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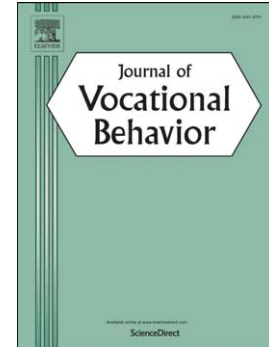
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Profiles of Career Adaptivity and their Relations with Adaptability, Adapting, and Adaptation

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## Abstract

Career adaptivity is the first factor in a chain of putative effects posited in the career construction theory (CCT): Adaptivity→Adaptability→Adapting→Adaptation. Hitherto, research on adaptivity has chiefly used variable-centered strategies to investigate the independent effects of adaptivity-related traits on adaptability, adapting, and adaptation averaged over all individuals constituting a sample. The present research, comprising two studies, seeks to extend this work by using person-centered analytic strategies to identify distinct profiles of adaptivity based on combinations of the Big-Five personality dimensions. We also examine the associations of profile membership with adaptability, adapting, and adaptation from the CCT perspective. Latent profile analyses revealed that a comparable 3-profile solution, comprising so-called “adaptive ready”, “ordinary”, and “rigid” adaptivity profiles, fit best in both studies using distinct measures of the Big-Five. Furthermore, across both studies, the latent subgroups were found to differ on levels of adaptability measured using two distinct instruments. Adaptability was highest in the “adaptive ready” subgroup followed by the “ordinary” and “rigid” subgroups, respectively. Finally, Study 2 showed that the adaptivity profiles differed with respect to indices of adapting (viz., organized study behaviors) and adaptation (viz., academic and career-choice satisfaction) in line with expectations from the CCT. The present findings constitute the first evidence showing that career adaptivity can be adequately represented via trait interactions. The findings also add to the empirical literature underpinning the CCT. Furthermore, this research is an informative demonstration of the utility of finite mixture analyses.

Keywords: latent profile analysis, career adaptivity, career adaptability, career construction theory

## Profiles of Career Adaptivity and their Relations with Adaptability, Adapting, and Adaptation

In this era of economic uncertainty, employers are increasingly shifting their need for market flexibility onto individuals, resulting in greater job insecurity and fragmented and unpredictable educational and vocational pathways (Buchholz & Blossfeld, 2012). This economic dynamic has given rise to an increased interest in the psychological characteristics, behaviors, and interventions that enhance individuals' adaptation in a rapidly evolving environment (Fugate, Kinicki, & Ashforth, 2004; Guilbert, Bernaud, Gouvernet, & Rossier, 2016; Savickas et al., 2009). Career construction theory (Savickas, 2005, 2013) conceptualizes four aspects in the process of adaptation: *adaptivity*, *adaptability*, *adapting*, and *adaptation*. In the conceptual framework of CCT, those who are willing or ready to change (i.e., adaptivity) and possess the psychosocial resources to do so (i.e., adaptability) are better able to respond to changing conditions (i.e., adapting) and thereby secure positive outcomes (i.e., adaptation).

A large number of studies demonstrate the contribution of career adaptability to adapting and adaptation (e.g., Hirschi, Herrmann, & Keller, 2015; Hirschi & Valero, 2015; Tolentino, Garcia, et al., 2014; Zacher, 2014a); however, considerably less research has focused on the relations of adaptivity with adaptability, adapting, and adaptation (Cai et al., 2015; Tolentino, Garcia, et al., 2014; Zacher, 2014b)). The little evidence that exists is largely based on (a) heterogeneous adaptivity indicators that provide only partial coverage of adaptivity (e.g., proactive personality, core self-evaluations) and (b) variable-centered analyses that address the unique and independent associations of indicators of adaptivity with substantive criteria. The variable-centered approach assumes that all individuals in a sample are from the same population and share the same set of parameters. Accordingly, this approach does not account for the existence of multiple latent subpopulations that may show different configurations of traits that

reflect adaptivity. The focus on unique associations is methodologically problematic because the CCT posits adaptivity as a combination of dispositional traits (Savickas & Porfeli, 2012). Thus, it seems plausible that different intra-individual patterns of traits, reflecting varying adaptivity levels, exist. Investigating the way in which traits interact appears important to clarifying how existing trait frameworks can be used to represent adaptivity and overcoming some of the shortcomings of existing adaptivity indicators. Person-centered approaches, such as mixture analyses (e.g., latent profile analysis [LPA]), allow for the identification of latent subpopulations of participants presenting qualitatively and quantitatively differing trait combinations.

The present article reports on two studies conducted to (a) identify latent profiles of adaptivity based on the Five-Factor Model (FFM) dimensions and (b) examine the relations of the retained profiles with career adaptability, adapting, and adaptation in college students. In the first study, we apply LPA to FFM data to identify profiles of career adaptivity. We also investigate the relations of profile membership with career adaptability. In the second study, we examine adaptivity profiles with data from a distinct measure of the FFM. We investigate the associations of profile membership with career adaptability indexed using a different measure of adaptability to that used in Study 1. Additionally, we examine whether the adaptivity profiles differ with respect to indicators of adapting (viz., organized study behaviors) and adaptation (viz., academic and career-choice satisfaction). Understanding how dispositional factors interact to confer adaptational advantages on individuals in their navigation of career tasks, traumas, and transitions would represent an important theoretical development in the CCT.

### **Career Adaptivity**

Career adaptivity refers to dispositional flexibility and willingness to change that is evoked to proactively meet career challenges and unfamiliar tasks (Savickas & Porfeli, 2012).

Dissimilar to adaptability, there has been no common conceptualization (and operationalization) of adaptivity used in prior work; instead, manifold dispositional constructs have been used to reflect adaptivity, including proactive personality (Tolentino, Garcia et al., 2014; Cai et al., 2015), career locus of control (Zhou, Guan, Xin, Mak, & Deng, 2016), self-esteem (Cai et al., 2015), goal orientation (Tolentino, Garcia et al., 2014), future work self (Guan et al., 2014), behavioral inhibition and activation (Li et al., 2015), and core self-evaluations (Zacher, 2014a). Although these constructs align with the definition of adaptivity and relate to other variables in the CCT model, they only partially reflect the adaptivity content domain. For example, career locus of control, denoting characteristic beliefs about the extent to which career events are contingent on one's own behavior (Zhou et al., 2016), while partially reflecting the propensity to act to respond to disequilibrium, does not adequately reflect the dispositional flexibility component of adaptivity. Similarly, behavioral activation, referring to a predisposition to approach positive stimuli (Carver & White, 1994), though partially representing a dispositional motive to take action to achieve positive outcomes, does not also sufficiently reflect the flexibility in thinking that is characteristic of adaptivity. Even proactive personality, denoting a general disposition to take action to effect change in one's environment (Bateman & Crant, 1993, 1993), which is perhaps the most conceptually comprehensive adaptivity indicator, does not adequately capture the adaptivity of social behavior that, in part, characterizes career adaptivity. Although it is possible to define adaptivity using indicators of several of these constructs (Savickas & Porfeli, 2012), these constructs are empirically distinct and emerge from different theoretical traditions, which renders difficult the conceptual integration of findings.

An alternative line of enquiry is suggestive of the potential to represent career adaptivity based on combinations of FFM dimensions. These dimensions have been consistently shown to

relate to career-related variables such as decision-making (Martincin & Stead, 2015), exploration (Li et al., 2015), job satisfaction (Judge, Heller, & Mount, 2002), and success (Costa, Sutin, Eaton, & Miech, 2009). Savickas and Porfeli (2012) maintained that adaptivity is a compound trait, comprising existing FFM dimensions, and noted plans to develop a FFM measure of the construct. However, existing work using the FFM conceptualization has been limited to investigating the independent and unique effects of these personality dimensions on CCT-related constructs (Li et al., 2015; Rottinghaus, Day, & Borgen, 2005; Zacher, 2014a, Zacher, 2014b). The FFM dimensions, separately-considered, cannot adequately reflect the complexity of adaptivity from the CCT perspective. Take, for instance, openness to experience, which refers to a propensity to explore and consider new and unfamiliar ideas and experiences. Although openness reflects the flexibility of thought that is required for navigating unfamiliar tasks, it does not represent the willingness or initiative to take action that defines adaptivity. A combination of FFM dimensions, on the other hand, may provide better coverage of the construct.

