**Supplemental Online Material for:**

**A Self-Determination Theory Perspective on RIASEC Activities Types: Motivation Types as Predictors of Self-Efficacy and College Program Domain**

**Complete Methodology**

**Participants**

The institutional review board approved this project. Data comes from a one-year longitudinal study on college students’ vocational decision-making (Poitras, Guay & Ratelle, 2012), partly carried to validate a shortened version of the Self-Directed Search used to assess interests for RIASEC domains. The study published in 2012 focused on vocational interests exclusively whereas, in this study, self-efficacy and types of motivation for each RIASEC domain were used. In the fall of 2007 (Time 1; T1), research assistants visited libraries, student cafés, and cafeterias of 11 colleges in the province of Quebec to ask students to fill a questionnaire that included measures of vocational motivations and other related constructs. Nine hundred seventy-six students participated in the first wave of this longitudinal study by completing a paper questionnaire on site (66% female; 2% unspecified). Their mean age was 18.85 years (*SD* = 2.59) and 39% of them were in their first college semester. Most of them (98%) spoke French at home and more than half lived with both of their parents (55%). With regard to parental levels of education, 32% of mothers earned a high school diploma, 27% a college diploma, and 31% a university diploma (10% unspecified). For fathers, 29% of them earned a high school diploma, 21% a college diploma, and 35% a university diploma (15% unspecified). The target sample size was 1000 participants, which would provide sufficient statistical power for complex modeling. Participant recruitment was stopped at 976 students, which was very close to the initial goal.

In September 2008, participants who completed a questionnaire at T1 (*N* = 976) were contacted by phone and asked to complete an online survey that included the domain-specific self-efficacy measure. Participants who completed the Time 2 (T2) questionnaire were eligible to win one of 25 pairs of movie tickets. Participants who consented received personalized login information to access the online survey. Up to three additional phone calls were made to remind participants to complete the survey. A total of 332 students participated at T2 (72% female). Because 66% of students were missing at T2, we verified if those who completed both data waves were equivalent to those who only participated at T1.

**Measures**

**Motivation types.** The Activities section of the French-Canadian version of the Self-Descriptive Search (SDS; Holland, 1991) was used to assess students’ motivations toward vocational domains of the RIASEC. In the original scale assessing vocational interests, participants indicated whether they would be interested in engaging in each of the 66 proposed career-related activities (11 per RIASEC dimension). In this study, we used a short version of the SDS (24 items, 4 activities per RIASEC dimension; Poitras, Guay & Ratelle, 2012) and added identified, introjected, and external regulations for each of the 24 activities. The decision not to use the full version of the SDS was based on the excessive length the questionnaire would take if all activities were surveyed (see below for more details). This shortened version was obtained using item response theory and confirmatory factor analyses (CFA; Poitras, Guay & Ratelle, 2012). Sample activities are painting (Artistic), teaching (Social), and being a salesperson (Enterprising). The questionnaire assessing the four types of motivation for all activity domains began by a statement reflective a specific type of motivation, and asked participants to indicate the extent to which each domain activity would be done for this motivation. For example, *the intrinsic motivation* subscale would state “I would do the following activities by pleasure” and the 24 activities (e.g., painting, teaching, being a sale person) of the short version of the SDS would be answered with respect to this statement. Students indicated on a scale ranging from 1 (not at all agree) to 5 (totally agree) if they would engage in each activity for this specific reason. After completing all 24 items for intrinsic motivation, students were asked to complete the same 24 items, but for *identified regulation* (“I would do the following activities because I find them important”), *introjected regulation* (“I would do the following activities to show others that I’m capable”), and *external regulation* (“I would do the following activities only if I receive something in return”). Ninety-six items were thus used to assess the four types of motivation toward all RIASEC dimensions (4 motivation statements X 24 activities = 96 items). In other words, the group of 24 SDS items are presented to participants 4 times, but under a different general motivation statement assessing intrinsic, identified, introjected, and external regulation. McDonald’s (1970) omega for each type of motivation ranged from .80 to .93 across the six vocational domains. In the original version of the SDS, participants answered according to a Yes/No format. In order to increase variability in participants’ responses, which can increase reliability estimates (Hogan, 2007), we modified the response scale – with the approval of Psychological Assessment Resources, Inc. – to a 5-point Likert scale ranging from 1 to 5. This response format can also improve fit indices in subsequent analyses, such as CFA.

**Self-efficacy.** Domain-specific self-efficacy toward RIASEC activities was assessed at T1 and T2 with the statement “Indicate your confidence level regarding your ability to execute the following activities”, which was answered for each of the 24 activities of the short version of the SDS. The metric used was the same as for types of motivation. Across vocational domains, omega values for self-efficacy scores ranged from .75 and .91 at T1 and from .75 to .93 at T2.

**College program attendance.** The programs in which participants were studying at T1 were classified according to RIASEC dimensions. Each program could be classified in one of three main domains: investigative (*N* = 189), artistic (*N* = 71), and social (*N* = 428). Unfortunately, too few students in the sample (< 3%) pursued a college program that could be classified in realistic, conventional, or enterprising domains. Thus, only three domains out of six were considered for college program attendance. This repartition is an artefact of the data collection procedure, which occurred in colleges, which have three main pre-university programs: natural sciences (classified as Investigative), arts and languages (classified as Artistic), and social sciences and humanities (classified as Social). These educational institutions also have technical degrees in Realistic domains, but these curriculums have a much tighter schedule, meaning that their students were less accessible at the time of data collection. In addition, it is very likely that students in social sciences and humanities go on to pursue a university degree in an Enterprising or Conventional domain as their main domain of interest. However, at this level of instruction in the Province of Quebec, it was impossible to distinguish these students from those only interested in the Social domain.

**Statistical Analyses**

**Structural Equation Modeling (SEM)**

**Additional information on tested SEM models .** Because the motivation and self-efficacy measures used different defining statements but the activities (i.e., items) was constant across all types of motivation and self-efficacy (the same 24 items were used), correlations between latent factors might be inflated due to shared wording of items, or the general model fit might decrease because of strongly related residuals. For example, students had to indicate the extent to which they find painting to be an intrinsically motivating activity as well as if they identified with it, if they had introjected or external regulations for doing it, and their level of self-efficacy toward it. Hence, five distinct items included the same wording to describe a specific activity (e.g., the word “painting” was used for the following items: Intrinsic\_Act1\_A, Identified\_Act1\_A, Introjected\_Act1\_A, External\_Act1\_A, and Self-efficacy\_ Act1\_A). To minimize statistical closeness due to wording artefacts, correlated uniquenesses were estimated between each items at T1 referring to the same activity (40 correlated uniquenesses = 10 correlations x 4 activities). Moreover, longitudinal correlated uniquenesses were estimated, but only for self-efficacy error terms (same items used at both time measurement). Because the CFA and SEM models tested in this study already involved many free parameters, the correlated uniquenesses models appeared most appropriate compared to other models used to control potential bias (e.g., multiple-method factor approach; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In addition to all the statistical parameters (i.e., factor loadings, correlated uniquenesses) described for the measurement CFA models, SEM models included structural paths estimated in accordance with the proposed hypotheses. In Figure S1, a SEM model illustrates the parameters estimated in models presented in the manuscript, where types of motivation predicted T2 self-efficacy, controlling for T1 self-efficacy, including all correlated uniquenesses. For SEM models predicting college program attendance, the endogenous (i.e., T2 self-efficacy) factor was replaced by the dichotomous variable representing attending a program in the corresponding domain. Longitudinal correlated uniquenesses were thus removed in these models.

