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The effects of career adaptability on intended academic persistence: The mediating role of academic satisfaction☆

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ABSTRACT

In the current study, we investigated the linkage between career adaptability, academic satisfaction, and intended academic persistence. The psychometric properties of the Career Adapt-Abilities Scale (CAAS) in a sample of undergraduate students from Trinidad and Tobago were also examined. The results provided further support for the incremental validity of the CAAS. We also found that career adaptability was significantly and positively related to intended academic persistence and academic satisfaction. Similarly, career adaptability predicted academic satisfaction which in turn predicted sub-dimensions of intended academic persistence. Furthermore, academic satisfaction was found to significantly mediate the relations between career adaptability and intended academic persistence. These results suggest that for undergraduate students, feeling adaptable in one's career links to an enhanced commitment to remain in their chosen academic field, in part due to feeling more satisfied with their chosen academic domain. Implications and future research directions are discussed.

1. Introduction

Career adaptability has garnered significant cross-cultural attention in recent years (Rudolph, Lavigne, Katz, & Zacher, 2017). This proliferation in empirical efforts can be largely attributed to the development of the Career Adapt-Abilities Scale (CAAS: Savickas & Porfeli, 2012), a cross-culturally valid and well-established instrument, grounded in the Career Construction Theory (CCT; Savickas, 1997, 2002, 2005). Savickas (1997) defines career adaptability as "the readiness to cope with the predictable tasks of preparing for and participating in the work role and with the unpredictable adjustments prompted by changes in work and working conditions" (p. 254). The research to date supports the importance of possessing the necessary adaptive skills. For example, among undergraduates, career adaptability has been linked to variables such as academic satisfaction (Wilkins et al., 2014), career calling (Praskova, Hood, & Creed, 2014), career exploration (Hirschi, Herrmann, & Keller, 2015), work volition (Duffy, Douglass, & Autin, 2015), and career decision making self-efficacy (Douglass & Duffy, 2015). It follows then that emerging adults entering today's rapidly changing economic environment need to be equipped with psychosocial resources critical to adjusting to the changes in the world of work.

Given the evidence supporting the influence of adaptability on vocational outcomes, it follows then that adaptive skills could aid

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in overcoming academic demands and challenges thus increasing the likelihood of persistence among college students. No study to date has examined the relation between career adaptability and intended academic persistence. A lack of empirical evidence renders this claim unfounded and represents a gap in our knowledge. Consequently, the current study examined the relations among career adaptability, intended academic persistence, and academic satisfaction in a sample of undergraduate students from Trinidad and Tobago (2016).

1.1. Brief country portrait of Trinidad and Tobago

Trinidad and Tobago is a twin island republic located at the most southeastern end of the Caribbean, just north of Venezuela. The ethnic composition of the country consists of two groups: Afro-*Trinbagonians* (a term used to be more inclusive of both islands) and East Indians. Given that Trinidad and Tobago was formally a British colony, English is the official language across the nation. Despite being small in size, with just over an estimated 1.3 million people, Trinidad and Tobago is a high-income country, rich in natural resources. It is ranked as having one of the highest Gross National Income (GNI; formerly GNP) per capita in Latin America and the Caribbean (World Bank, 2014). Due to its heavy reliance on petroleum and petrochemical industries, Trinidad and Tobago's economy was affected by the sharp fall in oil and gas prices. This fall in energy prices resulted in job losses as well as decreased GDP and revenues (World Bank, 2014). Universities in Trinidad and Tobago are making a concerted effort to restructure their curricula to better prepare students for a workplace that is in flux and require continual adjustments by its human resources.

2. Theoretical background

Savickas' (1997, 2002, 2005) Career Construction Theory (CCT) is the framework on which career adaptability stands. Savickas (2002) posited that vocational development is driven by an adaptation to an environment rather than by maturation over time (Super, 1990). Consequently, he characterized vocational development as more in line with a contextualistic worldview where careers are constructed rather than an organismic worldview where careers just unfold (Savickas, 2002). The CCT framework is modeled by a four-part process, one of which incorporates the concept of career adaptability. Savickas (2002) describes this process as including adaptivity, or adaptive readiness, which denotes an individual's willingness to meet unfamiliar and often complex career tasks with fitting responses such as flexibility. Next is the use of adaptability resources, otherwise referred to as psychosocial strengths, that facilitates coping with vocational tasks, transitions, and traumas. Adaptability is followed by adapting, or adapting responses, which refers to the behaviors used to address the changing conditions. Lastly, adaptation results refer to the positive outcomes that come about as a result of the above three steps.

According to Savickas (2002), career adaptability is a multi-dimensional construct that encompasses a variety of attitudes, strengths, behaviors, and competencies that individuals use to adapt to work that is fitting to them. Career adaptability is characterized by four underlying resources that represent coping strategies. These resources are referred to as the 4Cs and include concern, control, curiosity, and confidence. Savickas (2005) defined career concern as “a sense that it is important to prepare for tomorrow” (p. 52). Concern is important because it serves as a foundational catalyst for career success. Control refers to feeling in charge of one's own vocational future. Savickas (2005) defines career curiosity as the “inquisitiveness about and exploration of the fit between self and the work world” (p. 55). By broadening one's knowledge of self through exploration beyond the immediate environment, individuals experience increased realism and objectivity in future choices. The final dimension is confidence, this refers to feeling efficacious about one's ability to execute a course of action that is necessary to one's educational and vocational choices (Savickas, 2005). According to the CCT, an adaptive individual is one who possesses all four resources.