The CCT offers no specific theoretical rationale for combinations of FFM traits to reflect career adaptivity. Nevertheless, if the FFM is sufficiently encompassing to capture all aspects of personality (Digman, 1990), then it should be possible to identify some combination of the five traits reflecting adaptivity. Savickas and Porfeli (2012) suggest that adaptivity is characterized by high openness and extraversion and low conscientiousness. However, an individual with high openness and extraversion but low conscientiousness, while possessing the energy, flexibility, and intellectual curiosity to begin exploring career options, may lack the organization, deliberation, and persistence to be ready for, and remain engaged in efforts to manage disequilibrium. To the extent that adaptivity reflects a dispositional willingness to adapt and readiness to respond to disequilibrium and affect meaningful change (Savickas & Porfeli, 2012),

one may expect that high conscientiousness, involving basic tendencies to take initiative and be organized, persistent, and motivated in goal-directed behavior (Costa, McCrae, & Dye, 1991), is involved in adaptivity (Tolentino, Garcia, et al., 2014). Indeed, the initiative, striving, and perseverance characteristics of conscientious individuals reflect their will to perform, perhaps even in the face of disequilibrium (Perera, McIlveen, & Oliver, 2015). In addition, tendencies to be planful and organized may be integral to an individual's readiness to manage career tasks and transitions with suitable responses via self-regulative resources. Likewise, high agreeableness, involving a proclivity to be cooperative, may reflect the adaptivity of social behavior inherent in the flexibility characterizing adaptivity (Savickas & Porfeli, 2012). Furthermore, though neuroticism is not considered in Savickas and Porfeli's proposed content domain of adaptivity, high neuroticism, involving threat sensitivity and behavioral inhibition, would seem central to the inflexibility and avoidance that constitutes the lower pole of adaptivity. Thus, we assume that combinations of all five FFM traits may be implicated in distinct profiles of career adaptivity.

### **A Model of Adaptivity**

Three personality profiles found in the empirical literature may be informative for understanding the combinations of FFM traits constituting adaptivity. First, a "resilient" or "well-adjusted" profile has been consistently delineated in the empirical literature (Merz & Roesch, 2011; Rammstedt, Riemann, Angleitner, & Borkenau, 2004; Zhang, Bray, Zhang, & Lanza, 2015). This subgroup of individuals is characterized by low neuroticism and high extraversion, openness, agreeableness, and conscientiousness. This intra-individual pattern of dispositional traits is reflective of the flexibility, willingness, and readiness that constitute high adaptivity and is denoted "adaptive ready" in the present work. A second personality profile



identified, with relevance to adaptivity, is “rigid” (Zhang et al., 2015) or “undesirable” (Rammstedt et al., 2004). This profile is characterized by a configuration of traits that is the diametric opposite of the “resilient” profile, with individuals high on neuroticism and low on extraversion, openness, agreeableness, and conscientiousness. This sub-group of individuals possesses the inhibition, inactivity, and lack of intellectual curiosity, openness to new experiences, and willingness that may be characteristic of low adaptivity. A third personality profile identified is the “ordinary” profile (Kinnunen et al., 2012; Rammstedt et al., 2004; Zhang et al., 2015), with average levels of all five traits. The “ordinary” profile has been shown to be the most prevalent personality profile derived from person-centered analyses (Zhang et al., 2015) and may reflect individuals with average levels of adaptivity. Thus, in the present research, across two studies, using different operationalizations of the FFM, we expect to identify three personality profiles, namely “adaptive ready”, “rigid”, and “ordinary”, which may reflect high, low, and average adaptivity, respectively. We test this three-profile solution against a more parsimonious two-profile solution.

**Hypothesis 1a (H1a).** The expected three-profile solution will provide a better fit to the data than a more parsimonious two-profile solution.

**Hypothesis 1b (H1b).** Samples in the two studies will be heterogeneous with respect to personality dimensions constituting adaptivity profiles.

**Hypothesis 1c (H1c).** The adaptivity profiles will include configurations of personality traits indicative of “adaptive ready”, “ordinary”, and “rigid” subgroups.

**Hypothesis 1d (H1d).** The profile structure will be similar across the two measures of personality.

### **Relations of Adaptivity with Adaptability**

In addition to identifying adaptivity profiles, we examine the associations of the retained profiles with career adaptability. Career adaptability denotes an individual's self-regulative resources, spanning attitudes, behaviors, and competencies, for managing current and anticipated vocational developmental tasks, transitions, and traumas (Savickas, 2005). Savickas posited career adaptability as a mediator of vocational personality-adaptation relations. From the CCT perspective, adaptivity fosters the development and use of adaptability resources (Savickas, 2013). Consistent with this view, the FFM dimensions have been found to be related to adaptability. For example, conscientiousness, openness, extraversion, and agreeableness have been found to be positively related to career adaptability whereas neuroticism has been shown to be negatively related (Teixeira, Bardagi, Lassance, Magalhães, & Duarte, 2012; Zacher, 2014b). Other research reveals positive relations of openness, agreeableness, and conscientiousness with career adaptability, but not extraversion (Li et al., 2015); and, openness to experience, conscientiousness, and extraversion with career adaptability but not agreeableness (van Vianen, Klehe, Koen, & Dries, 2012). However, a limitation of these existing results is that they center on the unique effects of the FFM dimensions on adaptability. Insofar as adaptivity is a combination of existing traits (Savickas & Porfeli, 2012), these results provide an incomplete picture of the relations of the construct with adaptability. The present work seeks to extend these findings by examining adaptivity-adaptability relations in subgroups of individuals with different configurations of the FFM traits reflecting adaptivity across both studies.

**Hypothesis 2a (H2a).** Mean levels of career adaptability will differ across the expected adaptivity profiles, such that adaptability is higher for those in the “adaptive ready” subgroup relative to the “ordinary” and “rigid” subgroups, and higher in the “ordinary” subgroup than the “rigid” subgroup.

**Hypothesis 2b (H2b).** These relative differences in adaptability will be consistent across the profiles derived from two measures of adaptivity.

**Hypothesis 2c (H2c).** These relative differences in adaptability across the profiles will be consistent across two distinct measures of adaptability.

### **Relations of Adaptivity with Adapting and Adaptation**

We also examine associations of adaptivity profile membership with adapting and adaptation indices in the second study. The CCT posits that adaptivity promotes adapting and adaptation via adaptability resources (Hirschi et al., 2015; Savickas & Porfeli, 2012). Accordingly, effects of adaptivity on adapting and adaptation should be expected. Consistent with these expectations, adaptivity indicators have been found to predict adapting behaviors, such as coping (Perera & DiGiacomo, 2015; Perera, McIlveen, & Oliver, 2015) and career exploration (Hirschi et al., 2015; Li et al., 2015), and adaptation outcomes, including employment status (Guan et al., 2014), occupational success (Zacher, 2014a), psychological well-being (Perera & McIlveen, 2014), and academic (McIlveen, Beccaria, & Burton, 2013), career choice (McIlveen & Perera, 2015), and job (Judge et al., 2002) satisfaction. We aim to extend these results by investigating the extent to which these relationships hold for subgroups of people with different combinations of dispositional traits reflecting the expected adaptivity profiles. As participants in Study 2 are college students, adapting is conceptualized as organized study behaviors and adaptation is conceptualized as academic and career-choice satisfaction.

**Hypothesis 3.** Indicators of adapting (H3a) and adaptation (H3b) will be higher for those in the so-called “adaptive ready” subgroup than the “ordinary” and “rigid” subgroups, and higher in the “ordinary” subgroup than the “rigid” subgroup.

### **Study 1: Identifying Adaptivity Profiles and their Relations with Career Adaptability**

To summarize, the purpose of Study 1 is to examine the posited three-profile solution of adaptivity based on FFM data. In addition, we investigate differences in global career adaptability as well as the concern, control, curiosity, and confidence adaptability subdimensions across the retained profiles.

## Method

### Participants and Procedure

The Study 1 sample comprised 546 students and recent graduates of a medium-sized regional university in Australia. The mean age of participants was 31.66 ( $SD = 11.13$ ), and 76.0% ( $n = 415$ ) of the sample was female. Nine participants (0.02%) did not report their age. Participants were currently enrolled in, or had recently completed, degrees in one of the following programs: Arts and Humanities ( $n = 64$ ; 11.7%); Education ( $n = 143$ ; 26.2%); Engineering and Surveying ( $n = 60$ ; 11.00%); Science ( $n = 123$ ; 22.5%); and Business ( $n = 92$ ; 16.9%). Eleven (2.0%) students did not report their degree program, and 53 (9.7%) students selected “other” programs, including non-award programs.

