24, p < .001$) and training hours ($\beta = 0.18, p < .001$) were significant. The main effects included future work self-salience and athletic identity. Both future work self-salience ($\beta = 0.55, p < .001$) and athletic identity ($\beta = 0.44, p < .001$) significantly predicted career adaptability. Furthermore, the interaction term ($\beta = -.022, p < .001$) between future work self-salience and athletic identity was also supported and explained an additional 4% of the variance associated with career adaptability. We created an interaction plot in Fig. 2 using one standard deviation above and below the means of athletic identity and future work self-salience to indicate higher and lower athletic identity and future work self-salience, respectively. Fig. 2 shows that future work self-salience had a stronger positive association with career adaptability when athletic identity was low than when it was high. These findings supported Hypothesis 3 that the positive relationship between future work self-salience and career adaptability is strengthened when student-athletes possess low levels of athletic identity. We further conducted a simple slope test, the results of which showed that the positive relationship between future work self-salience and career adaptability was stronger with low athletic identity ($B = .48, SE = 0.06, t = 8.36, p < .001$) than with high athletic identity (High: $B = 0.169, SE = 0.06, t = 2.84, p < .001$).

3.5. Moderated mediation analyses

Following the recommendations of Preacher, Rucker, and Hayes (2007), the proposed moderated mediation model could be

Table 2
Mediation analysis between future work self-salience and proactive career behavior.

	Career adaptability		Proactive career behavior	
	Model 1	Model 2	Model 3	Model 4
Sex	.077	.011	-.079	-.015
Age	-.042	.012	.084	.027
Competition level	.174**	.064	.002	.003
Training hours per week	.092	.002	-.007	-.030
Future work self-salience	.545***	.529***		.339***
Career adaptability			.526***	.348***
R^2	.36	.30	.31	.38
Adj. R^2	.35	.28	.29	.36
F	25.96***	19.37***	20.01***	22.72***
Freedom	(5, 227)	(5, 227)	(5, 227)	(6, 226)

* $p < .05$, ** $p < .01$, *** $p < .001$.

Table 3

Regression analysis predicting the link between career adaptability and future work self-salience, athletic identity, and their interaction.

	Career adaptability	
	ΔR^2	B
Control variable	.11	
Sex		-.04
Age		.07
Competition level		.24***
Training hours per week		.18***
Main effects		
Future work self-salience (FWS)	.25	.55***
Athletic identity (AI)	.15	.44***
Interaction		
FWS*AI	.04	-.22***
Total R^2	.55	
N	233	

Note: * $p < .05$, ** $p < .01$, *** $p < .001$.

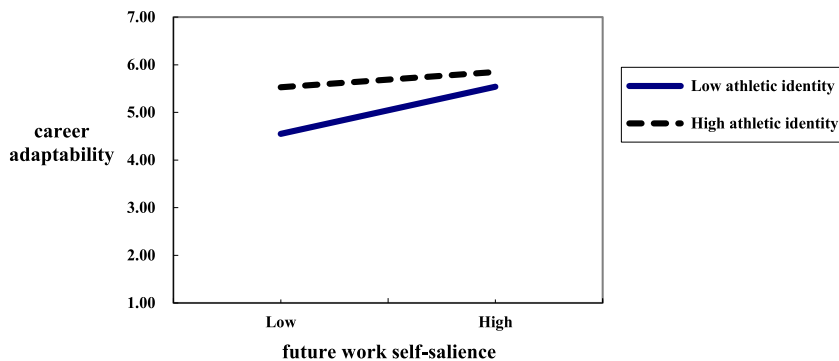


Fig. 2. Simple regression lines predicting changes in career adaptability.

validated by testing for conditional indirect effects. We examined the conditional indirect effect of future work self-salience on proactive career behavior through career adaptability at three values of athletic identity: the mean, one standard deviation above the mean, and one standard deviation below the mean (Schmitt, Den Hartog, & Belschak, 2016).