2.1. Career adaptability and undergraduate students

Given the vocational context of the CCT, most of the extant literature has examined the relation between career adaptability and vocational outcomes among those in the post-graduation phase (i.e., currently employed or seeking employment). For example, Guan et al. (2013) found that career adaptability was positively related to job search self-efficacy and employment status, pre- and post-graduation, respectively. These results indicate that students who felt highly adaptable, felt more confident during the job search process and were more likely to be employed post-graduation. Similarly, Douglass and Duffy (2015) found that students higher in career adaptability felt more efficacious in their career decision making skills. These and other results (Taber & Blankemeyer, 2015; Tolentino et al., 2014) indicate that undergraduate students with high levels of career adaptability tend to have more positive vocational outcomes.

Recently, researchers have extended their examinations of career adaptability to contexts outside of the workplace. For example, Wilkins et al. (2014) found that career adaptability was positively related to various dimensions of satisfaction such as, satisfaction with the academic experience. Similarly, Duffy et al. (2015) found a positive relation between the four components of career adaptability and academic satisfaction. These results suggest that undergraduate students who feel more adaptable indicated greater levels of satisfaction with their academics. These results support the longstanding belief that the career development process begins long before young people engage in actual work behaviors (Hartung, Porfeli, & Vondracek, 2005; Negru-Subtirica & Pop, 2016; Savickas et al., 2009).

Another important academic outcome that has garnered significant attention is academic persistence. Tinto (1987) defined this construct as the degree to which an individual chooses to continue in a chosen area of study. Tinto (1987, 1993) is credited with putting forth the most influential model of student persistence to date. He identified several salient predictors of persistence such as

the commitment to obtaining a college degree and integration into both the social and intellectual fabric of the institution. Actual persistence is an objective measure of whether a student remained in an academic major to graduation. Though ideal, it is sometimes costly and challenging to conduct longitudinal studies that assess actual persistence. Measuring one's intentions to persist can serve as a proxy in lieu of a such an objective assessment. Studies examining a similar construct, turnover intentions – a person's perceived likelihood of staying or leaving their current employment – suggest that intentions are immediate predictors of actual behavior (Sommer & Haug, 2011) because they have been shown to be linked to actual turnover (Griffeth, Hom, & Gaertner, 2000).

No study to date has examined the relations of career adaptability with intended academic persistence. However, CCT postulates that possessing psychosocial strengths and resources increases one's capabilities to cope with tasks, transitions, and challenges. In the case of turnover intentions, scholars have found that high career adaptability could deter employees from having turnover intentions (Ferreira, Coetzee, & Masenge, 2013; Safiah & Noordin, 2013). It follows then that a similar relation could exist in the case of intended academic persistence. The current study builds on the aforementioned evidence and examines if students who are more adaptable will likely overcome daily academic demands and challenges thus increasing their intentions to persist in their chosen academic major.

3. Academic satisfaction as a mediator

Administrators and advisors regard academic satisfaction as of utmost concern given its influence on student retention. Lent, Singley, Sheu, Schmidt, and Schmidt (2007) defined academic satisfaction as the “enjoyment of one's roles or experiences as a student” (p. 87). Coffman and Gilligan (2002) found that students who withdrew from college prematurely reported low satisfaction with their academic experience, namely isolation, limited opportunities for academic contact, and academic difficulties inside the classroom. In the few studies that have examined the relation between career adaptability and academic satisfaction, most, if not all, have examined academic satisfaction as an outcome variable (e.g., Hirschi, 2009; Wilkins et al., 2014). However, extant efforts in the workforce arena have demonstrated the mediating effect of satisfaction, namely career satisfaction, in improving our understanding of the relations between career adaptability and turnover intentions in international samples (Chan & Mai, 2015; Chan, Mai, Kuok, & Kong, 2016; Guan, Zhou, Ye, Jiang, & Zhou, 2015). In fact, Chan and Mai (2015) found that career satisfaction significantly and positively mediated the relations between career adaptability and turnover intensions.

Despite this growing evidence, scholars have noted that the research linking career adaptability, career satisfaction, and turnover intentions is not well integrated (Chan & Mai, 2015). Furthermore, little to no study to date has extended the examination of the indirect effect of satisfaction to an academic context. Given the conceptual similarity between turnover intentions (i.e., a person's perceived likelihood of staying or leaving their current employment) and intended academic persistence, it is likely that satisfaction could have a similar mediating effect on the relationship between career adaptability and intended academic persistence. The current study sought to extend the above results and investigate the indirect effects of academic satisfaction. Specifically, we hypothesized that career adaptability would increase a student's level of academic satisfaction which in turn would promote heightened intentions to persist in the chosen academic major.

A key aspect of any study is the generalizability; how far can the findings be applied? This issue is especially salient in this study through the examination of the CAAS in a very different culture, that of Trinidad and Tobago. Beyond this, another critical variable in career research is gender as this has been shown to be centrally related to a wide variety of career variables (Lent, Brown, & Hackett, 2000; McWhirter, 1997). We also examined the extent to which all measures and relations varied by gender.