All enrolled students and recent alumni of the university were invited to participate in the study via a formal invitation from the Marketing and Attraction unit of the University. Respondents completed a battery of questionnaires, including measures of their personality, career adapt-abilities, and vocational interests, of which the former two constructs are relevant to this study. Data for this study are a subset of a larger dataset collected as part of a program of research centered on investigating dispositional predictors of people’s vocational interests and career-related self-regulative strengths from variable and person-centered perspectives. The present data are the first to be reported from the larger dataset. Upon completion, participants were entered into a lottery drawing for one of 10 “GoPro” devices that totaled \$2200.00 AUD.

## Measures

**Adaptivity.** The Mini-International Personality Item Pool (Mini-IPIP) (Donnellan, Oswald, Baird, & Lucas, 2006) was used to measure adaptivity. The instrument comprises 20 items designed to index the FFM dimensions. Each dimension is measured by four items, which are rated on a five-point Likert-type scale, ranging from 1 (*very inaccurate*) to 5 (*very accurate*). In the present sample, the coefficient alpha reliabilities for the Neuroticism ( $\alpha = .68$ ), Extraversion ( $\alpha = .80$ ), Intellect ( $\alpha = .70$ ), Agreeableness ( $\alpha = .75$ ), and Conscientiousness ( $\alpha = .63$ ) scale scores were acceptable. Factorial (Laverdière, Morin, & St-Hilaire, 2013), convergent (Donnellan Oswald, Baird, & Liucas, 2006), and criterion (Donnellan et al., 2006) evidence of validity for scores from the measures has been obtained.

**Career adaptability.** Career adaptability was measured using the Career Adapt-abilities Scale—Short Form (CAAS-SF) (Maggiori, Rossier, & Savickas, 2015). The CAAS-SF is a 12-item self-report inventory designed to measure career adaptability. Participants rated their agreement with items on a five-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The measure is a shortened version of the well-established Career Adapt-abilities Scale (Savickas & Porfeli, 2012) and research shows strong convergence of the scores from the two measures (Maggiori et al., 2015). The CAAS-SF is designed to index both global career adaptability and scores on the four specific dimensions of career adaptability proposed in the CCT. In the present sample, the coefficient alpha reliabilities were acceptable for the total scale score ( $\alpha = .87$ ) as well as the Concern ( $\alpha = .83$ ), Control ( $\alpha = .80$ ), Curiosity ( $\alpha = .67$ ), and Confidence ( $\alpha = .78$ ) subscale scores.

## Statistical Analyses

Statistical analyses were conducted in three phases. First, a preliminary confirmatory factor analysis (CFA) of the Mini-IPIP data was conducted to obtain factor scores on the FFM dimensions to serve as LPA indicators. Factor score mixture indicators are preferred to non-refined scale scores as they give more weight to more reliable items. Also, as factor scores are based on standardized information, latent profile labeling and interpretability is enhanced (Morin, in press). For the CFA model, each Mini-IPIP item was specified to load onto one Big-Five dimension as per the a priori scoring key. In addition, three sets of correlated residuals ( $\theta_{2,12}$ ,  $\theta_{5,20}$ ,  $\theta_{15,10}$ ) were specified to account for intradimensional local dependence generated by high content overlap due to unmodeled facet structures in the Mini-IPIP (Laverdière, Morin, & St-Hilaire, 2013). The CFA was performed using robust diagonal weighted least squares, with a mean and variance adjusted test-statistic, operationalized as the WLSMV estimator in Mplus 7.4 (Muthén & Muthén, 1998-2015). Model fit evaluation involved an assessment of fit indices, parameters estimates, and alternative structures. As the  $\chi^2$  can be oversensitive to minor model misspecifications given even moderate-sized samples and contains a restrictive hypothesis test (i.e., exact fit), three approximate fit indices were considered: Root Mean Square Error of Approximation (RMSEA),  $< .05$  and  $.08$  for close and reasonable fit; Comparative fit index (CFI); and Tucker-Lewis Index (TLI),  $> .90$  and  $.95$  for acceptable and excellent fit, respectively, (Marsh, Hau, & Wen, 2004).

The second phase of the analytic protocol involved LPA analyses of the Mini-IPIP responses with factor scores from the retained Mini-IPIP measurement serving as mixture indicators. The LPA analyses were conducted in line with the confirmatory framework for the conduct of mixture analyses proposed by Finch and Bronk (2011). Confirmatory LPA (C-LPA) is appropriate where there are expectations for a finite number of classes underlying a set of

observed variables, and clear predictions can be advanced about relative mean levels of expected subgroups on the observed outcomes, based on theory and prior evidence (Finch & Bronk, 2011). For the current LPA, a three-class model was fitted as per expectations, with inequality restrictions imposed on the mean personality values via the Mplus MODEL CONSTRAINT command to test the hypotheses that the “adaptive ready” subgroup will have lower mean values on neuroticism and higher mean values on extraversion, intellect/imagination, agreeableness, and conscientiousness than the “ordinary” class, which, in turn, will have lower mean neuroticism scores and higher mean scores than the “rigid” subgroup on the remaining four traits. This model was tested against a more parsimonious two-class model with no inequality constraints imposed on the means of the personality indicators. We preferred fixed variance mixture models as models in which the variances of indicators were freely estimated across classes did not converge or converged on inadmissible solutions, suggesting over-parameterization of the models (Bauer & Shanahan, 2007).

The LPA analyses were performed using robust maximum likelihood (MLR) estimation in Mplus 7.4. Models were estimated using 3000 random sets of start values with 100 iterations each and the 100 best solutions retained for final stage optimization to avoid converging on a local solution. A holistic approach to model selection was used, involving an evaluation of the theoretical consistency of the solutions and statistical indicators, including information criteria and the Bootstrap Likelihood Ratio Test (BLRT) (Henson, Reise, & Kim, 2007; Nylund, Asparouhov, & Muthén, 2007). For the information criteria, the Akaike Information Criterion (AIC), the Bayesian Information Criterion (BIC), and the sample-adjusted BIC (SaBIC) were used with lower values on the criteria indicative of a better-fitting model. The BLRT provides a test of a  $k$ -profile model against a  $k-1$  profile model where  $k$  is the number of profiles. A non-

significant  $p$ -value for the BLRT indicates that a more parsimonious  $k-1$  profile model should be retained.

In the final phase of the analyses, the profiles in the retained solution were comparatively examined based on the career adaptability outcomes, including global career adaptability and career concern, control, curiosity, and confidence. The test of this LPA model with distal continuous outcomes was implemented via the BCH function in Mplus. The BCH function provides equality tests of class-specific means of the distal outcomes across the profiles while ensuring the stability of the initial profile solution (Bakk & Vermunt, 2016).

## Results and Discussion

### Preliminary Confirmatory Factor Analysis and Descriptives

The test of the five-factor CFA model resulted in a near-acceptable fit to the data,  $\chi^2(157) = 656.41, p < .001, CFI = .89, TLI = .87, RMSEA = .08$  (90% CI = .07, .08). Although the RMSEA was within acceptable limits, and the CFI approached the commonly-used cut-off for acceptable fit, the TLI suggested ill-fit. Nevertheless, all five factors were well-defined with largely moderate-to-strong and uniformly statistically significant factor loadings ( $\lambda = .39-.89, M = .65$ ). Table 1 shows the means, standard deviations, and correlations for the observed variables, including the mixture indicators based on factor scores from the CFA model.

(see Table 1)

### Profiles of Adaptivity

Table 2 shows the fit indices for the LPA solutions. In line with  $H_{1a}$ , the expected three-profile solution provided a better fit to the data than the more parsimonious two-profile solution, with lower AIC, BIC, and SaBIC values. In addition, the BLRT value was statistically significant, indicating that the three-profile solution provides a significant increase in fit relative



to the two-profile solution. Furthermore, the three-profile solution showed greater classification accuracy than the two-profile solution as indexed by the higher entropy value. In the three-profile solution, the average posterior probabilities of class membership in the target profile varied from .78-.82 ( $M = .80$ ) with generally low cross-probabilities (.00-.22;  $M = .10$ ). These findings are indicative of underlying heterogeneity in the sample, supporting  $H_{1b}$ . Furthermore, in line with  $H_{1c}$ , the profile structure in the three-profile solution aligns with the configuration of personality indicators for the expected “adaptive ready”, “ordinary”, and “rigid” subgroups as per previous mixture analyses of personality data.