To ascertain the adequacy of model fit of CFA and SEM models, we used the comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), and the S-B χ2 statistic. CFI and TLI usually vary along a 0 -1 continuum (the TLI can be greater than 1, which could imply overfitting) and values greater than .90 and .95 typically reflect acceptable and excellent fit to the data, respectively (Schumacker & Lomax, 1996). Browne and Cudeck (1993) suggested that RMSEA values below .05 are indicative of a “close fit” and that values of up to .08 represent reasonable errors of approximation. Similar guidelines were formulated for the SRMR (Byrne, 2013). Whereas the TLI and RMSEA penalize lack of parsimony, the CFI and SRMR do not. Under the WLSMV estimator, the weighted root-mean-square residual (WRMR) will be reported instead of the SRMR, with values below 1 indicating a satisfactory fit (Yu, 2002). Correlations among latent factors within each vocational domain are presented in Table S1, while Table S2 presents fit indices for the various models presented in the manuscript as well as for all additional models (see below).

**Additional SEM models.** Three series of models were estimated but could not be presented in the main manuscript because of space restrictions. First are CFA models that allowed the evaluation of measurement adequacy of latent factors (Models S1, Table S2; 6 models). Second, SEM models were estimated in which motivations in one domain predicted self-efficacy in each domain (Models S2; 6 models). A final set of models included motivations in one domain predicting attending a program in an investigative, artistic, or social domain (Models S3; 6 models). These 18 additional models are different from the 9 models presented in the main manuscript as they each include many more dependent variables, making it possible to explore cross-domain results. These various models were also estimated using Mplus (Version 8; Muthén & Muthén, 2017) with the robust maximum likelihood (MLR) estimation method. Because models in the main manuscript include self-efficacy at T1 as a control variable, they could present suppression effects. For this reason, Tables S4 and S5 present results based on SEM analyses without T1 self-efficacy as a covariate. They also present regression coefficients between non-corresponding domains.

**Latent profile analyses.** Latent profile analyses (LPA; Muthén, 2002) were conducted to identify motivational profiles within domains. Solutions with 1 to 8 profiles were examined separately within each domain. These analyses were performed using factor scores saved from the CFA models. These factor scores, specified to have a mean of 0 and a standard deviation of 1, reflect participants’ levels on each of the four latent factors representing types of motivation (intrinsic motivation and identified, introjected, and external regulations) for each domain. In the LPA, the means for each type of motivation were freely estimated (Peugh & Fan, 2013; Morin et al., 2011) and models were tested with both free and fixed variances on indicators between profiles. Models were estimated using 5000 random sets of start values, with 100 iterations for each random start. The 200 best solutions were retained for final stage optimization (Hipp & Bauer, 2006; McLachlan & Peel, 2000). Results for all profile analyses are presented in Table S5.

Determining the optimal number of profiles should rely on the theoretical conformity of the obtained profiles (Marsh, Lüdtke, Trautwein & Morin, 2009; Muthén, 2003), the statistical adequacy of the solution (e.g., absence of negative variance estimates; Bauer & Curran, 2004), and various other statistical indicators (McLachlan & Peel, 2000). Among the statistical indicators considered are the Akaike Information Criterion (AIC), the Bayesian information criterion (BIC), the Consistent AIC (CAIC), the sample-size adjusted BIC (ABIC), the Lo, Mendell, and Rubin (2001) likelihood ratio test (LMR), the Bootstrap Likelihood Ratio Test (BLRT), and the entropy. Lower values on AIC, CAIC, BIC, and ABIC suggest a better-fitting model. Both the LMR and BLRT compare a *k*-profile model with a (*k*-1)-profile model. A statistically significant *p* value indicates that the (*k*-1) profile model should be rejected in favor of a less parsimonious *k*-profile model. However, because these tests are based on statistical significance assumptions, the class enumeration procedure that follows these indices can still be influenced by sample size (Marsh et al., 2009) and may continue to favor the addition of profiles. Consequently, these indices can be graphically presented through “elbow plots” illustrating the gains associated with additional profiles (Morin, et al., 2011). In these plots, the point after which the slope flattens out indicates the optimal number of profiles. Elbow plots for all profile analyses in the 6 domains are presented in Figure S2. Finally, the entropy indicates the precision with which participants are classified in the profiles (varying from 0 to 1; highest values being better) and should be considered with other indices to determine the optimal number of profiles (Lubke & Muthén, 2007).

To test whether there are differences among retained profiles on measures of self-efficacy at Time 1 and Time 2 and on college program attendance, the auxiliary function in Mplus was used. This model command offers the possibility to contrast profiles to determine if they differ on a dependent variable. Table S6 presents these Cohen’s d comparisons between profiles for motivational types as well as indicators of vocational adjustment within each domain.

**Results**

**Missing Data Analysis**

As in most longitudinal datasets, many participants (66%) did not complete the T2 questionnaire, which assessed self-efficacy toward each activity in each RIASEC domain. Consequently, participants who did not complete the T2 questionnaire were compared on Time 1 to those who completed both time measurements with invariance analyses. As presented in Table S7, results showed no differences on the various model parameters (Models 1 to 5) across RIASEC domains. Moreover, none of the fit indices improved substantially when means were free to vary across groups, indicating that there were no substantial latent mean differences in latent constructs between participants with complete and partial data. This led us to conclude that no systematic patterns of missingness (e.g., MNAR) could seriously bias subsequent results. To account for missing data in the SEM analyses, full information maximum likelihood (FIML) estimation was used to compute the product of individual likelihood functions in order to estimate the analysis parameters for the whole sample. Using a FIML procedure to handle missing data is considered superior to using listwise deletion and other ad hoc methods such as mean substitution (Enders, 2010; Davey, Shanahan, & Schafer, 2001; Graham, 2009; Peugh & Enders, 2004).