4. The present study

The purpose of the current study was threefold. First, seeing that no study to date has examined the psychometric properties of the CAAS in a Caribbean sample, it was first necessary to examine the validity of the CAAS in the context of a Trinidad and Tobago sample. Given that the CAAS has been validated in other English-speaking countries that share a similar British colonization history, we hypothesized that a comparable higher-order structure with four sub-domains (i.e., Concern, Control, Curiosity, and Confidence) would reliably measure career adaptability as originally demonstrated in Savickas and Porfeli (2012). Second, we investigated the relations among career adaptability, academic satisfaction, and intended academic persistence in this culture. Specifically, we examined the degree to which academic satisfaction would mediate the relationship between career adaptability and students' likelihood of continuing in their academic major to degree completion. Finally, we examined the invariance of the above hypotheses across gender.

5. Method

5.1. Participants

The present study comprised of 327 students recruited from two universities in Trinidad and Tobago. The sample consisted of 182 (56%) females and 145 (44%) males. Students' ages ranged from 18 to 35 (M = 24.32 years, SD = 4.39 years). Participants in the sample identified as Indian (40%), Afro-Trinbagonians (39%), Bi-racial (15%), and Multiethnic (5%). Students were predominantly enrolled in their first (34%) and second years (28%) at the universities.

5.2. Procedures

Upon receiving IRB approval at each of the participating institutions, a recruitment email containing the survey link was disseminated to all university students at both institutions via the registrar's office. Students were asked to voluntarily participate in an online survey that was estimated to take 10–15 min of their time. The cover letter informed participants of the purpose of the study, minimal risks, and that anonymity was assured since aggregate data would be reported in all future publications.

5.3. Measures

5.3.1. Career Adapt-Abilities Scale (CAAS)

The Career Adapt-Abilities Scale-International Form 2.0 was developed by Savickas and Porfeli (2012). It contains 24 items equally divided into four subscales measuring the adapt-ability resources of concern (e.g., "Preparing for the future"), control (e.g., "Making decisions by myself"), curiosity (e.g., "Becoming curious about new opportunities"), and confidence (e.g., "Performing tasks efficiently"). These four subscales combine to form a total score indicating an individual's career adaptability. Response items were rated on a Likert scale ranging from 1 (*not strong*) to 5 (*strongest*). Scores range from 24 to 120, with higher scores indicating greater adapt-ability. Savickas and Porfeli (2012) reported a reliability of 0.92 for the total score which was higher than the subscale scores of concern ($\alpha = 0.83$), control ($\alpha = 0.74$), curiosity ($\alpha = 0.79$), and confidence ($\alpha = 0.85$). The reliability for total score in the current study was 0.86 which was higher than the subscale scores of concern ($\alpha = 0.81$), control ($\alpha = 0.78$), curiosity ($\alpha = 0.82$), and confidence ($\alpha = 0.85$).

5.3.2. Academic satisfaction

Academic satisfaction (Lent et al., 2007) was measured using a seven-item Likert scale that asked participants to rate the degree to which they felt satisfied with their academic experience. Response items were scored using a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Example items include "I feel satisfied with my decision to major in my intended field" and "I enjoy the level of intellectual stimulation in my courses." Scores ranged from 7 to 35, with higher scores indicating greater academic satisfaction. Lent et al. (2007) reported an alpha of 0.87. The reliability for the total score in the current sample was 0.89. Studies using this measure have reported coefficient alphas of 0.90–0.93 (Duffy, Allen, & Dik, 2011; Ojeda, Flores, & Navarro, 2011).

5.3.3. Intended academic persistence

Intended academic persistence was measured using the four-item Lent et al. (2003) Major Choice Goals scale. Lent et al. (2007) as well as Navarro, Flores, Lee, and Gonzalez (2014) employed this four-item measure in a similar manner to examine intended academic persistence in an engineering sample. Although this measure differs from actual persistence, Lent et al. (2003) found that this measure was strongly predictive of actual future persistence in engineering. The four items included in this measure are: "I intend to remain enrolled in my current major over the next semester," "I intend to remain enrolled in my current major over the next year," "I intend to excel in my current major," and "I intend to complete the upper level required courses in my major with an overall G.P.A of B or better." Participants were asked to indicate the degree to which they agreed with each item using a Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Lent et al. (2003) reported an internal consistency for the four-item measure of 0.95. Similarly, Lent et al. (2007) reported a coefficient alpha of 0.95. However, the alpha coefficient for the total score in the current study was 0.70.

Given the noticeable difference between the measure's reliability in the current international sample compared to past studies using a U.S. sample, we examined the measure's factor structure using principal axis factor analysis. A two-factor model was found to exhibit a better fit compared to a unidimensional model as indicated by the scree test and parallel analysis of over 500 samples. The first two items loaded on one factor (i.e., "I intend to remain enrolled in my current major over the next semester" and "I intend to remain enrolled in my current major over the next year") and the latter two items loaded on the second factor (i.e., "I intend to excel in my current major," and "I intend to complete the upper level required courses in my major with an overall G.P.A of B or better"). Given the focus of the items in each factor, we referred to factor 1 as intentions to remain enrolled in one's major and factor 2 as intentions to succeed in one's major. Although the reliability for factor 1 was similar to the alpha for the total score (i.e., 0.70), factor 2 evidenced a slightly higher alpha (i.e., 0.75). Given these differences, the subscale scores were used in the subsequent analyses. The two factors were also correlated on $r = 0.36$, showing some relation but clear differences.