(see Table 2)

The three-profile solution is depicted in Figure 1, and Table 3 shows the mean values on the personality variables in the retained model as a function of profile. The first profile, constituting 17.4% of the sample, is characterized by the highest level of neuroticism and lowest levels of extraversion, openness, agreeableness, and conscientiousness. This profile structure converges in terms of both shape and elevation with the “rigid” profile found in prior work (Rammstedt et al., 2004; Zhang et al., 2015). Consistent with expectations, a second profile was identified, constituting 21.6% of the sample, characterized by comparatively low neuroticism, high levels of extraversion and agreeableness, and moderately high levels of openness and conscientiousness. This profile resembles the “resilient” or “well-adjusted” subgroups identified in previous personality LPA studies (Kinnunen et al., 2012; Merz & Roesch, 2011; Zhang et al., 2015) and reflects the flexibility, willingness, and readiness that is indicative of high adaptivity. A final profile identified, constituting 60.9% of the sample, converges with expectations for an “ordinary” subgroup, reflecting those with near-average levels on all FFM dimensions, as has been found in previous studies (Rammstedt et al., 2004; Zhang et al., 2015).

(see Figure 1)

(see Table 3)

### **Relations with Adaptability**

The results of the profile comparisons on career adaptability are shown in Table 4. As per  $H_{2a}$ , career adaptability was significantly higher in the “adaptive ready” subgroup than the “rigid” and “ordinary” subgroups; the “ordinary” subgroup, in turn, had significantly higher mean levels of adaptability than the “rigid” subgroup. For the adaptability sub-dimensions, career concern was significantly higher for “adaptive ready” individuals than those with “ordinary” and “rigid” profiles. Although levels of concern were higher in the “ordinary” subgroup than the “rigid” subgroup, this difference was not significant. For career control, mean levels were significantly greater in the “adaptive ready” profile than the “rigid” profile, but levels of control in the “ordinary” subgroup did not significantly differ from the “adaptive ready” and “rigid” subgroups. Levels of career curiosity did not significantly differ between the “adaptive ready” and “ordinary” profiles; however, mean levels in these subgroups were significantly higher than in the “rigid” subgroup. Finally, “adaptive ready” individuals reported higher career confidence than “ordinary” individuals who, in turn, reported greater confidence than “rigid” individuals.

(see Table 4)

### **Study 2: Adaptivity Profiles and Relations with Adaptability, Adapting, and Adaptation**

The purpose of Study 2 is to examine the expected three-profile adaptivity solution using a distinct measure of the FFM with a large sample from a comparable population to Study 1. We also examine the relations of the adaptivity profiles with career adaptability using a distinct

measure of adaptability. In addition, we extend the Study 1 findings by investigating the relations of the adaptivity profiles with in indices of adapting and adaptation.

## Method

### Participants and Procedure

The Study 2 sample comprised 1566 students attending a medium-sized regional university in Australia. The mean age of participants was 33.25 ( $SD = 11.47$ ), and 66.5% ( $n = 1041$ ) of the sample was female. Participants were enrolled in degrees in one of the following disciplines: Arts and Humanities ( $n = 196$ ; 12.5%); Education ( $n = 367$ ; 23.4%); Engineering and Surveying ( $n = 244$ ; 15.6%); Sciences ( $n = 331$ ; 21.1%); and Business ( $n = 414$ ; 26.4%). Fourteen (0.90%) students did not identify with a discipline or were part of non-award programs. These proportions of disciplines represented in the present study converge with those reported for the Study 1 sample, with the exception of participants undertaking business programs, which constituted a larger proportion of the present sample.

Data were collected as part of a larger program of research investigating the interplay among personality, self-regulative career strengths, and career-related outcomes from variable and person-centered perspectives. All currently enrolled students of the university were invited to participate in the study via a formal invitation from the University registrar. Participants completed an online battery of questionnaires concerning their personality, career adaptability, study behaviors, and academic and career-choice satisfaction. Although data from this program of research have been previously published (McIlveen et al., 2013), the research questions, methods, and inferences for this study are entirely novel and correspond to the initial overarching aims of the program of research.

### Measures

**Adaptivity.** The NEO-Five Factor Inventory (NEO-FFI) (Costa & MacCrae, 1992) was used to measure adaptivity. The measure comprises 60 items designed to index the Big-Five personality dimensions. Each dimension is measured by 12 items, which are rated on a five-point Likert-type scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present sample, the coefficient alpha reliabilities for the Neuroticism ( $\alpha = .89$ ), Extraversion ( $\alpha = .80$ ), Openness ( $\alpha = .72$ ), Agreeableness ( $\alpha = .76$ ), and Conscientiousness ( $\alpha = .89$ ) scale scores were acceptable. Scores have been shown to be temporally stable (Robins, Fraley, Roberts, & Trzesniewski, 2001) and possess factorial (Perera, McIlveen, Burton, & Corser, 2015), convergent (Lim & Ployhart, 2006), and criterion (Perera, McIlveen, Burton et al., 2015) evidence of validity.

**Career adaptability.** Career adaptability was measured using the Career Adaptability subscale of the Career Future Inventory (CA-CFI) (Rottinghaus et al., 2005). The instrument comprises 11 items designed to measure individuals' perceived capacity to adjust to changing career demands and exert control over their careers. Participants were asked to rate their agreement with statements using a five-point Likert-type scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present sample, the coefficient alpha reliability for the scale score was .87.

**Organized study.** Organized study behaviors, as a reflection of adapting, were measured using the Organized Studying subscale of the Approaches and Study Skills Inventory for Students (Entwistle, 1997). The measure is designed to index learning behaviors, including planning and organizing study activities. The instrument comprises four items that are rated on a five-point Likert-type scale, ranging from 1 (*disagree*) to 5 (*agree*). In the present sample, the coefficient alpha reliability for the scale score was .66.

**Academic satisfaction.** Academic satisfaction, as an indicator of adaptation, was measured using the Academic Major Satisfaction Scale (AMSS) (Nauta, 2007). This scale is designed to measure global satisfaction with students' choice of major. The measure comprises six items, rated on a five-point Likert-type scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The coefficient alpha reliability for the total score was .91 in the present sample.

**Career choice satisfaction.** Career choice satisfaction, as another indicator of adaptation, was measured using the Career Choice Status Inventory (Savickas, 1993). The scale is designed to measure satisfaction with occupational choice. The measure comprises six items that are rated on a five-point Likert-type scale, ranging from 1 (*very dissatisfied and intend to change*) to 5 (*well satisfied with choice*). In the current sample, the coefficient alpha reliability was .85.

### Statistical Analysis

As with Study 1, statistical analyses were conducted in three phases. First, preliminary exploratory structural equation modeling (ESEM) of the NEO-FFI data was performed to obtain factor scores on the FFM dimensions to serve as mixture indicators. An ESEM representation was preferred to a CFA specification as the correlated five-factor ESEM solution has been shown to provide an appreciably better fit to the NEO-FFI data and yield parameter estimates that are more consistent with the FFM (Perera, McIlveen, Burton et al., 2015). For the model, ESEM factors were rotated using oblique target rotation, with all cross-loadings "targeted" to be approximately zero but not constrained to zero and all primary loadings freely estimated. As per Marsh et al. (2010), we specified all 57 correlated uniquenesses reflecting presumed intradimensional local dependence generated by item clustering due to unmodeled common facet

representations. Model estimation and fit evaluation of the measurement structure were conducted in accordance with the protocol outlined in Study 1.

Next, LPA analyses were conducted with factor scores from the retained NEO-FFI measurement model serving as mixture indicators. The LPA analyses, including model specification, estimation, and selection were performed in line with the protocol outlined in Study 1.

The final phase of the analyses involved an examination of the relations of the profiles in the retained LPA solution with career adaptability, organized study, and academic and career-choice satisfaction. As with Study 1, these distal continuous outcomes were modeled as auxiliary variables using the BCH function in Mplus 7.4.