**Results From Additional Models**

To verify the adequacy of measurement models, six CFA models were estimated (one per domain of interests; Models S1) in which the 6 latent factors representing motivation types and self-efficacy at both waves were correlated. Fit indices for these various models were all acceptable (Table S2), with CFI and TLI values over .95 and RMSEA, SRMR values below .06. Correlations among latent factors representing motivational types within each RIASEC dimension are presented in Table S1. Results supported the presence of a motivation continuum within each RIASEC domain. Most correlations follow the simplex-like pattern theorized by SDT, which specifies that correlations of more proximal motivation types on the continuum should be higher than correlations of more distal pairs (Howard, Gagné, & Bureau, 2017). However, it should be noted that, for E and C dimensions, the simplex-like pattern was less supported. Results from all additional models predicting self-efficacy in every domain (Models S2; see Tables S2 and S3) and college program domain (Models 3; see Tables S2 and S4) are presented in the tables. However, in models presented in the main manuscript, self-efficacy at T1 is used as a control variable, which could have led to suppression effect. Moreover, regression coefficients in non-corresponding domains were not included in the manuscript. For these reasons, Tables S4 and S5 present results based on SEM analyses without T1 self-efficacy as a covariate. Moreover, results in these two tables show regression coefficients in non-corresponding domains.

**Latent Profiles Analyses**

For each RIASEC domain of activities, LPA was performed to identify intraindividual patterns of motivation at T1. Every LPA model was tested with constrained and unconstrained variances across the different profiles. Solutions for the constrained variance model were the most appropriate and provided the most theoretically sound results. Consequently, only results from the constrained variances solutions were reported in the article. Based on elbow plots (see Figure S2), fit indices (see Table S5), theoretical considerations, and the number of participants in each profile, a three-profile or a four-profile solution were deemed optimal for each RIASEC dimension. Notably, the log-likelihood was replicated at least 50 times for each of the selected solutions, providing support for their robustness. Solutions with more than three or four profiles were not retained because they contained very few participants in some profiles (< 10%) which which can threaten the reliability of subsequent comparisons. More specifically, the fourth profile for the Realistic domain included 8% of the sample, while it was 6% for Investigative, 8% for Artistic, 7% for Enterprising, and 5% for Conventional. Only the fourth profile on the Social dimension included 15% of the sample. Inspection of this profile revealed the same motivational pattern as those in some 3-profile solutions: an introjected one. A 4-profile solution was thus favored for the Social dimension. Table S6 present Cohen d for comparing motivational levels across profiles in a specific domain.

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Table S1.

*Correlations among Latent Factors for Intrinsic, Identified, Introjected, and External Regulation for Each RIASEC Domain*

|  | Mean | SD | Intrinsic | Identified | Introjected | External | SE T1 | SE t2 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Realistic** |
| Intrinsic | 2.15 | 1.29 | - |  |  |  |  |  |
| Identified | 2.26 | 1.23 | .71 | - |  |  |  |  |
| Introjected | 1.52 | .96 | .24 | .32 | - |  |  |  |
| External | 2.68 | 1.34 | .11 | .19 | .26 | - |  |  |
| SE T1 | 1.94 | .99 | .76 | .64 | .29 | .18 | - |  |
| SE T2 | 2.09 | 1.01 | .69 | .54 | .16 | .12 | .77 | - |
| **Investigative** |
| Intrinsic | 2.09 | 1.16 | - |  |  |  |  |  |
| Identified | 2.45 | 1.24 | .76 | - |  |  |  |  |
| Introjected | 1.60 | .96 | .24 | .28 | - |  |  |  |
| External | 2.87 | 1.25 | .02 | .16 | .18 | - |  |  |
| SE T1 | 2.60 | 1.15 | .72 | .73 | .19 | .19 | - |  |
| SE T2 | 2.90 | 1.10 | .61 | .61 | .09 | .18 | .82 | - |
| Program  | .27 | .45 | .48 | .52 | .10 | .09 | .55 | .50 |
| **Artistic** |
| Intrinsic | 2.66 | 1.24 | - |  |  |  |  |  |
| Identified | 2.44 | 1.17 | .81 | - |  |  |  |  |
| Introjected | 1.58 | .93 | .14 | .23 | - |  |  |  |
| External | 2.75 | 1.20 | .05 | .10 | .20 | - |  |  |
| SE T1 | 2.58 | 1.03 | .77 | .73 | .16 | .12 | - |  |
| SE T2 | 2.76 | .99 | .74 | .66 | .14 | .05 | .79 |  |
| Program  | .10 | .30 | .25 | .32 | .02 | .10 | .35 | .33 |
| **Social** |  |
| Intrinsic | 3.10 | 1.18 | - |  |  |  |  |  |
| Identified | 3.26 | 1.12 | .86 | - |  |  |  |  |
| Introjected | 1.82 | 1.13 | .18 | .22 | - |  |  |  |
| External | 2.87 | 1.18 | .06 | .17 | .36 | - |  |  |
| SE T1 | 3.19 | .90 | .79 | .76 | .19 | .14 | - |  |
| SE T2 | 3.47 | .91 | .65 | .68 | .11 | .05 | .81 |  |
| Program  | .62 | .49 | .31 | .25 | .08 | -.05 | .35 | .37 |
| **Enterprising** |  |
| Intrinsic | 2.54 | 1.21 | - |  |  |  |  |  |
| Identified | 2.95 | 1.21 | .80 | - |  |  |  |  |
| Introjected | 1.74 | 1.07 | .28 | .29 | - |  |  |  |
| External | 3.03 | 1.16 | .13 | .27 | .27 | - |  |  |
| SE T1 | 2.94 | .98 | .72 | .72 | .22 | .24 | - |  |
| SE T2 | 3.22 | 1.00 | .54 | .57 | .14 | .13 | .71 |  |
| **Conventional** |  |
| Intrinsic | 2.17 | 1.18 | - |  |  |  |  |  |
| Identified | 2.85 | 1.23 | .76 | - |  |  |  |  |
| Introjected | 1.65 | 1.02 | .28 | .26 | - |  |  |  |
| External | 3.01 | 1.21 | .14 | .28 | .21 | - |  |  |
| SE T1 | 2.82 | 1.15 | .64 | .66 | .19 | .24 | - |  |
| SE T2 | 3.15 | 1.13 | .47 | .48 | .06 | .24 | .73 |  |

*Note*. SD = standard deviation; SE = self-efficacy; T1 = Time 1; T2 = Time 2.