5.3.4. Demographic questionnaire

A short demographic questionnaire was administered to collect data on participants' age, gender, race/ethnicity, and class standing.

5.4. Analysis

Descriptive statistics, intercorrelations, and Cronbach alphas were computed using SPSS version 24. All hypothesized structural equation models were conducted in R 3.3.1 (lavaan package version 0.6-1; Rosseel, 2016) using robust maximum likelihood estimation. We first examined the applicability of the CAAS (Savickas & Porfeli, 2012) to a Trinbagonian sample using a confirmatory factor analysis (CFA). Model-data fit was assessed using three goodness-of-fit indices, the root mean square error of approximation (RMSEA), the comparative fit index (CFI), and the standardized root mean squared residual (SRMR). The RMSEA is designed to measure the degree of misfit in a model, with values < 0.06 indicating close fit (Browne & Cudeck, 1993). The CFI examines model-

data fit by comparing the proposed model with the less restrictive baseline model (Bentler, 1990). Hu and Bentler (1999) recommend a value ≥ 0.95 to indicate good fit. The SRMR tests the standardized difference between observed and predicted correlations (Hu & Bentler, 1999). The SRMR ranges from 0.00 to 1.00 and values < 0.08 indicating good fit (Byrne, 1998).

Second, we tested the measurement model using Structural Equation Modeling (SEM) via the lavaan package to assess whether the four latent variables (i.e., career adaptability, academic satisfaction, and the two subscales of intended academic persistence) were adequately represented by the manifest variables (Kline, 2016). We employed the maximum likelihood estimator with robust standard errors (MLR) because it can accommodate violations of multivariate normality. The observed indicators for the four latent constructs consisted of the scale items for each construct. Specifically, the four latent dimensions of career adaptability were measured by six items each. These latent factors were then used to measure career adaptability. Similarly, the seven scale items were used as observed variables of academic satisfaction. Intentions to remain enrolled in one's major and intentions to succeed in one's major were measured by the two subscale items each. Following the measurement model, we analyzed the structural model to test our hypothesized relationships of the latent variables.

Third, we used bias-corrected bootstrapping to assess the magnitude and significance of the mediating effects of academic satisfaction. Bootstrap methods are particularly useful in assessing indirect effects in small to moderate size samples because of the strong statistical power (Shrout & Bolger, 2002). We computed the means of 1000 estimated indirect effects by creating 1000 bootstrap samples to gain a 95% confidence interval (CI) of the estimates of the indirect effects being tested. This is consistent with the suggestions made by MacKinnon, Lockwood, and Williams (2004). The indirect effect is considered statistically significant at the 0.05 level when the CI does not include zero (Shrout & Bolger, 2002).

Fourth, a multi-group SEM analysis was conducted to compare the hypothesized predictions and mediations among the study variables across gender (i.e., men and women). Specifically, these analyses aided in the evaluation of between-group differences with respect to the role of academic satisfaction in mediating the relations between career adaptability and intentions to remain enrolled in one's major and intentions to succeed in one's major. We employed a series of multi-group models to determine invariance. First, we tested configural invariance by allowing all the parameters in the hypothesized model to vary across subgroups (Model 1). We then compared this unconstrained model to a model where the item loadings were constrained to be equal across men and women (Model 2). If the comparison between Model 1 and Model 2 was not found to be significant, we concluded that the study variables were comparable across men and women (i.e., metric invariance). Next, we tested scalar invariance by comparing Model 2 against a model in which both the item loadings and the path coefficients were constrained to be equal (Model 3). A significant difference in the comparison between Model 2 and Model 3 would suggest that there were potentially significant differences in the predictions and indirect effects between men and women. Two indices were used to compare the models: the difference in CFI and the difference in model chi-square. The $\Delta\chi^2$, as determined by the Satorra-Bentler Chi-square difference test, assessed the 'statistical' significant differences between the Models. However, researchers have noted that this test statistic is sensitive to sample size (Cheung & Rensvold, 2002). Consequently, we also employed the ΔCFI as an additional approach to determining the differences in model fit. The ΔCFI is often regarded as the test statistic for 'practical' significance of differences in model fit. Invariance is determined if the difference between the models does not reach the criterion difference of 0.01 (Cheung & Rensvold, 2002). The following section describes the results of these analyses in detail.

