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Security, status and freedom: Three separable value orientations in family study-abroad decisions, invariant across parents and students

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Abstract

Family decisions about international higher education are usually studied through the mechanics of choice rather than the values that motivate them. This study asks whether three recurring orientations — Security, Status and Freedom — are empirically separable priorities within family study-abroad decisions, and whether they are measured equivalently by parents and students. The three are advanced as recurring orientations in this decision context, not as an exhaustive taxonomy of motivation. Responses came from 1,802 Indian students and parents (1,001 students and 801 parents, including 801 complete parent–student dyads) recruited through 56 institutions. The sample was split by family into calibration and validation halves, so no family informed both factor discovery and confirmation. Confirmatory, invariance and latent-mean models used ordered-categorical weighted least squares estimation, with maximum likelihood as a sensitivity analysis. In the held-out validation half a three-factor model fitted acceptably, while a one-factor model was decisively rejected and every two-factor collapse fitted poorly. Thresholds and loadings were fully invariant across parents and students, a result that held across 20 one-respondent-per-family subsamples. Parents weighted Security and Status more heavily than students did, a difference corroborated in a multiple-indicators multiple-causes specification; the differences were small in magnitude, and Freedom did not differ. Freedom accompanied greater decision clarity, and Security and Status greater strain. The three orientations are distinguishable and role-comparable, permitting parent and student scores to be compared on a common metric. The Security–Status–Freedom Orientation Scale (SSF-OS) should nevertheless be regarded as a promising preliminary instrument rather than a validated one: average variance extracted fell below the conventional benchmark, the outcome measures were study-developed, and further content, temporal and incremental validation is required before individual-level counselling use.

Keywords: Family decision-making; International higher education; Measurement invariance; Parent–student dyads; Value orientations

1. Introduction

Studying abroad is among the most consequential investments a family makes, within an international higher-education landscape that has expanded and diversified rapidly and whose post-pandemic trajectories remain contested (de Wit & Altbach, 2021). A mature scholarship models how students choose: as a staged funnel of predisposition, search and choice (Hossler & Gallagher, 1987), as a function of student and institutional attributes (Chapman, 1981), through layered economic and social contexts (Perna, 2006), and through push–pull forces (Mazzarol & Soutar, 2002). Recent mobility scholarship has pressed these models further, calling for integrative accounts that situate the decision within family, economic and life-course contexts (Lipura & Collins, 2020; Waters & Brooks, 2021), documenting how strategising and spontaneity coexist in real decision processes (Mulvey, 2023), showing how quickly perceived risk can reorganise families' destination calculations (Mok et al., 2021), and mapping how national research literatures construct the mobile student (Xu, 2022). These accounts describe the mechanics of choice but say little about the value orientations animating the decision inside the family; existing measures index the attributes of options, not the orientations a family brings to them — a pattern that persists in current empirical work on destination choice (Jiao, 2025; Jon, 2024) and in recent interactive models of international course choice, which remain centred on information processing (McNicholas & Marcella, 2024).

What remains unknown is whether these orientations can be measured as distinct constructs that behave equivalently across parent and student roles; I am unaware of an existing instrument

designed to assess these three orientations within family study-abroad decisions. This paper addresses the gap in two moves: it theorises three recurring orientations—Security, Status and Freedom—as measurable properties of family study-abroad decision-making, and it subjects a purpose-built measure to an initial, deliberately conservative psychometric test in a large student–parent sample, reported candidly where the instrument falls short (Boateng et al., 2018; Clark & Watson, 2019).

1.1. Three Value Orientations

Security is a concern with safety, stability, employability, and the avoidance of risk. It reflects a family's regulation of the large, partly irreversible exposure an overseas education represents—financial outlay, migration risk, uncertain employment, a young person far from home—and surfaces in the choice and career literatures as an emphasis on return on investment and the reduction of decisional difficulty (Gati et al., 1996; Kulcsár et al., 2020; Super, 1980). Status is a concern with prestige, rankings, reputation and social recognition, read through Bourdieu's (1986) account of educational choice as capital and the positional logic of competitive higher-education markets (Hemsley-Brown & Oplatka, 2006; Marginson, 2006) — influences that remain measurable in international students' actual destination choices (Ma, 2022). Freedom is a concern with autonomy, exploration and psychological ownership of the decision, aligning with self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2017), emerging-adulthood identity work (Arnett, 2000; Schwartz et al., 2005) and career-construction agency (Savickas, 2005); recent qualitative work documents students exercising precisely this agency in study-abroad decisions (Yue et al., 2026). Recent research treats values as dynamic and decision-relevant: value–wellbeing links unfold within persons (Fischer & Karl, 2023), value fulfilment shapes wellbeing (Hanel et al., 2024), and adolescent value priorities develop across the very years of these decisions (Ahn et al., 2022).

Because study-abroad decisions are, in many contexts, collective family projects (Bailey, 2021; Eldegwy et al., 2024; Reay et al., 2001), the orientations may be held to different degrees by students and parents — consistent with evidence that parent–child value transmission is partial rather than complete (Barni et al., 2024) — and pull the decision in different directions; measuring all three for both parties in the same family makes that balance an object of study rather than an assumption. The question has particular urgency in India, now one of the largest source countries of internationally mobile students, where such decisions are typically family-financed (Faek & Loo, 2025; NITI Aayog, 2025) and family, cost and career considerations dominate applicants' reasoning (Pawar & Chanda, 2024).