Table S2

*Fit Indices for All CFA and SEM Models Presented in the Manuscript and Supplementary Materials*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | CFI | TLI | *X2* | df | RMSEA | SRMR | WRMR |
| Realistic |  |  |  |  |  |  |  |
| 1. SEM with SE at T2 controlling for SE at T1
 | .966 | .952 | 598.78 | 193 | .046 | .034 |  |
| S1r. CFA | .972 | .957 | 509.77 | 177 | .044 | .032 |  |
| S2r. SEM with SE at T2 in all domains | .948 | .939 | 1471.50 | 671 | .035 | .051 |  |
| S3r. SEM with all programs at T1 | .938 | .904 | 212.53 | 110 | .031 | - | .529 |
| Investigative |  |  |  |  |  |  |  |
| 1. SEM with SE at T2 controlling for SE at T1
 | .988 | .983 | 320.14 | 193 | .026 | .026 |  |
| 1. SEM with corresponding program at T1 controlling for SE at T1
 | .992 | .987 | 215.50 | 135 | .025 | .022 |  |
| S1i. CFA | .992 | .987 | 269.00 | 177 | .023 | .024 |  |
| S2i. SEM with SE at T2 in all domains | .961 | .954 | 1201.09 | 671 | .028 | .051 |  |
| S3i. SEM with all programs at T1 | .972 | .957 | 166.38 | 110 | .023 | - | .496 |
| Artistic |  |  |  |  |  |  |  |
| 1. SEM with SE at T2 controlling for SE at T1
 | .953 | .933 | 658.91 | 193 | .050 | .057 |  |
| 1. SEM with corresponding program at T1 controlling for SE at T1
 | .979 | .967 | 323.57 | 135 | .038 | .035 |  |
| S1a. CFA | .982 | .972 | 354.57 | 177 | .032 | .036 |  |
| S2a. SEM with SE at T2 in all domains | .929 | .918 | 1543.27 | 671 | .037 | .060 | - |
| S3a. SEM with all program at T1 | .909 | .858 | 245.46 | 110 | .036 | - | .787 |
| Social  |  |  |  |  |  |  |  |
| 1. SEM with SE at T2 controlling for SE at T1
 | .977 | .967 | 403.39 | 193 | .033 | .036 |  |
| 1. SEM with corresponding program at T1 controlling for SE at T1
 | .985 | .977 | 258.83 | 135 | .031 | .028 |  |
| S1s. CFA | .985 | .977 | 311.43 | 177 | .028 | .030 |  |
| S2s. SEM with SE at T2 in all domains |  |  |  |  |  |  |  |
| S3s. SEM with all program at T1 |  |  |  |  |  |  |  |
| Entreprising |  |  |  |  |  |  |  |
| 1. SEM with SE at T2 controlling for SE at T1
 | .993 | .990 | 268.92 | 193 | .020 | .027 |  |
| S1e. CFA | .997 | .996 | 205.22 | 177 | .013 | .025 |  |
| S2e. SEM with SE at T2 in all domains | .951 | .944 | 1244.19 | 671 | .030 | .054 | - |
| S3e. SEM with all programs at T1 | .970 | .954 | 157.79 | 110 | .021 | - | .583 |
| Conventionnel  |  |  |  |  |  |  |  |
| 1. SEM with SE at T2 controlling for SE at T1
 | .989 | .985 | 322.33 | 193 | .026 | .023 |  |
| S1c. CFA | .991 | .986 | 289.15 | 177 | .025 | .022 |  |
| S2c. SEM with SE at T2 in all domains | .963 | .957 | 1224.89 | 671 | .029 | .051 | - |
| S3c. SEM with all programs at T1 | .966 | .947 | 174.02 | 110 | .024 | - | .471 |

*Note*. CFI = Comparative Fit Index; TLI = Tucker-Lewis Fit Index; RMSEA =: Root Mean Square Error of Approximation; df = degrees of freedom; SRMR = Standardized Root Mean Square Residual; SE = self-efficacy; T1 = Time 1; T2 = Time 2.

Table S3

*Means for Target Loadings, Standard Deviations, Range and Regression Coefficients for Additional Models Predicting Self-Efficacy in Each RIASEC Domain from Motivation in One Domain* *(Models S2 in Table S2)*

| Model | Type of Interest | Mean loading | Mean *SD* loading | Loadings range |  predict SE in R |  predict. SE in I |  predict. SE A |  predict. SE in S |  predict. SE in E |  predict SE in C |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Realistic** |  |  |  |  |  |  |  |  |  |
|  | Intrinsic | 0.85 | 0.06 | 0.77-.91 | **.67\*** | .29\* | -.20\* | -.41\* | .01 | .19\* |
| Model S2r | Identified | 0.86 | 0.06 | 0.78-.92 | **.08** | -.11 | .09 | .11 | .07 | -.06 |
|  | Introjected | 0.88 | 0.05 | 0.83-.93 | **-.06** | -.16\* | -.06 | .05 | -.07 | -.17\* |
|  | External | 0.85 | 0.05 | 0.79-.90 | **.02** | .12\* | .06 | .08 | .08 | .15\* |
|  | **Investigative** |  |  |  |  |  |  |  |  |  |
|  | Intrinsic | 0.82 | 0.05 | 0.75-.87 | .31\* | **.43\*** | -.10 | -.24\* | -.18\* | .06 |
| Model S2i | Identified | 0.82 | 0.04 | 0.79-.86 | .02 | **.31\*** | .01 | .06 | .26\* | .30\* |
|  | Introjected | 0.85 | 0.03 | 0.81-.88 | -.10\* | **-.10** | -.05 | .05 | -.01 | -.13\* |
|  | External | 0.80 | 0.05 | 0.76-.85 | -.06 | **.09** | -.05 | .02 | .12 | .20\* |
|  | **Artistic** |  |  |  |  |  |  |  |  |  |
|  | Intrinsic | 0.71 | 0.17 | 0.53-.89 | -.16 | .01 | **.76\*** | .15 | -.10 | .02 |
| Model S2a | Identified | 0.74 | 0.14 | 0.58-.87 | .07 | -.06 | **.09** | .11 | .12 | -.10 |
|  | Introjected | 0.82 | 0.08 | 0.73-.90 | -.06 | -.05 | **-.02** | .06 | -.03 | -.06 |
|  | External | 0.70 | 0.14 | 0.56-.84 | .09 | .01 | **-.01** | -.06 | .03 | .11 |
|  | **Social** |  |  |  |  |  |  |  |  |  |
|  | Intrinsic | 0.71 | 0.09 | 0.61-.82 | -.12 | .11 | -.01 | **.26** | -.16 | .03 |
| Model S2s | Identified | 0.70 | 0.09 | 0.60-.82 | -.13 | -.28 | .26 | **.51\*** | .05 | -.21 |
|  | Introjected | 0.84 | 0.05 | 0.79-.90 | -.10 | -.11 | -.18\* | **-.00** | -.10 | -.14\* |
|  | External | 0.71 | 0.08 | 0.62-.82 | .11 | .09 | .02 | **-.10** | .10 | .16\* |
|  | **Enterprising** |  |  |  |  |  |  |  |  |  |
|  | Intrinsic | 0.80 | 0.06 | 0.73-.85 | .05 | -.01 | -.31\* | -.23\* | **.28\*** | .25\* |
| Model S2e | Identified | 0.80 | 0.06 | 0.74-.86 | .08 | .06 | .22 | .16 | **.39\*** | .16 |
|  | Introjected | 0.86 | 0.04 | 0.83-.91 | -.11 | -.09 | -.11 | .01 | **-.06** | -.08 |
|  | External | 0.79 | 0.07 | 0.69-.85 | .01 | .11 | -.04 | -.03 | **-.02** | .14\* |
|  | **Conventional** |  |  |  |  |  |  |  |  |  |
|  | Intrinsic | 0.86 | 0.03 | 0.83-.89 | .10 | .10 | -.33\* | -.29\* | .11 | **.33\*** |
| Model S2c | Identified | 0.83 | 0.04 | 0.78-.86 | .10 | .15 | .14 | .08 | .28\* | **.25\*** |
|  | Introjected | 0.88 | 0.02 | 0.86-.92 | -.14\* | -.08 | -.13\* | -.01 | -.04 | **-.10\*** |
|  | External | 0.82 | 0.04 | 0.77-.85 | -.08 | .06 | .05 | .02 | .09 | **.15\*** |