## Results and Discussion

### Exploratory Structural Equation Modeling and Descriptives

The test of the ESEM model resulted in an acceptable-to-good fit to the data,  $\chi^2(1423) = 4466.12, p < .001, CFI = .94, TLI = .93, RMSEA = .04$  (90% CI = .04, .04). All five factors were reasonably well-defined with largely moderate to strong and uniformly statistically significant target loadings ( $\lambda = .14-.76, M = .52$ ). Factor scores on the five personality dimensions were saved from this solution for use as mixture indicators in the LPA models.

Table 5 shows the means, standard deviations, and correlations for the observed study variables.

(see Table 5)

### Profiles of Adaptivity

Fit indices for the LPA solution are shown in Table 6. Consistent with expectations, the test of the three-profile solution resulted in a better fit to the data than the more restrictive two-profile solution in terms of the AIC, BIC, and SaBIC values. Furthermore, the BLRT in the

three-profile model was statistically significant, suggesting that the three-profile solution provides a significant increase in fit relative to the two-profile solution. However, classification precision was marginally lower in the three-profile solution than the two-profile model as indexed by lower entropy. Nevertheless, it is recognized that entropy alone should not be used for class enumeration and model selection (Morin, in press). Indeed, in line with  $H_{1d}$ , the profile structure in the three-profile solution converges with results from Study 1 and expectations for personality profile configuration based on previous work. Based on the better fit and the conformity of the three-profile solution, we retained this model for further analyses. In the retained three-profile solution, average posterior probabilities of class classification in the dominant profile ranged from .76-.80 ( $M = .78$ ), with cross-probabilities ranging from .00-.22 ( $M = .11$ ).

(see Table 6)

The three-profile solution is shown in Figure 2, and profile-specific mean values on the personality variables are shown in Table 7. Profile 1, constituting 45.2% of the sample, resembles the “rigid” profile identified in Study 1 and previous LPA investigations to the extent that it is characterized by the highest level of neuroticism and lowest levels of extraversion, openness, agreeableness, and conscientiousness. Furthermore, in line with the results from Study 1 and previous work (Merz & Roesch, 2011; Zhang et al., 2015), an “adaptive ready” profile, constituting 7.9% of the sample, was identified characterized by low neuroticism and high mean levels of extraversion, openness, agreeableness, and conscientiousness. Finally, an “ordinary” profile was also identified, reflecting those with near-average levels on the FFM traits, and, as in Study 1 and previous work, this profile was the most prevalent in the sample (46.9%).

(see Figure 2)

(see Table 7)

### **Relations with Career Adaptability, Adapting, and Adaptation**

The results of profile comparisons on adaptability, adapting, and adaptation are shown in Table 8. As expected, career adaptability was significantly higher in the “adaptive ready” profile than the “ordinary profile”, and significantly greater in the “ordinary” profile than the “rigid” profile. These differences in adaptability across the profiles are consistent with those obtained in Study 1, generalizing across distinct measures of the FFM and career adaptability and thereby supporting  $H_{2b}$  and  $H_{2c}$ . A comparable pattern of results was obtained for adapting, with “adaptive ready” individuals reporting higher levels of organized study behaviors than “ordinary” students, who, in turn, reported greater organized study than “rigid” individuals. These findings support  $H_{3a}$ . Finally, for adaptation, “adaptive ready” and “ordinary” individuals reported significantly higher levels of academic satisfaction than “rigid” individuals; however, levels of academic satisfaction did not significantly differ between the “adaptive ready” and “ordinary” subgroups. Furthermore, career choice satisfaction was significantly higher in the “adaptive ready” subgroup than the “ordinary” subgroups, and significantly higher for “ordinary” individuals than for those in the “rigid” profile. These results partially support  $H_{3b}$ .

(see Table 8)

### **General Discussion**

The current research is the first to use mixture analyses to examine the ways in which personality traits combine to represent career adaptivity from the CCT perspective. The research, spanning two studies, suggests that there is heterogeneity in the present samples with respect to configurations of personality dimensions, which can be captured in three distinct adaptivity profiles. Furthermore, the results support the validity of these adaptivity profiles to



the extent that the profiles differ in levels of adaptability, adapting, and adaptation. The research provides an integrative representation of career adaptivity based on the FFM traits that overcomes the limitations of existing indicators of adaptivity. Furthermore, the research contributes to a burgeoning literature that uses person-centered analyses to investigate how career-related constructs combine to confer advantages on individuals in their navigation of career plans and challenges (Hirschi & Valero, 2015; Valero & Hirschi, 2016).

### **Adaptivity Profiles**

The personality profiles obtained in both studies correspond with profiles obtained in previous research and, importantly, represent different levels of adaptivity as per the CCT. Specifically, the “adaptive ready” profile converges with the “resilient” (Kinnunen et al., 2012; Zhang et al., 2015) or “well-adjusted” (Merz et al., 2011) profiles obtained in previous studies. This profile reflects the high levels of flexibility and willingness inherent in high adaptivity defined by the CCT. Individuals with a combination of low neuroticism and high extraversion, openness, agreeableness, and conscientiousness may possess the energy, curiosity, flexibility of social behavior, and willingness to begin exploring career options and manage career tasks, and persist in these efforts under conditions of disequilibrium. A “rigid” profile, resembling the “rigid” or “undesirable” subgroups obtained in previous work (Zhang et al., 2015), characterized by a combination of higher neuroticism and low mean levels of the other FFM dispositions, was also found. Individuals in this profile are more likely to be inhibited, inflexible, and unwilling to effect change in the midst of disequilibrium, which may be reflective of the lower pole of adaptivity. From the CCT perspective, the “ordinary” profile, reflecting near-average levels on all five traits, and found to be the most prevalent profile in the present samples as with previous research (Kinnunen et al., 2012; Rammstedt et al., 2004; Zhang et al., 2015), may simply reflect

average levels of career adaptivity. Importantly, the three-profile structure was obtained across two independent samples from a comparable population using distinct measures of the FFM dimensions, which is tentatively suggestive of the within-population consistency of the profiles.

Notwithstanding provisional support for the consistency of the profile structure, the relative sizes of the profiles differed. The “rigid” profile was more prevalent in the Study 2 sample (45.2%) than the Study 1 sample (17.4%) whereas the “adaptive ready” profile was more prevalent in the Study 1 sample (21.6%) than the Study 2 sample (7.9%). We offer tentative explanations for these distributional differences. First, there was a slightly higher proportion of individuals aged 20-40 in the first sample (63.4%) than the second sample (60.3%). As levels of self-confidence, warmth, and self-control increase and neuroticism decreases during this period (Roberts & Mroczek, 2008), it may be that the higher proportion of individuals in this age group in the Study 1 sample *partially* explains the differential relative sizes of the profiles. Second, the first study sample comprised both students and recent graduates whereas only students constituted the Study 2 sample. Recent graduates are more likely to begin their first careers, and levels of conscientiousness have been shown to increase at career entry (Specht, Egloff, & Schmukle, 2011). Thus, the relatively smaller rigid subgroup, characterized by lower conscientiousness, and larger adaptive ready subgroup, characterized by higher conscientiousness, may be *partially* explained by the presence of recent graduates in the first sample. Third, there was an appreciably higher proportion of participants enrolled in business degree programs in the second sample than the first sample. Business students, on average, report lower agreeableness and openness than students in non-business degrees (Lounsbury et al., 2009). As lower agreeableness and openness are characteristics of the rigid profile, this may explain the greater prevalence of the rigid profile in the Study 2 sample. However, we hasten to

add the business students also typically report lower neuroticism than students in other degree programs (Vedel, 2016), which renders this explanation less plausible.

An alternative explanation is that these differences in the profile proportions are attributable to the different measurement instruments used to appraise the FFM dimensions across the samples. Indeed, a much smaller range of values was observed for the Mini-IPIP data in the Study 1 sample, relative to NEO-FFI data in the Study 2 sample, which may explain range restriction in the values of the personality dimensions for Study 1 profiles and, in turn, the differential relative profile sizes. Similarly, differential validity and reliability of scores from each of the measures may have contributed to profile differences. However, we cannot rule out that these differences may be due to sampling idiosyncrasies alone. Further work examining the distributional similarity of these profiles across comparable and dissimilar samples using distinct measures of the FFM dimensions is required to clarify whether the differences observed are systematic or idiosyncratic to the present investigation.