As shown in Table 4, through bootstrapping tests we also confirmed that when individuals had low athletic identity, the indirect effect of future work self-salience on proactive career behavior through career adaptability was stronger ($B = 0.17$, $SE = 0.06$, 95%CI = [0.06, 0.29]) than that under the condition of high athletic identity ($B = 0.05$, $SE = 0.03$, 95%CI = [0.01, 0.14]). These findings supported Hypothesis 4 that athletic identity moderates the indirect effect of future work self-salience on proactive career behaviors through career adaptability. In addition, we found an interaction effect between future work self-salience and athletic identity on career adaptability. When college student-athletes had low athletic identity, the positive effects of future work self-salience

4. Discussion

Based on the systematic meta-analytic correlations, the career construction model of adaptation (Hirschi & Valero, 2015; Rudolph et al., 2017) summarizes the literature on the relationships among adaptive readiness, adaptability resources, adaptive responses and adaptation results (Rudolph et al., 2017). Our results not only support the above theoretical expectations but also prove the moderating role of athletic identity in the relationships among future work self-salience, career adaptability, and proactive career behavior. In support of the hypothesized model, college student-athletes with clear future work self-salience can display higher proactive career behaviors through career adaptability. In addition, we found an interaction effect between future work self-salience and athletic identity on career adaptability. When college student-athletes had low athletic identity, the positive effects of future work self-salience

Table 4

Bootstrap results for the indirect effect of athletic identity on proactive career behavior.

Athletic identity	Effect (B)	Boot SE	Boot LLCI	Boot ULCI
-1 SD (-1.43)	.17	.06	.06	.29
0	.11	.04	.03	.20
+1SD (1.43)	.05	.03	.01	.14

N = 233. Bootstrap sample size = 5000.

and career adaptability on proactive career behavior were strengthened. These findings may provide suggestions for career development among athletes.

In our current study, the findings confirmed a significant association between future work self-salience and proactive career behavior and further examined the mediating role of career adaptability in the above relationship. Future self refers to the elements of flexible and adaptable self-concepts (Strauss et al., 2012). When individuals start to expand their aspirations about future possibilities, salient future work selves thus create discrepancies between their current selves and desired future selves (Strauss et al., 2012; Taber & Blankemeyer, 2015). These discrepancies could motivate the anticipatory proactive behaviors of individuals to strive for the best possible future in accordance with their values. As the fundamental part of the career construction model of adaptation (Rudolph et al., 2017), future work self-salience can play an antecedent role in the construction of a career reality and help individuals trigger their career resources to respond to career-related tasks. People with elaborate future work selves are more likely to seek information and develop skills associated with their career resources.

According to the previous literature, career adaptability often acts as an integrative construct that denotes an individual's resources for dealing with current and future tasks (Savickas, 1997; Savickas & Porfeli, 2012). When people face complicated or unfamiliar tasks in relation to career development, they tend to draw from self-regulatory resources such as career adaptability to complete such tasks and then take change-oriented actions to cope with the changing environment (Porfeli & Savickas, 2012). Our finding related to career adaptability in relation to career behavior is reasonably in accordance with that of Taber and Blankemeyer (2015). Career adaptability plays an influential role in the engagement of proactive career behavior. Career adaptability can assist people in forming strategies and then guide their actions with the aim of achieving adaptation goals (Savickas & Porfeli, 2012). With high career adaptability, college student-athletes can actively think about and look ahead to their future (concern), develop decision-making ability (control), explore their career role and environment (curiosity), and foster beliefs regarding their ability to overcome challenges (confidence) (Neureiter & Traut-Mattausch, 2017). The above factors—concern, control, curiosity, and confidence—were positively correlated with four types of proactive career behavior: skill development, networking, career consultation, and career planning (Strauss et al., 2012). Finally, our findings were consistent with those of past studies that demonstrated the mediating effect of career adaptability on the relationship between individual traits and career-related behaviors (Hirschi & Valero, 2015; Neureiter & Traut-Mattausch, 2017; Rudolph et al., 2017). There is powerful evidence that salient future work self can lead to higher career adaptability, which in turn enhances an individual's self-regulatory strength in developing career behaviors.

Moreover, a moderating effect of athletic identity in predicting career behavior has been discovered in the current study, which confirms the hypothesis that low levels of athletic identity are beneficial to those who hold a more positive perspective of their future work selves and exhibit better proactive career behaviors through career adaptability. According to a past study (Settles, Sellers, & Alphonse, 2002), athletic identity and other role identity may simultaneously exist and exert their function. However, athletic identity is shown to decrease as athletes approach retirement (Martin, Fogarty, & Albion, 2014). Once college student-athletes decrease their athletic identity and consider their multiple roles, they may transfer their sights from sports to future work, developing career-related knowledge, skills and networking; this suggests their flexibility in responding to career transitions. As a result, these findings suggest that with a low athletic identity, college student-athletes who have strong future-work-focused selves tend to pursue what they need and develop their career behaviors proactively through drawing on career resources such as career adaptabilities. This finding also confirms that when discovering college student-athletes with low athletic identity during their career transitions, coaches and teachers should encourage these student-athletes to explore and redefine themselves to obtain a future work profile in accordance with their values (Dunkel, 2000).