*Note.* This table describes models with four latent factors for types of motivation predicting self-efficacy in all RIASEC domain with standardized regression coefficients being presented. SE = Standard Error;R = Realistic, I = Investigative, A = Artistic, S = Social, E = Enterprising, C = Conventional; SE = Self-efficacy; SD = Standard Deviation. \**p* < .05.

Table S4

*Means for Target Factor Loadings, Standard Deviations, Ranges, and Regression Coefficients for the Prediction of College Program Attendance (Models S3 in Table S2)*

| Model  | Type of program | Mean target loading | SD target loading | Range target loading |  predict. program investigative |  predict. program artistic |  predict. program. social |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Realistic** |  |  |  |  |  |  |
| Model S3r | Intrinsic | 0.85 | 0.06 | 0.77-.91 | .17\* | -.26\* | -.05 |
|  | Identified | 0.86 | 0.06 | 0.78-.91 | .07 | .20 | -.14 |
|  | Introjected | 0.87 | 0.06 | 0.82-.94 | -.12\* | -.18\* | .18\* |
|  | External | 0.84 | 0.09 | 0.76-.92 | .10 | .04 | -.10 |
|  | **Investigative** |  |  |  |  |  |  |
| Model S3i | Intrinsic | 0.82 | 0.05 | 0.77-.88 | **.22\*** | -.38\* | -.11 |
|  | Identified | 0.82 | 0.02 | 0.80-.85 | **.48\*** | .15 | -.45\* |
|  | Introjected | 0.85 | 0.04 | 0.82-.90 | **-.06** | -.11 | .10\* |
|  | External | 0.80 | 0.04 | 0.74-.84 | **.05** | -.06 | -.02 |
|  | **Artistic** |  |  |  |  |  |  |
| Model S3a | Intrinsic | 0.69 | 0.10 | 0.55-.78 | -.09 | **.10** | .10 |
|  | Identified | 0.74 | 0.11 | 0.58-.83 | -.17 | **.46\*** | -.16 |
|  | Introjected | 0.82 | 0.10 | 0.74-.91 | .03 | **-.14\*** | .05 |
|  | External | 0.69 | 0.07 | 0.61-.75 | .08 | **.14\*** | -.13\* |
|  | **Social** |  |  |  |  |  |  |
| Model S3s | Intrinsic | 0.72 | 0.08 | 0.64-83 | -.28\* | -.16 | **.36\*** |
|  | Identified | 0.70 | 0.11 | 0.59-.85 | -.15 | .15 | **.03** |
|  | Introjected | 0.84 | 0.04 | 0.79-.89 | -.00 | -.15\* | **.08** |
|  | External | 0.71 | 0.06 | 0.65-.80 | .11 | .10 | **-.14\*** |
|  | **Enterprising** |  |  |  |  |  |  |
| Model S3e | Intrinsic | 0.80 | 0.03 | 0.75-.83 | -.04 | -.52\* | .29\* |
|  | Identified | 0.81 | 0.04 | 0.75-.84 | .05 | .52\* | -.29\* |
|  | Introjected | 0.86 | 0.06 | 0.79-.93 | -.07 | -.16\* | .12\* |
|  | External | 0.79 | 0.08 | 0.68-.86 | .21\* | -.02 | -.17\* |
|  | **Conventional** |  |  |  |  |  |  |
| Model S3c | Intrinsic | 0.87 | 0.03 | 0.83-.89 | .11 | -.29\* | -.01 |
|  | Identified | 0.83 | 0.05 | 0.78-.88 | .18\* | .12 | -.17\* |
|  | Introjected | 0.88 | 0.04 | 0.83-.93 | -.03 | -.13 | .07 |
|  | External | 0.82 | 0.03 | 0.78-.85 | .11 | -.03 | -.08 |

*Note.* SD = Standard Deviation. \**p* < .05

Table S5.