The FFM-based adaptivity profiles provide a novel representation of career adaptivity that extends previous representations of the construct. Hitherto, studies have used diverse indicators of adaptivity, such as goal orientation, proactive personality, core self-evaluations, and locus of control, chiefly due to the absence of a measure designed to specifically index adaptivity (Savickas & Porfeli, 2012). These constructs have their conceptual bases in heterogeneous frameworks, which may complicate the integration of findings across studies. Furthermore, these adaptivity constructs provide only partial coverage of the adaptivity content domain. A truncated content domain may obfuscate “true” relations of adaptivity with substantively important criteria (Perera & DiGiacomo, 2013). The profiles of adaptivity found in the present research redress these limitations by serving as a unifying model for representing adaptivity in

empirical studies that not only is based on an integrative trait framework but also provides comprehensive coverage of the flexibility and willingness dimensions of adaptivity through a combination of existing FFM dimensions. Indeed, it is the interactions among these traits, rather than the traits uniquely considered, that reflects the conceptual complexity of adaptivity from the CCT perspective. The trait interaction perspective on adaptivity also aligns with trait theory, which holds that personality factors coexist at different levels within individuals and should be modeled as such (Zhang et al., 2015). Furthermore, this FFM-based mixture approach potentially deters the proliferation of redundant measures to the extent that adaptivity is compound of existing traits and should be represented and operationalized as such.

Although the FFM-based adaptivity profiles provide a more comprehensive representation of adaptivity, the traits, jointly considered, may not subsume all aspects of adaptivity. For instance, adaptivity reflects, in part, the dispositional flexibility to identify opportunities to proactively engage in career activities and effect career change. While this tendency can be partially captured by a combination of openness and extraversion, it is perhaps better represented by constructs, such as proactive personality (Bateman & Crant, 1993). It may be that adding proactive personality to mixture analyses with the FFM dimensions would yield profiles that are more comprehensive representations of adaptivity. However, it should be noted that findings concerning the discriminant validity of proactive personality with respect to FFM dimensions are mixed. For instance, though Major, Turner, and Fletcher (2006) found that proactive personality is distinct from the FFM traits and uniquely predicts motivation to learn, recent meta-analytic data shows that proactive personality constructs are highly correlated with the Big-Five and demonstrate little incremental validity in the prediction of important career outcomes over and above the FFM traits (Tornau & Frese, 2013). What is clear is that this novel

representation of adaptivity based on the FFM dimensions provides a starting point for using existing dimensions to efficiently reflect the adaptivity content domain. Future research would do well to theorize about the possibility of other constructs that might be used alongside the FFM in mixture analyses towards providing greater coverage of adaptivity.

### **Relations with Adaptability, Adapting, and Adaptation**

The results of both studies provide support for the validity of the adaptivity profiles by demonstrating theoretically plausible differences in career adaptability across the profiles. As predicted, “adaptive ready” individuals reported significantly higher levels of global career adaptability than “ordinary” individuals, who, in turn, reported significantly higher mean levels of adaptability than those in the “rigid” subgroup. Notably, these findings were replicated in the second study using a different measure of global career adaptability. As for the four adaptability sub-dimensions, “adaptive ready” individuals reported significantly higher mean levels of concern, control, curiosity, and confidence than “rigid” individuals. Similarly, “Ordinary” individuals reported higher mean levels on all four adaptability dimensions than “rigid” individuals. Taken together, these findings converge with those obtained in variable-centered analyses (Li et al., 2015; Rottinghuas et al., 2005; Teixeira et al., 2012; van Vianen et al., 2012). Notably, the present results extend previous research by demonstrating, for the first time, associations of a combination of dispositional traits, reflecting adaptivity, with adaptability. Insofar as adaptivity is a compound of dispositional traits (Savickas & Porfeli, 2012), and the FFM provides the most comprehensive taxonomy of personality dispositions, the present person-centered analyses provide the most conceptually robust tests of the relations of adaptivity with adaptability in the scientific literature

The meaningfulness of the adaptivity profiles was also supported by findings of plausible differences in adapting responses and adaptation outcomes as a function of profile membership. In Study 2, “adaptive ready” individuals were found to be significantly higher on organized study behaviors than “ordinary” individuals, who, in turn, reported significantly greater organized study than “rigid” individuals. For the adaptation outcomes, consistent with expectations, career choice satisfaction was significantly higher in the “adaptive ready” subgroup than the “ordinary” and “rigid” subgroups. “Ordinary” individuals also reported significantly higher career choice satisfaction than “rigid” individuals. Finally, as expected, academic satisfaction was found to be highest in the “adaptive ready” subgroup followed by the “ordinary” subgroup and then the “rigid” subgroup. However, the mean difference in academic satisfaction between the “adaptive ready” and “ordinary” subgroups did not reach significance, which may be due to a ceiling effect on academic satisfaction scores in the Study 2 sample. Although not a direct test of the mediated relations among adaptivity, adapting, and adaptation implied by the CCT (Savickas & Porfeli, 2012), the present results align with the CCT, suggesting that greater adapting behaviors and better adaptation outcomes are expected for those who are willing and ready to meet career tasks and challenges. The present findings not only converge with previous variable-centered studies reporting on the unique contributions of dispositional traits to indices of adapting and adaptation (McIlveen & Perera, 2015; Ohme & Zacher, 2015; Zacher, 2014a) but also advance this research by elucidating the ways in which trait interactions, indicative of adaptivity, associate with adapting and adaptation. Similar to the findings concerning adaptability obtained in this study, these results are the first to show associations of a combination of all five FFM dimensions with adapting and adaptation, which represent a more complete picture of CCT relations (Savickas, 2005)

### **Implications and Limitations**

This research demonstrates the utility of mixture modeling for career development research. As a compound of existing dispositional traits, career adaptivity cannot be straightforwardly represented using traditional variable-centered approaches to modeling trait interactions, such as the computation of higher-order interaction terms. Indeed, generating interaction terms involving even three components imposes prohibitive interpretative constraints (Lanza & Rhoades, 2013). Furthermore, there is no way currently to examine predictors or consequences of trait interactions from a variable-centered perspective. One potential solution to these limitations is the development of a new measure of adaptivity, reflecting trait combinations, as proposed by Savickas and Porfeli (2012). However, to the extent that adaptivity can be represented using extant taxonomies of personality, such instrument development may be construed as redundant. The mixture modeling approach to investigating adaptivity provides a framework for identifying latent subgroups of individuals with differing intra-individual patterns of personality traits based on the assumption that the sample includes a mixture of heterogeneous subpopulations. Accordingly, the present study provides an important theoretical and methodological advancement for the CCT insofar as it demonstrates that adaptivity can be adequately reflected through latent profiles representing distinct FFM trait interactions.

From a practical standpoint, the findings of the research also have implications for education and career counseling. The results suggest that it may be possible for educators and career counselors to identify groups of individuals with a configuration of personality traits indicative of low adaptivity (i.e., “rigid”). These individuals are more likely to possess fewer adaptability resources to respond to academic and career challenges and, thus, may be at risk of

poor adaptation (i.e., lower career success, satisfaction, and development) (Savickas, 2013). The implementation of structured interventions for these individuals, designed to enhance their adaptability resources and/or develop their adapting behaviors (e.g., career management and exploration) (Koen, Klehe, & Van Vianen, 2012; Kossek, Roberts, Fisher, & Demarr, 1998; Scott & Ciani, 2008; Sullivan & Mahalik, 2000), may better equip them to navigate novel academic and career tasks, transitions, and challenges towards optimal adaptation.

We note a few limitations of this research that serve to qualify results and point to directions for future work. First, the finding of a similar profile structure across two comparable samples and distinct measures of the FFM, though providing tentative support for the within-population consistency of the latent career adaptivity profiles, offers little evidence for the generalizability of the profile structure across diverse samples. Future research would do well to examine the similarity of the profile structure across diverse samples using formal tests of profile similarity (Morin et al., 2016). Furthermore, the indices of adaptability, adapting, and adaptation were modeled as outcomes of adaptivity profile membership as per the temporal ordering of constructs implied by the CCT. However, as measurements were taken at one-time point, directionality inferences are obscured. Future research may profitably investigate these relations of adaptivity profiles with adaptability, adapting, and adaptation using longitudinal designs with theoretically-informed temporal lags between constructs. Furthermore, it would be informative to investigate the relationships of adaptivity profile membership with other indices of adapting, such as career exploration and decision-making, and adaptation, including subjective and objective career-related success.