6. Results

6.1. Confirmatory factor analysis on CAAS

The mean, standard deviations, and factor loadings of the 24-item CAAS are shown in Table 1. Results of the confirmatory factor analysis (CFA) revealed that the CAAS fit the hypothesized second order theoretical model adequately [χ^2 (243, N = 327) = 394.62, $p < .001$, with CFI = 0.93, RMSEA = 0.05 (90% range of 0.04–0.05), and SRMR = 0.06]. As shown in Table 1 all the items evidenced loadings higher than 0.50. Similarly, the four adaptability dimensions (i.e., Concern, Control, Curiosity, and Confidence) had loadings that ranged from 0.84 to 0.93 on the higher order adaptability factor. These factor loadings showed slight differences when compared to the CAAS-International Sample. Both Concern (0.86), and Control (0.93) were higher in the Trinidad and Tobago sample than the CAAS-International Sample (i.e., Concern (0.78), and Control (0.86)). However, Curiosity (0.88) and Confidence (0.90) were higher in the CAAS-International Sample than the Trinidad and Tobago sample (i.e., Curiosity (0.84) and Confidence (0.85)). Overall, the results of the CFA on the CAAS were consistent with the previous research with the CAAS-International Sample (Savickas & Porfeli, 2012).

6.2. Descriptive statistics

The means, standard deviations, and intercorrelations of our study variables are shown in Table 2. Gender was measured as a dichotomous variable (0 = men; 1 = women). As illustrated, career adaptability was significantly and positively associated with academic satisfaction ($r = 0.33, p < .01$), intentions to remain enrolled in one's major ($r = 0.11, p < .01$), and intentions to succeed in one's major ($r = 0.26, p < .01$). Academic satisfaction was also significantly and positively related to both intentions to remain enrolled in one's major ($r = 0.30, p < .05$) and intentions to succeed in one's major ($r = 0.40, p < .01$). Gender was significantly associated with career adaptability ($r = 0.11, p < .05$) and intentions to succeed in one's major ($r = 0.26, p < .01$) such that women reported significantly higher levels of adaptability and intensions to succeed academically compared to men.

Prior to testing the relationship among adaptability, academic satisfaction, and the two subdimensions of intended academic

Table 1
Career Adapt-Abilities Scale (CAAS) items, descriptive statistics, standardized loadings, and internal consistency reliabilities.

Construct	Item (first-order factor loadings)	Mean	SD	Factor loading	α
Concern		4.13	0.69		0.81
	1. Thinking about what my future will be like			0.54	
	2. Realizing that today's choices shape my future			0.62	
	3. Preparing for the future			0.73	
	4. Becoming aware of the educational and career choices that I must make			0.70	
	5. Planning how to achieve my goals			0.72	
	6. Concerned about my career			0.56	
Control		3.93	0.68		0.78
	1. Keeping upbeat			0.67	
	2. Making decisions by myself			0.54	
	3. Taking responsibility for my actions			0.58	
	4. Sticking up for my beliefs			0.51	
	5. Counting on myself			0.69	
	6. Doing what's right for me			0.70	
Curiosity		3.93	0.70		0.82
	1. Exploring my surroundings			0.67	
	2. Looking for opportunities to grow as a person			0.72	
	3. Investigating options before making a choice			0.66	
	4. Observing different ways of doing things			0.72	
	5. Probing deeply into questions I have			0.59	
	6. Becoming curious about new opportunities			0.66	
Confidence		3.92	0.70		0.85
	1. Performing tasks efficiently			0.74	
	2. Taking care to do things well			0.69	
	3. Learning new skills			0.65	
	4. Working up to my ability			0.71	
	5. Overcoming obstacles			0.72	
	6. Solving problems			0.68	

Construct	Second-order factor loadings	Mean	SD	Loading	α
Adaptability		3.99	0.58		0.86
	1. Concern			0.86	
	2. Control			0.93	
	3. Curiosity			0.84	
	4. Confidence			0.85	

Table 2
Means, standard deviations, and intercorrelations among measures (N = 327).

	M	*SD*	1	2	3	4	5	6	7	8	9
1. Career adaptability	3.98	0.58	–								
2. Gender	–	–	.11*	–							
3. Concern	4.13	0.69	.83**	.15**	–						
4. Control	3.93	0.68	.85**	0.09	.68**	–					
5. Curiosity	3.93	0.70	.84**	0.08	.55**	.60**	–				
6. Confidence	3.92	0.70	.85**	0.05	.56**	.61**	.68**	–			
7. Academic satisfaction	3.94	0.77	.33**	0.01	.33**	.30**	.15**	.33**	–		
8. ITP factor 1	4.37	0.84	.11*	0.04	.16**	0.10	0.01	0.09	.30**	–	
9. ITP factor 2	4.60	0.60	.26**	.19**	.25**	.21**	.14**	.26**	.40**	.36**	–

Note: Gender: 0 = male; 1 = female.
* $p < .05$.
** $p < .01$.

persistence, we examined the skewness and kurtosis of all the variables. Results indicated that none exceeded 1.0 therefore the data was retained in its original form.

6.3. Measurement model

As illustrated in Table 3, the measurement model (Model A) exhibited adequate fit to the data: χ^2 (542, N = 327) = 791.85, $p < .05$, CFI = 0.93, RMSEA = 0.04, SRMR = 0.06. Additionally, all the standardized factor loadings were significant ($p < .001$) and > 0.50. By default, Lavaan examines correlations among latent variables when a measurement model is tested. The results demonstrated that all latent variables in the model were significantly and positively related, except one. The association between

Table 3
Goodness-of-fit indices and mediation effects in structural equation models (N = 327).