*Results from the Latent Profile Analyses*

| **Model** | **LL** | **#fp** | **Scaling** | **AIC** | **CAIC** | **BIC** | **ABIC** | **Entropy** | **aLMR** | **BLRT** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Realistic** |  |  |  |  |  |  |  |  |  |  |
| 1 profile | -5445.05 | 8 | 1.02 | 10906.11 | 10953.16 | 10945.16 | 10919.75 | na | na | na |
| 2 profile | -4952.10 | 13 | 1.23 | 9930.20 | 10006.66 | 9993.66 | 9952.37 | 0.90 | ≤ 0.001 | ≤ 0.001 |
| 3 profile | -4699.47 | 18 | 1.48 | 9434.94 | 9540.81 | 9522.81 | 9465.64 | 0.89 | ≤ 0.001 | ≤ 0.001 |
| 4 profile | -4485.02 | 23 | 1.54 | 9016.05 | 9151.32 | 9128.32 | 9055.27 | 0.91 | .002 | ≤ 0.001 |
| 5 profile | -4331.20 | 28 | 1.90 | 8718.39 | 8883.07 | 8855.07 | 8766.15 | 0.92 | .244 | ≤ 0.001 |
| 6 profile | -4194.87 | 33 | 1.66 | 8455.74 | 8649.83 | 8616.83 | 8512.02 | 0.93 | .028 | ≤ 0.001 |
| 7 profile | -4096.85 | 38 | 1.62 | 8269.69 | 8493.18 | 8455.18 | 8334.50 | 0.91 | ≤ 0.001 | ≤ 0.001 |
| 8 profile | -3998.67 | 43 | 1.98 | 8083.34 | 8336.24 | 8293.24 | 8156.67 | 0.92 | .102 | ≤ 0.001 |
| **Investigative** |  |  |  |  |  |  |  |  |  |  |
| 1 profile | -5782.35 | 8 | 0.98 | 11580.70 | 11627.75 | 11619.75 | 11594.35 | na | na | na |
| 2 profile | -5251.86 | 13 | 1.22 | 10529.72 | 10606.18 | 10593.18 | 10551.89 | 0.88 | ≤ 0.001 | ≤ 0.001 |
| 3 profile | -5074.60 | 18 | 1.35 | 10185.20 | 10291.06 | 10273.06 | 10215.90 | 0.88 | ≤ 0.001 | ≤ 0.001 |
| 4 profile | -4887.28 | 23 | 1.51 | 9820.57 | 9955.84 | 9932.84 | 9859.79 | 0.93 | .009 | ≤ 0.001 |
| 5 profile | -4744.56 | 28 | 1.50 | 9545.12 | 9709.80 | 9681.80 | 9592.87 | 0.94 | .003 | ≤ 0.001 |
| 6 profile | -4647.77 | 33 | 1.54 | 9361.54 | 9555.63 | 9522.63 | 9417.82 | 0.94 | .024 | ≤ 0.001 |
| 7 profile | -4566.15 | 38 | 1.54 | 9208.31 | 9431.80 | 9393.80 | 9273.11 | 0.95 | .039 | ≤ 0.001 |
| 8 profile | -4507.95 | 43 | 1.51 | 9101.91 | 9354.81 | 9311.81 | 9175.24 | 0.90 | ≤ 0.001 | ≤ 0.001 |
| **Artistic** |  |  |  |  |  |  |  |  |  |  |
| 1 profile | -5987.59 | 8 | 0.96 | 11991.19 | 12038.24 | 12030.24 | 12004.83 | na | na | na |
| 2 profile | -5418.39 | 13 | 1.13 | 10862.79 | 10939.25 | 10926.25 | 10884.96 | 0.89 | ≤ 0.001 | ≤ 0.001 |
| 3 profile | -5213.07 | 18 | 1.54 | 10462.13 | 10568.00 | 10550.00 | 10492.83 | 0.91 | .047 | ≤ 0.001 |
| 4 profile | -5025.73 | 23 | 1.47 | 10097.46 | 10232.73 | 10209.73 | 10136.68 | 0.92 | .002 | ≤ 0.001 |
| 5 profile | -4889.36 | 28 | 1.54 | 9834.73 | 9999.41 | 9971.41 | 9882.48 | 0.90 | .050 | ≤ 0.001 |
| 6 profile | -4788.46 | 33 | 1.45 | 9642.93 | 9837.01 | 9804.01 | 9699.21 | 0.91 | .009 | ≤ 0.001 |
| 7 profile | -4688.50 | 38 | 1.62 | 9453.00 | 9676.49 | 9638.49 | 9517.81 | 0.92 | .182 | ≤ 0.001 |
| 8 profile | -4608.96 | 43 | 1.73 | 9303.92 | 9556.82 | 9513.82 | 9377.25 | 0.93 | .425 | ≤ 0.001 |
| **Social** |  |  |  |  |  |  |  |  |  |  |
| 1 profile | -4716.12 | 8 | 0.82 | 9448.23 | 9495.28 | 9487.28 | 9461.87 | na | na | na |
| 2 profile | -4200.08 | 13 | 1.01 | 8426.16 | 8502.62 | 8489.62 | 8448.33 | 0.83 | ≤ 0.001 | ≤ 0.001 |
| 3 profile | -3916.72 | 18 | 1.06 | 7869.44 | 7975.31 | 7957.31 | 7900.14 | 0.87 | ≤ 0.001 | ≤ 0.001 |
| 4 profile | -3700.04 | 23 | 1.22 | 7446.08 | 7581.35 | 7558.35 | 7485.30 | 0.88 | ≤ 0.001 | ≤ 0.001 |
| 5 profile | -3552.35 | 28 | 1.33 | 7160.70 | 7325.38 | 7297.38 | 7208.46 | 0.89 | .018 | ≤ 0.001 |
| 6 profile | -3470.56 | 33 | 1.71 | 7007.12 | 7201.21 | 7168.21 | 7063.40 | 0.89 | .463 | ≤ 0.001 |
| 7 profile | -3402.49 | 38 | 1.38 | 6880.97 | 7104.46 | 7066.46 | 6945.78 | 0.80 | .062 | ≤ 0.001 |
| 8 profile | -3339.58 | 43 | 1.37 | 6765.16 | 7018.06 | 6975.06 | 6838.49 | 0.88 | .006 | ≤ 0.001 |
| **Enterprising** |  |  |  |  |  |  |  |  |  |  |
| 1 profile | -5878.88 | 8 | 0.87 | 11773.77 | 11820.82 | 11812.82 | 11787.41 | na | na | na |
| 2 profile | -5407.99 | 13 | 1.07 | 10841.97 | 10918.43 | 10905.43 | 10864.14 | 0.81 | ≤ 0.001 | ≤ 0.001 |
| 3 profile | -5184.68 | 18 | 1.22 | 10405.35 | 10511.22 | 10493.22 | 10436.05 | 0.83 | ≤ 0.001 | ≤ 0.001 |
| 4 profile | -4975.85 | 23 | 1.21 | 9997.69 | 10132.97 | 10109.97 | 10036.92 | 0.90 | ≤ 0.001 | ≤ 0.001 |
| 5 profile | -4846.17 | 28 | 1.23 | 9748.34 | 9913.02 | 9885.02 | 9796.10 | 0.87 | ≤ 0.001 | ≤ 0.001 |
| 6 profile | -4767.37 | 33 | 1.72 | 9600.74 | 9794.83 | 9761.83 | 9657.02 | 0.88 | .501 | ≤ 0.001 |
| 7 profile | -4684.32 | 38 | 1.47 | 9444.63 | 9668.13 | 9630.13 | 9509.44 | 0.89 | .050 | ≤ 0.001 |
| 8 profile | -4611.79 | 43 | 1.38 | 9309.58 | 9562.48 | 9519.48 | 9382.91 | 0.91 | .025 | ≤ 0.001 |
| **Conventional** |  |  |  |  |  |  |  |  |  |  |
| 1 profile | -5803.65 | 8 | 0.95 | 11623.30 | 11670.35 | 11662.35 | 11636.94 | na | na | na |
| 2 profile | -5342.17 | 13 | 1.13 | 10710.34 | 10786.80 | 10773.80 | 10732.51 | 0.85 | ≤ 0.001 | ≤ 0.001 |
| 3 profile | -5138.81 | 18 | 1.32 | 10313.61 | 10419.48 | 10401.48 | 10344.31 | 0.88 | .001 | ≤ 0.001 |
| 4 profile | -4951.25 | 23 | 1.37 | 9948.50 | 10083.77 | 10060.77 | 9987.73 | 0.91 | .002 | ≤ 0.001 |
| 5 profile | -4808.38 | 28 | 1.51 | 9672.77 | 9837.45 | 9809.45 | 9720.52 | 0.92 | .014 | ≤ 0.001 |
| 6 profile | -4698.75 | 33 | 1.42 | 9463.50 | 9657.59 | 9624.59 | 9519.78 | 0.93 | .007 | ≤ 0.001 |
| 7 profile | -4610.74 | 38 | 2.51 | 9297.48 | 9520.97 | 9482.97 | 9362.28 | 0.93 | .783 | ≤ 0.001 |
| 8 profile | -4528.23 | 43 | 1.57 | 9142.47 | 9395.37 | 9352.37 | 9215.80 | 0.94 | .047 | ≤ 0.001 |