## **Conclusions**



In summary, the present research is the first attempt to examine latent profiles of career adaptivity based on the FFM dimensions using mixture analyses. This model-based clustering approach is well-suited to investigating adaptivity as the construct is a compound trait representing a combination of existing traits that, together, reflect flexibility and a willingness to adapt. The findings of two studies showed that three adaptivity profiles could be identified from data derived from two distinct Big-Five measures. The profiles, denoted “adaptive ready”, “ordinary”, and “rigid”, reflect high, average, and low adaptivity, respectively, and were found to be meaningfully related to adaptability, adapting, and adaptation. The findings make an important theoretical and methodological contribution to understanding the nature of career adaptivity as reflected in existing trait frameworks and extend extant work examining the independent contribution of the FFM dimensions to adaptability, adapting, and adaptation from the CCT perspective. The findings also highlight the need to examine the generalizability of the profile solution across diverse samples and investigate the relationships of the adaptivity profiles with adaptability resources, adapting responses, and adaptation outcomes using robust longitudinal designs.

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## CAREER ADAPTIVITY PROFILES

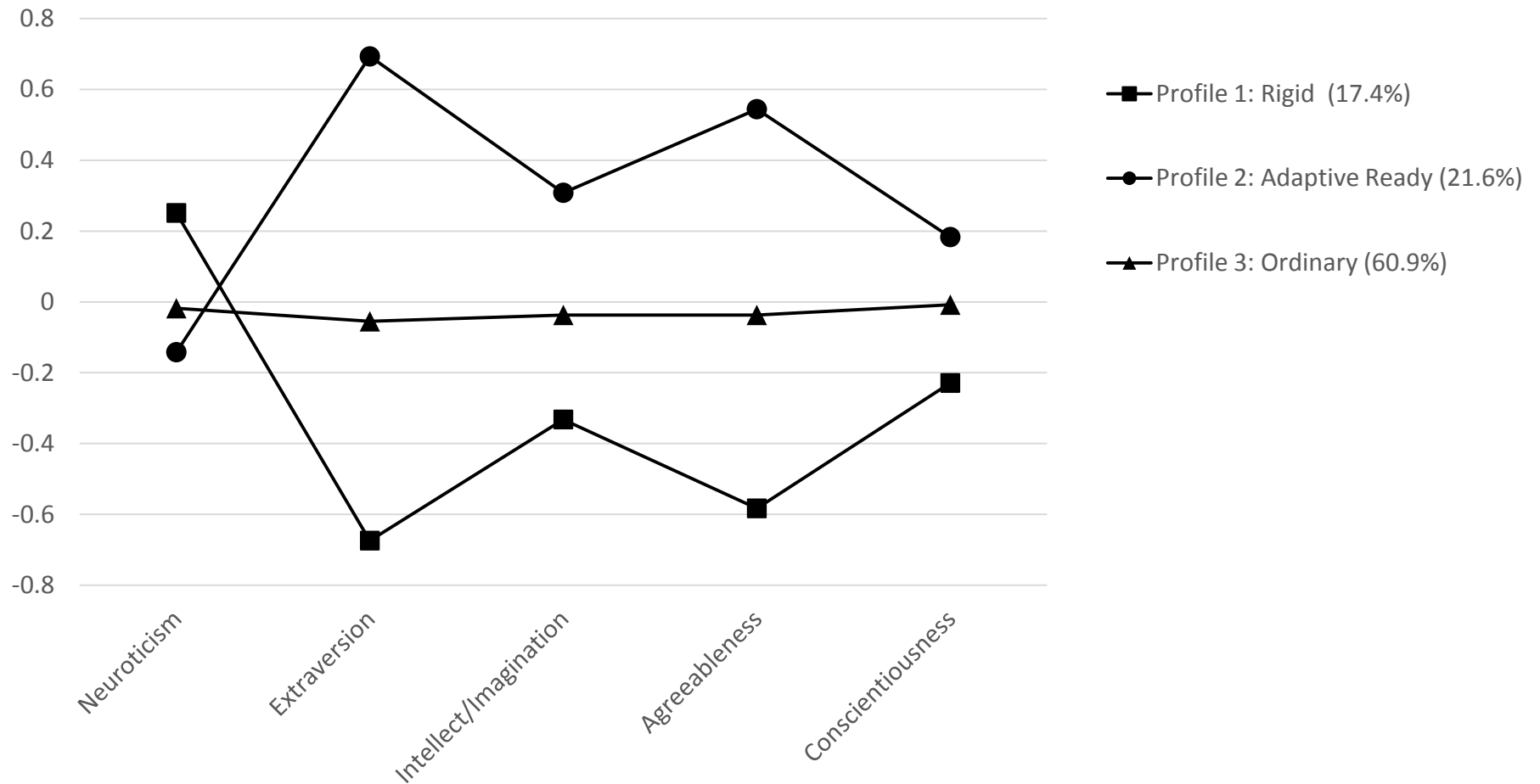


Figure 1. Mean personality factor scores for each of the three identified career adaptivity profiles in Study 1.

## CAREER ADAPTIVITY PROFILES

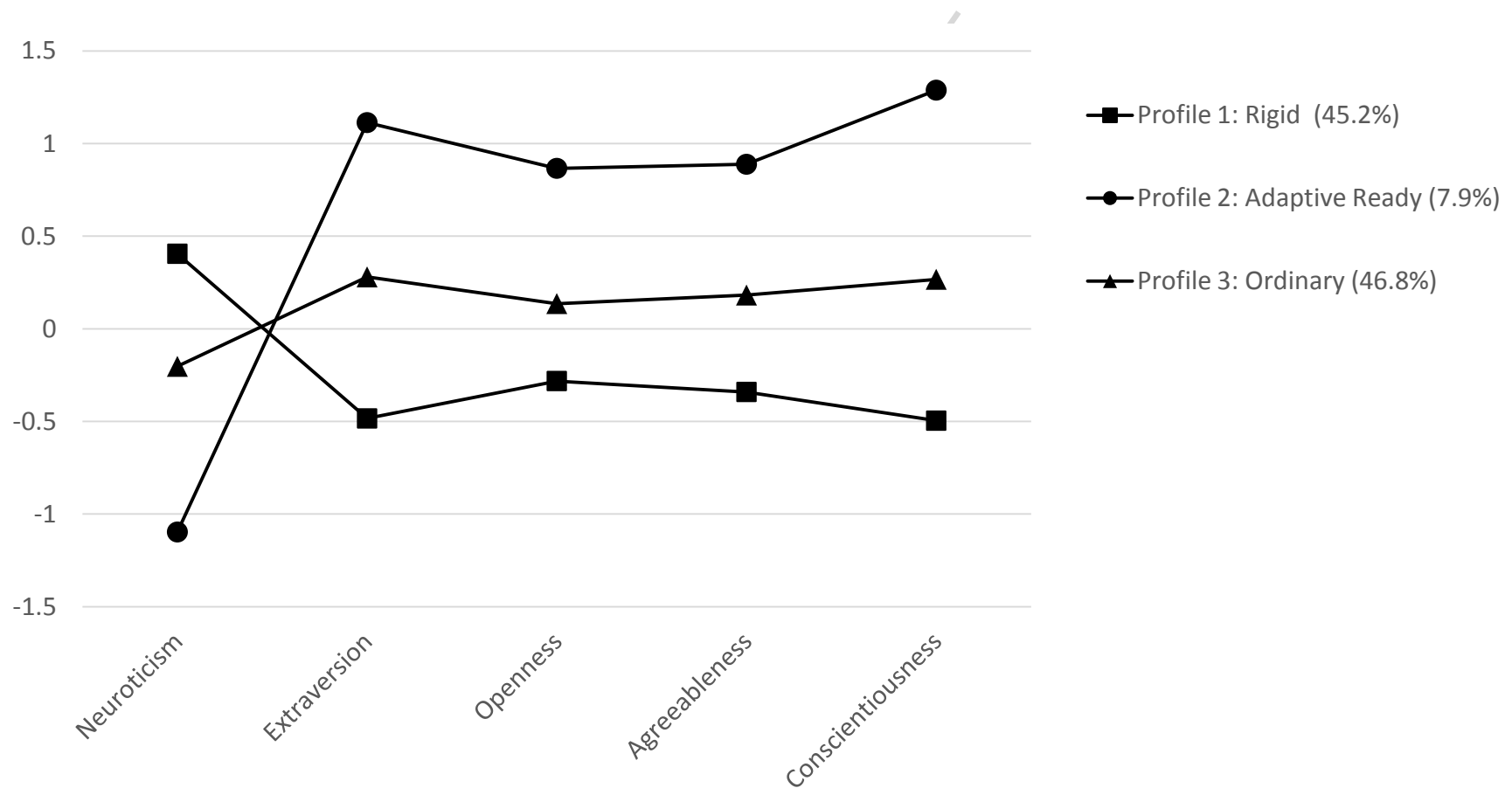


Figure 2. Mean personality factor scores for each of the three identified career adaptivity profiles in Study 2.