The main theoretical contribution of the present research is the validation of the utility of career adaptability in sports settings. Even across different populations (from general adults to college student-athletes), the mediating effect is still present. Our results provide empirical support that career adaptability can be captured in college student-athletes in a career development context. As the fundamental part of the career construction model of adaptation, career adaptability plays an essential role in accordance with personality traits and helps college student-athletes trigger their career-related behaviors (Hirschi & Valero, 2015; Rudolph et al., 2017). The guiding concept of career adaptability may provide new insights that are applicable for student-athletes when discussing their career development. In addition, the current study also provides empirical support that the career construction model of adaptation can be captured in college student-athletes in their career transitions. These results exploit the view that future work self-salience plays a vital role in shaping career adaptability, which in turn triggers proactive career behaviors. Future studies can adopt this theory in predicting the career adaptation of sports professionals, such as coaches and instructors.

In addition, our study further examines the moderating effect of athletic identity in predicting career behavior using on-the-spot senior college student-athletes as participants. The results are congruent with the expectations of the career construction model of adaptation (Hirschi & Valero, 2015; Rudolph et al., 2017) and offer clear boundary conditions when interpreting the relationship between future work self and career adaptability among university athletes. Finally, the current study has additional marked strength by avoiding a cross-sectional design. Past researchers have often adopted cross-sectional studies, which may contribute to the threat of common method bias (Lindell & Whitney, 2001). To improve this disadvantage, we adopt a two-wave design to collect the data, which may help reduce such common method bias.

The results summarized above might also provide some practical implications. First, as future work self-salience is a positive predictor of proactive career behavior, career consultants and departmental staff in universities can encourage student-athletes to explore and imagine their future work profiles, especially in the transition from school to work. Torregrosa, Ramis, Pallarés, Azócar, and Selva (2015) suggest that promoting a dual-career approach, combining the pursuit of sports, education, careers and other domains, can facilitate the transition to an alternative career. Second, our findings reveal that career adaptability is a significant mediating factor in the context of career development. As adaptability is a change-oriented psychosocial construct for individuals to

cope with career transitions (Savickas, 1997, 2005), Taber and Blankemeyer (2015) suggested that career counselors and school training programs should exploit interventions to increase adaptability resources. Interventions such as narrative counseling (Del Corso & Briddick, 2015), resume writing and interviewing techniques (Scholl & Cascone, 2010) may help college student-athletes concerning their future careers and advance their career adaptability. Third, career centers can collaborate with coaches and counselors to encourage student-athletes to cultivate their adaptability resources when they have low athletic identity in their later years at the university (Lally & Kerr, 2005). For example, by engaging in part-time jobs or internships in their senior year, college student-athletes who have progressively discarded their sports ambitions can be excited to use the skills that they acquired through athletics (i.e., teamwork, perseverance, and loyalty) and conduct self-exploration and social networking in workplaces or internships (Tsai, Hsu, & Yang, 2017). These individuals would be more attractive in the eyes of potential employers (Martens & Lee, 1998), which could inspire them to bring about changes and exploit their future-oriented career behaviors, consistent with their values (Dunkel, 2000).

5. Limitations and future research directions

There are still some limitations to consider when interpreting the results of the present study. First, the study depended on only self-report measures, which means that single-source bias may lead to inflated observed relationships. However, identity and adaptability are self-cognitive and psychosocial constructs of individuals' inner selves, and objective measures by others may ignore individual variance, which leads to the underestimation of these relationships (Van Yperen & Snijders, 2000). Thus, future research could overcome this limitation by using both self-report and multisource data, such as informational reports from peers and supervisors, to assess career behaviors. Moreover, the current study did further investigate the observed variables and thus failed to follow the student-athletes' career outcomes, such as employee status and work performance. From a lifespan perspective (Rudolph, 2016), career adaptability is the crucial competency of adults successfully managing competing work and life demands during certain life phases (e.g., for young adults in the transition from school to work). More cohort studies across years and decades are needed to explore the dynamic process and effects of career adaptability on career adaptation (i.e., job performance and satisfaction) during the career transitions of student-athletes. Finally, Murphy et al. (1996) reported that student-athletes in revenue producing sports (i.e., basketball, football, and ice hockey) may have significantly higher identity foreclosure and lower career maturity than athletes in nonrevenue-producing sports. However, in the current study, we do not investigate the difference between those college student-athletes who were in revenue producing sports and those who were not. Future studies could identify the specific sport-related factors that affect career behavior in college student-athletes.

Declaration of competing interest

None.

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Data availability

The data used to support the findings of this study are available from the first author upon request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jhlste.2020.100259>.

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