*Note*. LL= loglikelihood; #fp = number of free parameters; AIC = Akaïke Information Criteria; CAIC = Constant AIC; BIC = Bayesian Information Criteria; ABIC = Sample-Size adjusted BIC; aLMR = Lo-Mendell-Rubin adjusted LRT; BLRT = Bootstrapped Likelihood Ratio Test; na not applicable.

Table S6

Cohen’s d Coefficient for Effect Sizes of Between-Profile Mean Comparisons

|  | Self-determined vs introjected | Self-determined vs moderated | Self-determined vs low | Introjected vs moderated | Introjected vs low | Moderated vs low |
| --- | --- | --- | --- | --- | --- | --- |
| **Realistic**  |  |  |  |  |  |  |
|  Intrinsic | -0.88 | - | -2.84 | - | -1.96 | - |
|  Identified | -0.24 | - | -2.18 | - | -1.97 | - |
|  Introjected | 4.89 | - | -0.14 | - | -5.03 | - |
|  External regulation | 0.63 | - | -0.19 | - | -0.82 | - |
|  Self-efficacy T1 | -0.16 | - | -1.70 | - | -1.65 | - |
|  Self-efficacy T2 | -0.54 | - | -1.18 | - | -0.56 | - |
|  Adjusted mean at T2 | -0.31 | - | -0.42 | - | -0.10 | - |
| **Investigative** |  |  |  |  |  |  |
|  Intrinsic | - | -3.41 | -6.40 | - | - | -2.98 |
|  Identified | - | -1.60 | -3.86 | - | - | -2.26 |
|  Introjected | - | -0.05 | -0.64 | - | - | -0.59 |
|  External regulation | - | 0.34 | -0.01 | - | - | -0.35 |
|  Self-efficacy T1 | - | -1.02 | -2.38 | - | - | -1.41 |
|  Self-efficacy T2 | - | -0.55 | -1.04 | - | - | -0.51 |
|  Adjusted mean at T2 | - | -0.13 | -0.19 | - | - | -0.08 |
|  Investigative program | - | -0.36 | -1.42 | - | - | -0.74 |
| **Artistic** |  |  |  |  |  |  |
|  Intrinsic | -1.29 | - | -3.21 | - | -1.92 | - |
|  Identified | -0.66 | - | -2.62 | - | -1.96 | - |
|  Introjected | 4.64 | - | 0.22 | - | -4.42 | - |
|  External regulation | 0.59 | - | 0.04 | - | -0.56 | - |
|  Self-efficacy T1 | -0.58 | - | -1.89 | - | -1.24 | - |
|  Self-efficacy T2 | -0.55 | - | -0.96 | - | -0.42 | - |
|  Adjusted mean at T2 | -0.13 | - | -0.33 | - | -0.20 | - |
|  Artistic program | -0.18 | - | -0.35 | - | -0.15 | - |
| **Social** |  |  |  |  |  |  |
|  Intrinsic | -0.58 | -0.42 | -5.44 | -2.22 | -4.86 | -2.64 |
|  Identified | -0.32 | -2.73 | -5.32 | -2.41 | -5.00 | -2.59 |
|  Introjected | 3.97 | 0.72 | 0.35 | -3.25 | -3.62 | -0.37 |
|  External regulation | 1.28 | 0.28 | 0.54 | -1.00 | -1.20 | -0.20 |
|  Self-efficacy T1 | -0.39 | -1.67 | -2.95 | -1.23 | -2.40 | -1.32 |
|  Self-efficacy T2 | -0.26 | -0.75 | -1.37 | -0.41 | -0.91 | -0.59 |
|  Adjusted mean at T2 | -0.15 | -0.20 | -0.42 | -0.06 | -0.29 | -0.25 |
|  Social program | -0.08 | -0.35 | -0.68 | -0.26 | -0.58 | -0.30 |
| **Enterprising** |  |  |  |  |  |  |
|  Intrinsic | - | -2.76 | -5.07 | - | - | -2.31 |
|  Identified | - | -2.33 | -4.95 | - | - | -2.62 |
|  Introjected | - | -0.46 | -0.85 | - | - | -0.39 |
|  External regulation | - | -0.22 | -0.58 | - | - | -0.36 |
|  Self-efficacy T1 | - | -1.28 | -2.31 | - | - | -1.17 |
|  Self-efficacy T2 | - | -0.47 | -0.97 | - | - | -0.43 |
|  Adjusted mean at T2 | - | -0.14 | -0.27 | - | - | -0.17 |
| **Conventional**  |   |  |  |  |  |  |
|  Intrinsic | -0.75 | - | -2.73 | - | -1.98 | - |
|  Identified | -0.65 | - | -2.38 | - | -1.73 | - |
|  Introjected | 4.37 | - | 0.11 | - | -4.26 | - |
|  External regulation | 0.36 | - | -0.28 | - | -0.64 | - |
|  Self-efficacy T1 | -0.48 | - | -1.63 | - | -1.12 | - |
|  Self-efficacy T2 | -0.38 | - | -0.66 | - | -0.27 | - |
|  Adjusted mean at T2 | -0.13 | - | -0.03 | - | -0.11 | - |

*Note*. Cohen’s d value around ±.20 are considered small, around ±.50 are considered medium, and around ±.80 or higher are considered large.