Model	*df*	χ^2	RMSEA [CI]	CFI	SRMR
Model A: measurement model	550	746.53	0.03 [0.03, 0.04]	0.94	0.06
Model B: hypothesized structural model (Fig. 1)	551	746.72	0.03 [0.05, 0.06]	0.94	0.06
Model C (alternative model): the hypothesized model with academic satisfaction as the outcome variable.	553	809.42	0.04 [0.03, 0.04]	0.92	0.07

Mediation Effects (based on Model B)	Unstandardized coefficient	Unstandardized 95% CI	Standardized coefficient	Standardized 95% CI
(a) Career adaptability → Academic satisfaction → Intended academic persistence F1	0.22	[09, 0.39]	0.14***	[0.07, 0.36]
(b) Career adaptability → Academic satisfaction → Intended academic persistence F2	0.28	[0.12, 0.51]	0.17***	[0.09, 0.47]

Note: RMSEA = root-mean-square error of approximation; CI = 95% confidence intervals for RMSEA; CFI = comparative fit index. All scaled χ^2 values were significant at $p < .001$; the standardized coefficient provides the completely standardized indirect effect (see Eq. (9) of Preacher & Kelley, 2011).

career adaptability and intentions to remain enrolled in one's major was not found to be significant β = 0.14, *SE* = 0.03, $p < .08$. Overall, the findings of the measurement model provided support for moving forward with the hypothesized structural model of indirect effects.

6.4. Structural model

The hypothesized structural model (Model B) also exhibited adequate fit to the data (see Fig. 1), χ^2 (551, N = 327) = 746.72, $p < .001$, CFI = 0.94, RMSEA = 0.03, SRMR = 0.06. Together, career adaptability and academic satisfaction accounted for 28% of the variance in intentions to succeed in one's major. Career adaptability accounted for 15% of the variance in academic satisfaction. Additionally, academic satisfaction explained 13% of the variance in intentions to remain enrolled in one's major.

Given the plausibility of more than one theoretical model (Kline, 2016), we examined an alternative model (Model C) whereby academic satisfaction was examined as an outcome (versus a mediator) along with the two subscales of intentions to persist. No

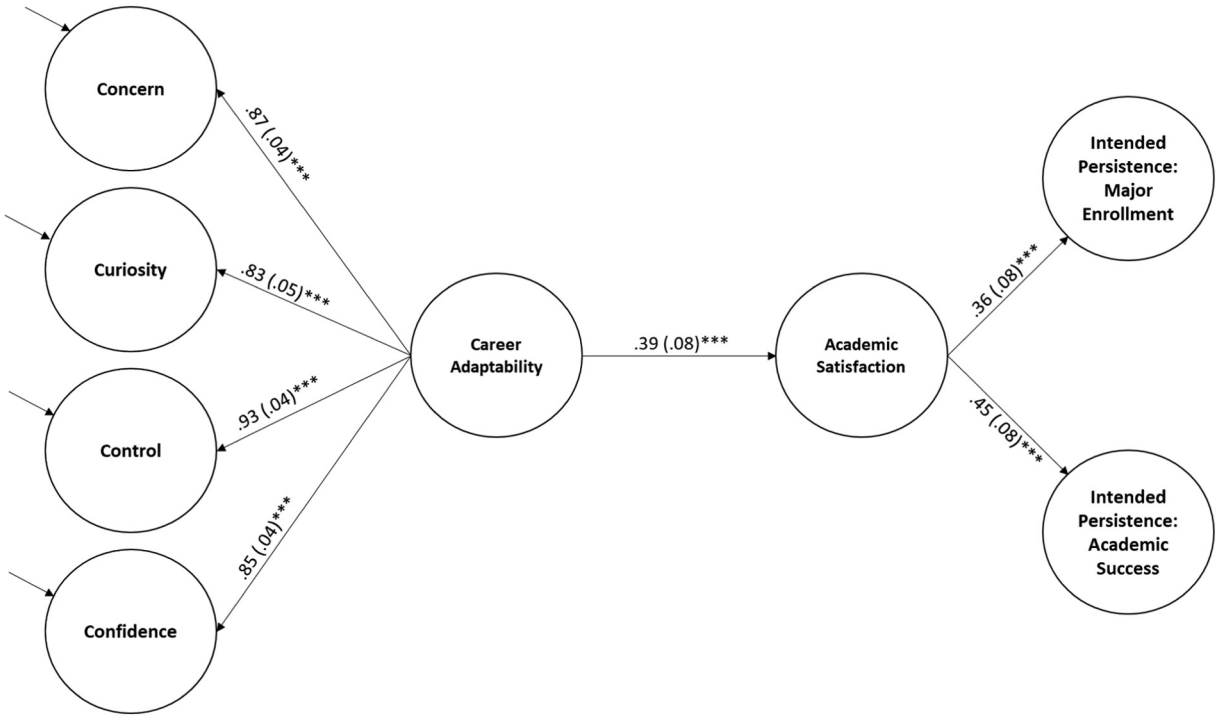

Fig. 1. Final structural model (Model B). The numbers outside and inside the parentheses represent standardized coefficients and standard errors, respectively.
***$p < .001$.

Table 4
Test of invariance across gender.