## CAREER ADAPTIVITY PROFILES

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Neuroticism	0.00 (2.91)	0.66 (0.82)	–									
2. Extraversion	-0.00 (3.01)	0.67 (0.92)	-.21	–								
3. Intellect	-0.01 (3.78)	0.54 (0.77)	-.05	.23	–							

Table 1. Means, Standard Deviations, and Correlations for the Study 1 Observed Variables

## CAREER ADAPTIVITY PROFILES

4. Agreeableness	-0.01 (3.93)	0.52 (0.78)	.01	.47	.30	–						
5. Conscientiousness	-0.01 (3.72)	0.50 (0.76)	-.27	.12	.06	.20	–					
6. Adaptability	4.00	0.59	-.14	.17	.14	.11	.36	–				
7. Concern	3.80	0.87	-.08	.18	.08	.06	.31	.76	–			
8. Control	4.06	0.78	-.21	.11	.10	.00	.30	.78	.46	–		
9. Curiosity	4.05	0.81	-.08	.11	.13	.14	.22	.83	.46	.54	–	
10. Confidence	4.08	0.71	-.09	.14	.12	.15	.31	.81	.44	.50	.66	–

Note.  $N = 546$ .  $M =$  Mean;  $SD =$  Standard deviation. Values in parentheses are Big-Five means and standard deviations based on the original Mini-IPIP metric. Correlations  $\geq .09$  are significant at  $p < .05$ .

## CAREER ADAPTIVITY PROFILES

Table 2. Fit Results from the Latent Profile Analyses in Study 1.

Model	LL	#fp	AIC	BIC	SaBIC	Entropy	BLRT
2-profile	-2275.17	16	4582.33	4651.18	4600.39	.56	–
3-profile	-2255.53	22	4555.06	4649.72	4579.88	.60	< .001



## CAREER ADAPTIVITY PROFILES

Table 3. Mean Levels of the Personality Traits in the Retained Adaptivity Profile Model for Study 1.

Personality Trait	Profile 1	Profile 2	Profile 3
Neuroticism	0.25	-0.14	-0.02
Extraversion	-0.67	0.69	-0.06
Intellect/Imagination	-0.33	0.31	-0.04
Agreeableness	-0.58	0.54	-0.04
Conscientiousness	-0.23	0.18	-0.01

Note.  $N = 546$ . Profile 1 = Rigid; Profile 2 = Adaptive ready; Profile 3 = Ordinary.

## CAREER ADAPTIVITY PROFILES

Table 4. Equality Tests of Career Adaptability Means across Latent Profiles for Study 1 with Career Adaptability Measured using the CAAS-SF.

Distal Outcome	Profile 1: Rigid (a)	Profile 2: Adaptive Ready (b)	Profile 3: Ordinary (c)	Overall Test
Career Adaptability	3.74 <sub>bc</sub>	4.29 <sub>ac</sub>	4.02 <sub>ab</sub>	28.85***
Concern	3.54 <sub>b</sub>	4.15 <sub>ac</sub>	3.80 <sub>b</sub>	15.78***
Control	3.84 <sub>b</sub>	4.26 <sub>a</sub>	4.10	9.31**
Curiosity	3.78 <sub>bc</sub>	4.30 <sub>a</sub>	4.08 <sub>a</sub>	14.58**
Confidence	3.80 <sub>bc</sub>	4.41 <sub>ac</sub>	4.09 <sub>ab</sub>	23.47***

Note.  $N = 546$ . Subscripts denote profiles which differ significantly at  $p < .05$ . The overall test of significance is a chi-square test with  $df = 2$ . \*\*\*  $p < .001$ .

## CAREER ADAPTIVITY PROFILES

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Neuroticism	0.00 (2.74)	0.95 (0.76)	–								
2. Extraversion	0.00 (3.43)	0.93 (0.58)	-.26	–							
3. Openness	0.01 (3.18)	0.92 (0.49)	-.11	.20	–						

Table 5. Means, Standard Deviations, and Correlations for the Study 2 Observed Variables

## CAREER ADAPTIVITY PROFILES

4. Agreeableness	0.00 (3.71)	0.92 (0.52)	-.19	.23	.12	–					
5. Conscientiousness	0.00 (3.83)	0.95 (0.60)	-.28	.30	.23	.20	–				
6. Adaptability	4.31	0.58	-.43	.37	.26	.14	.44	–			
7. Organized Study	3.47	0.90	-.25	.10	.16	.08	.55	.28	–		
8. Academic Satisfaction	4.45	0.80	-.26	.11	.15	.15	.26	.29	.22	–	
9. Career Satisfaction	4.64	0.62	-.20	.17	.07	.11	.22	.26	.14	.41	–

Note.  $N = 1566$ .  $M$  = Mean;  $SD$  = Standard deviation. Values in parentheses are Big-Five means and standard deviations based on the original NEO-FFI metric. Correlations  $\geq .05$  are significant at  $p < .05$ .

## CAREER ADAPTIVITY PROFILES

Table 6. Fit results from the latent profile analyses in Study 2.

Model	LL	#fp	AIC	BIC	SaBIC	Entropy	BLRT
2-profile	-10315.46	16	20662.91	20748.61	20697.79	.63	–
3-profile	-10283.08	22	20610.15	20727.99	20658.10	.55	< .001

Note.  $N = 1566$ . LL = model log-likelihood; #fp = number of free parameters; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; SaBIC = Sample-adjusted BIC; BLRT = Bootstrap Likelihood Ratio Test.

## CAREER ADAPTIVITY PROFILES

Table 7. Mean levels of the Personality Traits in the Retained Adaptivity Profile Model for Study 2.

Personality Trait	Profile 1	Profile 2	Profile 3
Neuroticism	0.41	-1.10	-0.20
Extraversion	-0.48	1.11	0.28
Openness	-0.28	0.87	0.14
Agreeableness	-0.34	0.89	0.18
Conscientiousness	-0.50	1.29	0.27

Note.  $N = 1566$ . Profile 1 = Rigid; Profile 2 = Adaptive ready; Profile 3 = Ordinary.

## CAREER ADAPTIVITY PROFILES

Table 8. Equality Tests of Career Adaptability Measured using the CA-CFI, Organized Study, Academic Satisfaction, and Career Satisfaction Means across Latent Profiles.

Distal Outcome	Profile 1: Rigid (a)	Profile 2: Adaptive Ready (b)	Profile 3: Ordinary (c)	Overall Test
Career Adaptability	3.87 <sub>bc</sub>	4.87 <sub>ac</sub>	3.87 <sub>ab</sub>	497.18***
Organized Study	3.03 <sub>bc</sub>	4.32 <sub>ac</sub>	3.75 <sub>ab</sub>	193.24***
Academic Satisfaction	4.11 <sub>bc</sub>	4.82 <sub>a</sub>	4.72 <sub>a</sub>	114.28***
Career Satisfaction	4.44 <sub>bc</sub>	4.99 <sub>ac</sub>	4.78 <sub>ab</sub>	94.04***

Note.  $N = 1566$ . Subscripts denote profiles that differ significantly at  $p < .05$ . The overall test of significance is a chi-square test with  $df = 2$ . \*\*\*  $p < .001$ .

## CAREER ADAPTIVITY PROFILES

**Highlights**

- We examined career adaptivity profiles in two studies of university students.
- Three profiles of adaptivity were obtained based on Big-Five data.
- We examined the relations of profile membership with adaptability, adapting, and adaptation.
- Profiles indicative of higher adaptivity were related to greater adaptability, adapting, and adaptation.