Table S7

*Fit Indices for CFA Models Testing the Equivalence of Participants with Partial and Complete Data*

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Domain | Npar | S-B χ2 | *df* | CFI | TLI | RMSEA [90%CI] | SRMR | BIC | AIC |
| **Realistic** |
| 1-Loading.+ intercepts  | 132 | 466.52 | 172 | .962 | .948 | .059 [.053-.066] | .033 | 40911.55 | 40267.20 |
| 2-Loading.+ intercepts +u | 116 | 457.75 | 188 | .966 | .956 | .054 [.048-.061] | .034 | 40852.31 | 40286.06 |
| 3-Loading.+ intercepts +u + corr u  | 92 | 482.48 | 212 | .966 | .961 | .051 [.045-.057] | .034 | 40740.93 | 40291.84 |
| 4-Loading.+ intercepts +u + corr u + var/cov | 78 | 547.12 | 226 | .959 | .957 | .054 [.048-.060] | .074 | 40734.53 | 40353.78 |
| 5- Model 4 + means fixed at 0 | 74 | 552.35 | 230 | .959 | .957 | .054 [.048-.059] | .074 | 40710.36 | 40349.14 |
| Investigative |
| 1-Loading.+ intercepts  | 132 | 229.60 | 172 | .992 | .988 | .026 [.016-.035] | .027 | 42704.67 | 42060.32 |
| 2-Loading.+ intercepts +u | 116 | 240.25 | 188 | .993 | .990 | .024 [.013-.032] | .029 | 42628.31 | 42062.06 |
| 3-Loading.+ intercepts +u + corr u  | 92 | 283.36 | 212 | .990 | .988 | .026 [.017-.034] | .030 | 42524.93 | 42075.84 |
| 4-Loading.+ intercepts +u + corr u + var/cov | 78 | 384.74 | 226 | .977 | .976 | .038 [.031-.044] | .074 | 42559.94 | 42179.19 |
| 5- Model 4 + means fixed at 0 | 74 | 392.04 | 230 | .977 | .976 | .038 [.032-.044] | .074 | 42540.74 | 42179.52 |
| Artistic |
| 1-Loading.+ intercepts  | 132 | 344.42 | 172 | .973 | .962 | .045 [.038-.052] | .042 | 46290.97 | 45646.63 |
| 2-Loading.+ intercepts +u | 116 | 365.43 | 188 | .972 | .964 | .044 [.037-.051] | .043 | 46226.22 | 45659.98 |
| 3-Loading.+ intercepts +u + corr u  | 92 | 397.43 | 212 | .970 | .967 | .042 [.036-.049] | .043 | 46114.99 | 45665.90 |
| 4-Loading.+ intercepts +u + corr u + var/cov | 78 | 537.01 | 226 | .950 | .947 | .053 [.047-.059] | .083 | 46187.05 | 45806.30 |
| 5- Model 4 + means fixed at 0 | 74 | 538.45 | 230 | .951 | .949 | .052 [.047-.058] | .083 | 46160.63 | 45799.41 |
| Social |
| 1-Loading.+ intercepts  | 132 | 295.41 | 172 | .980 | .972 | .038 [.031-.046] | .040 | 47341.17 | 46696.83 |
| 2-Loading.+ intercepts +u | 116 | 300.43 | 188 | .982 | .977 | .035 [.027-.042] | .040 | 47246.93 | 46680.69 |
| 3-Loading.+ intercepts +u + corr u  | 92 | 326.48 | 212 | .982 | .979 | .033 [.026-.040] | .040 | 47123.19 | 46674.10 |
| 4-Loading.+ intercepts +u + corr u + var/cov | 78 | 362.79 | 226 | .978 | .977 | .035 [.028-.042] | .062 | 47066.88 | 46686.13 |
| 5- Model 4 + means fixed at 0 | 74 | 366.74 | 230 | .978 | .977 | .035 [.028-.042] | .063 | 47042.58 | 46681.35 |
| Enterprising |
| 1-Loading.+ intercepts  | 132 | 193.08 | 172 | .997 | .996 | .016 [.000-.027] | .028 | 43803.74 | 43159.40 |
| 2-Loading.+ intercepts +u | 116 | 208.90 | 188 | .997 | .996 | .015 [.000-.026] | .029 | 43727.53 | 43161.28 |
| 3-Loading.+ intercepts +u + corr u  | 92 | 234.20 | 212 | .997 | .996 | .015 [.000-.025] | .029 | 43602.84 | 43153.75 |
| 4-Loading.+ intercepts +u + corr u + var/cov | 78 | 303.70 | 226 | .989 | .988 | .027 [.018-.034] | .073 | 43590.40 | 43209.65 |
| 5-Model 4 + means fixed at 0 | 74 | 304.99 | 230 | .989 | .989 | .026 [.017-.033] | .073 | 43563.81 | 43202.59 |
| Conventional |
| 1-Loading.+ intercepts  | 132 | 279.39 | 172 | .987 | .981 | .036 [.028-.043] | .028 | 40912.18 | 40267.83 |
| 2-Loading.+ intercepts +u | 116 | 279.31 | 188 | .989 | .986 | .032 [.023-.039] | .028 | 40833.14 | 40266.90 |
| 3-Loading.+ intercepts +u + corr u  | 92 | 299.60 | 212 | .989 | .988 | .029 [.021-.036] | .027 | 40696.81 | 40247.72 |
| 4-Loading.+ intercepts +u + corr u + var/cov | 78 | 361.58 | 226 | .983 | .982 | .035 [.028-.042] | .072 | 40675.87 | 40295.12 |
| 5- Model 4 + means fixed at 0 | 74 | 366.33 | 230 | .983 | .982 | .035 [.028-.041] | .073 | 40653.17 | 40291.95 |

*Note*. Npar = Number of parameters in the model; CFI = Comparative Fit Index; TLI = Tucker-Lewis Fit Index; CI = Confidence Interval; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual; BIC = Bayesian Information Criteria; AIC = Akaike Information Criteria.



*Figure S1*. The SEM tested in each RIASEC domain. Six models were tested. Cross-sectional correlations among error terms of parallel items were estimated to avoid inflated correlations among exogeneous latent factors. Longitudinal correlations among error terms of parallel items for self-efficacy were also estimated. When program attendance was used as an endogenous variable (instead of T2 self-efficacy), no longitudinal correlated uniquenesses were estimated.

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*Figure S2*. Elbow Plots of the Akaike Information Criteria for all RIASEC models