Model	χ^2	*df*	CFI	RMSEA	SRMR	ΔCFI	$\Delta\chi^2$	Model change	Decision
Model 1	1420.98	1102	0.908	0.050	0.073				Accept
Model 2	1457.02	1133	0.906	0.050	0.079	0.002	36.289	Not significant	Accept
Model 3	1471.02	1137	0.903	0.050	0.084	0.003	12.370*	Not Significant	Accept

Note. *df* = degrees of freedom; CFI = comparative fit index; RMSEA = root-mean square error of approximation; SRMR = $p < .05$.

indirect effects were tested in Model C. A S-B χ^2 difference test was used to compare the fit between Model B and C because Model C was nested within Model B. The results demonstrated that Model C was a significantly poorer fit to the data than our hypothesized model (Model B), scaled $\chi^2(2) = 60.87$, $p < .05$. Consequently, we retained Model B as the final model.

6.5. Mediation results

As shown in Table 3, academic satisfaction significantly mediated the relationship between career adaptability and the two subscales of intended academic persistence. Specifically, career adaptability was positively associated with academic satisfaction, which was, in turn, positively related to both intentions to remain enrolled in one's major and intentions to succeed in one's major. The strength of the indirect effect of academic satisfaction was comparable in the two paths.

6.6. Multi-group analyses

The results of the gender comparison using multigroup SEM demonstrated that the comparison between the unconstrained model (Model 1; $\chi^2 = 1420.98$, $df = 1102$, $p < .001$, CFI = 0.91, RMSEA = 0.05, SRMR = 0.07) did not differ significantly in fit from the loading-constrained model (Model 2; $\chi^2 = 1457.02$, $df = 1133$, $p < .001$, CFI = 0.91, RMSEA = 0.05, SRMR = 0.08) on both the statistical and practical criterion (see Table 4). However, the loading-constrained model (Model 2) was found to differ statistically (versus practically) in fit from the model with additional constraints (Model 3; $\chi^2 = 1471.02$, $df = 1137$, $p < .001$, CFI = 0.90, RMSEA = 0.05, SRMR = 0.08). Seeing that the $\Delta\chi^2$ is sensitive to small to moderate sample sizes similar to the current sample, we chose to accept Model 3 because the ΔCFI test statistic did not fall below 0.01. A similar approach was used in Kim, Fouad, and Lee (2018). These findings suggest that the hypothesized model did not vary between men and women.

7. Discussion

7.1. Psychometric properties for a Caribbean sample

This study investigated the validity and psychometric properties of the CAAS for use in a Trinbagonian sample. It was hypothesized that a comparable higher-order structure with four sub-domains (i.e., Concern, Control, Curiosity, and Confidence) would reliably measure career adaptability as originally demonstrated in Savickas and Porfeli (2012). Consistent with our hypothesized relations, the results of this study indicated that the overall CAAS scale and the four CAAS sub-dimensions performed similarly to the CAAS-International Form. Specifically, the results demonstrated that the CAAS exhibited acceptable fit to the hypothesized hierarchical structure as evidenced by the relatively high factor loadings and Cronbach alphas. In this study, the factor loadings for the curiosity subscale (0.82), confidence subscale (0.85), concern subscale (0.81), and control subscale (0.78) were similar to the CAAS-International factor loadings (0.88), (0.90), (0.78), (0.86), respectively. In addition, these estimates were found to be invariant across gender, indicating that the CAAS can be equally used with women and men.

Upon closer examination of the descriptive statistics for the subscale and total scores of the CAAS, we made several observations. The Trinbagonian university students in the sample demonstrated relatively moderate means on the four sub-scales of career adaptability. Nonetheless, it appears that these students were slightly more concerned about their career related outcomes. Given that the majority of the sample were in their first and second years at the universities, these students were likely paying attention to the recent economic instability that resulted from the decline in oil and gas prices and contemplating the impact these events will have on seeking employment.

The above results give support for the psychometric characteristics and factor structure of the CAAS-International with Trinbagonians. Therefore, we can conclude that this might be a valid and useful instrument for both career practitioners and future researchers to evaluate career adaptability among Trinbagonians.

7.2. Relationship among adaptability, satisfaction, and persistence

Based on the Career Construction Theory (Savickas, 2005), we investigated new avenues for understanding the association between career adaptability and intended academic persistence. Specifically, we investigated the relations between career adaptability, academic satisfaction, and the sub-dimensions of intended academic persistence (i.e., intentions to remain enrolled in one's major and intentions to succeed in one's major). As predicted, career adaptability is positively associated with academic satisfaction and related

to the factors of intended academic persistence. Additionally, the relations between career adaptability and intended academic persistence are mediated by academic satisfaction. These findings are consistent with our expectations, and consistent with the expectations of the Career Construction Theory (Savickas, 2002, 2005). In the following paragraphs we discus each of these significant findings in detail.

Consistent with extant literature linking career adaptability with academic satisfaction (Duffy et al., 2015; Wilkins et al., 2014), the results of the current study demonstrated that career adaptability was also related to academic satisfaction in a Trinbagonian sample. These results support recent research efforts to link career adaptability to contexts outside of the workplace. These findings also add to the evidence that the career development process begins long before young people engage in actual work behaviors (Hartung et al., 2005; Negru-Subtirica & Pop, 2016; Savickas et al., 2009). In this case, capable students who are equipped with scholastic strategies are more likely to be satisfied with their academic majors. Such satisfaction is likely due to the prospects of academic success and one's confidence in being able to navigate academic challenges. Given that an individual's capacity to successfully navigate academic challenges can enhance their positive attitudes towards their academics, it follows then that academic programs could provide programming to improve student career adaptability (e.g., self-confidence, self-control skill, etc.) which could in turn improve academic satisfaction.

In addition to the above findings, academic satisfaction was positively associated with intended academic persistence, specifically intentions to remain enrolled in one's academic major and intentions to succeed academically. This finding suggests that when students are satisfied with their academic achievement, they are more likely to remain enrolled in their academic major and more committed to succeeding academically. These results replicate the finding of earlier work that linked academic satisfaction to intended academic persistence in an engineering sample (Lent et al., 2007; Navarro et al., 2014). These findings are also consistent with research in the work domain, namely the association between job satisfaction and worker's turnover or persistence intentions (Guan et al., 2014; Kang, Gatling, & Kim, 2015; Nauta, Vianen, Heijden, Dam, & Willemsen, 2009).

The fourth finding shows that academic satisfaction mediates the linkage between career adaptability and the subscales of intended academic persistence. This finding suggests that students who score higher on career adaptability are more likely to feel content with their academic achievement and exhibit academic satisfaction, and in turn feel more committed to both succeeding and remaining enrolled in their academic major. In other words, if students are adaptable, capable, and confident in their work, they are less likely to leave their academic majors or do poorly academically. This association implies that academic satisfaction is a new and viable avenue through which career adaptability influences intended academic persistence.

Finally, we found that all the results of the study from the measurement aspects of the CAAS to the relations among the latent variables were invariant across gender. So, the results hold equally and similarly for both women and men.

In sum, the findings of the current study add to the growing literature on career adaptability, especially as it pertains to college students. These results demonstrate that academic satisfaction is an important component of the career adaptability – intended academic persistence relationship among Trinbagonian students. Consequently, enhancing academic satisfaction and career adaptability can improve students' intentions to persist. Consistent with the CCT and the literature linking adaptability, adapting, and adaptation (Hirschi et al., 2015), these findings suggest that feeling adaptable (i.e., career adaptability), may predict adapting behaviors (e.g., academic satisfaction), which in turn predicts adaptation (e.g., intended academic persistence). Collectively, these results point to the salience of career adaptability and career satisfaction in advancing intentions to persist among Trinbagonian students. Furthermore, these results shed new light on academic satisfaction as a mediator on the relations between career adaptability and intended academic persistence.

7.3. Limitations and future directions

The results of this study need to be considered in light of a number of limitations. First, this study utilized cross-sectional data which makes it difficult to infer causal conclusions. Future studies can examine these variables in an experimental and longitudinal design to derive a causal conclusion and confirm the pathways identified in the current study. Second, the data from respondents were primarily in a self-report format which may have caused common method bias (Zhao, Hwang, & Lee, 2016). To reduce the potential for such bias we suggest that future researchers incorporate multi-source or multi-wave data. Third, the participants in the current study consisted of only undergraduate students. To date, there are only a handful of studies that have examined career adaptability as it relates to this population. In keeping with Savickas (1997) efforts to examine career adaptability across the lifespan, future studies could extend the current findings by investigating the study variables over time.

It is noteworthy that the Major Choice Goal scale – used to measure intended academic persistence in the current study – did not exhibit a similar unidimensional factor structure as in previous studies by Lent et al. (2003, 2005, 2007). Instead, factor analysis demonstrated a two-factor structure that appeared to measure intentions to remain enrolled in one's academic major and intentions to succeed academically. The difference in the structure of this measure could be attributed to the cultural background of the sample participants. In the case of the current study, an international sample was used while the previous studies employed a U.S. based sample. Future work in this area could further examine the psychometric properties of the Major Choice Goal scale in other international samples.

7.4. Implications

Despite the limitations, the present results carry important implications for career counseling and practice. Specifically, the findings highlight the usefulness of the CAAS measure for both career practitioners and future researchers to evaluate career

adaptability among Trinbagonians. Next, the study results advance our understanding of the antecedents to promoting students' intended academic persistence, namely career adaptability and academic satisfaction. Consequently, educators and career practitioners can focus on enhancing students' readiness to cope with unpredictable adjustments prompted by changing academic or work conditions (i.e., adaptability) as well as their academic satisfaction in order to ensure that students continue to remain enrolled in their academic programs. For example, career practitioners and educators could design programs that promote adaptability resources such as control skills and confidence.

7.5. Conclusion

In conclusion, the current study examined both the psychometric properties of the CAAS in a Caribbean sample and the relations among career adaptability, academic satisfaction, and intended academic persistence. The results supported the validity and applicability of the CAAS in the context of a Trinidad and Tobago sample. To the best of our knowledge, this is the first study to extend the Career Construction Theory to the Caribbean. The study findings also build on previous research supporting the importance of possessing adaptive skills prior to entering the workforce. It adds evidence to the notion that emerging adults entering today's rapidly changing economic environment need to be equipped with psychosocial resources critical to adjusting to the changing world of work. Furthermore, our findings suggest that it would be beneficial to design introductory courses and programs to bolster students' adaptability and satisfaction with their academic skills in the early years of their study.

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