1.2. Contribution and the Present Study

This study makes three contributions. First, it theorises Security, Status and Freedom as decision-specific motivational priorities, grounded in motivational, sociological and career-development theory. Second, it establishes that the three are empirically separable in a held-out sample — decisively so against one-factor and two-factor alternatives — and that they are measured equivalently across parents and students, which is what licenses comparing the two roles on a common metric. Third, it reports preliminary nomological evidence relating the orientations to decision clarity and strain, together with a short form that reproduces the structure out of sample.

Four hypotheses and one research question organise it. H1: the items recover three interpretable factors. H2: the subscales are internally consistent and not reducible to a general factor. H3: parents weight Security and Status more heavily than students, consistent with parents bearing the financial exposure and the family's social-positioning concerns (Bourdieu, 1986; Reay et al., 2001). H4: Freedom relates to greater decision clarity, and Security and Status to greater strain. The research question: is the measurement model equivalent across students and parents, a precondition for interpreting group differences (Cheung & Rensvold, 2002; Putnick & Bornstein, 2016)?

1.3. Distinguishing Security, Status and Freedom from Existing Value Frameworks

Security, Status and Freedom resemble Schwartz's (1992) security, achievement–power and self-direction values, whose cross-cultural structure remains robust in current evidence (Sagiv & Schwartz, 2022), and the autonomy construct of self-determination theory (Deci & Ryan, 2000). The boundaries require statement rather than assertion, since two of them are genuinely close. Security here is not Schwartz's conservation value but a decision-specific concern with what this family is protecting against in this choice — financial exposure, immigration risk, the cost of a failed year — which a life-wide inventory does not index. Status is not achievement or power as life goals but a positional concern attaching to a specific option set, institutions and destinations, and legible to specific third parties; a family may rank prestige highly for this decision without holding achievement as a general value. The Security–Status boundary is the least clean of the three, because a prestigious institution can be chosen as insurance, and the empirical association between them is the largest among the three factor correlations. Freedom is the ownership of this decision rather than dispositional autonomy: self-determination theory concerns the general experience of volition, whereas the question here is who is steering one choice. The Security–Status–Freedom Orientation Scale (SSF-OS) is not a rival taxonomy of basic values but a domain-specific measure of how such dispositions are expressed in one consequential decision, and domain-specific measures typically predict domain-relevant behaviour better than general ones (Ajzen & Fishbein, 1977). The orientations are treated as situational decision frames held by individuals, not as enduring traits or properties of families. That distinction is conceptual at present and not yet empirical: no established value inventory or autonomy measure was administered alongside the SSF-OS, so the incremental validity of these orientations over general value and autonomy constructs is untested, and the domain-specificity claim should be read as a design rationale rather than as a demonstrated property. Establishing it requires administering both instruments in one sample, which is the second of the priorities set out in Section 4.5. Supplementary Table S1 gives each construct's definition, inclusions, exclusions and nearest established constructs.

2. Methodology

2.1. Research Design

This is a cross-sectional instrument-development study using self-report survey data from students and parents in India. Three design features structure the analyses that follow. First, the sample was split at family level into calibration and validation halves, so that no family contributed to both factor discovery and confirmation. Second, complete parent–student dyads were recruited, which allows measurement equivalence across roles to be tested and dyadic dependence to be handled explicitly rather than assumed away. Third, item responses were treated as ordered-categorical in all primary confirmatory, invariance and latent-mean analyses, with maximum likelihood (ML) estimates retained as sensitivity analyses. Item development, the measures and the analytic strategy are described in Sections 2.3 to 2.5.

2.2. Participants

Eligible respondents were students aged 15+ currently or recently involved in a study-abroad decision, and their parents or guardians, completing the questionnaire in English. Decision stage was recorded in five eligible categories: considering, applying, holding an offer, enrolled, and application/decision process completed (the last denoting a finished application process, not a completed overseas programme). Students aged 15–17 participated only with parental consent and their own assent.

A survey invitation went to approximately 110 senior-secondary schools and junior colleges across India; 56 (≈51%) agreed to circulate the link to eligible students and parents. No participants were recruited from the author's professional practice. Because institutions managed circulation, a participant-level response rate cannot be computed; the institutional agreement rate is reported instead. Institutions circulated the invitation to current and recent cohorts and their parents, which is how enrolled and recently completed respondents were reached. One parent per family

completed the parent form, self-selected within the family; family codes were screened for collisions during duplicate resolution.

Screening of the 2,087 submitted questionnaires was hierarchical, so each exclusion counts once: 88 failed eligibility; 52 duplicates (same family code and role) were resolved by keeping the most complete, then earliest, submission; 61 failed the instructed-response attention check; and 84 had missing responses on the 38 scored items, as only complete questionnaires were retained. The 285 exclusions left an analytic sample of 1,802 respondents (86.3%): 1,001 students and 801 parents, including 801 complete dyads linked by anonymous family code, with no missing data on any analysed item. Students were 15–24 years (M = 18.55, SD = 1.99) and parents 40–58 (M = 48.48, SD = 4.13); 909 women, 833 men, 30 another gender and 30 undisclosed. Intended destinations were the United States (570), United Kingdom (460), Australia (293), Canada (243), Europe (128) or multiple (108), across the considering (341), applying (631), offer-holding (235), enrolled (501) and application-completed (94) stages.

2.3. Data Collection: Item Development and Measures

The SSF-OS items were developed in three steps: constructs derived from a practice-based counselling framework in which the same three concerns recurred; mapping onto the literatures above (risk and career-difficulty for Security; capital and positional competition for Status; self-determination, emerging adulthood and career construction for Freedom), with operational definitions written before item generation (Clark & Watson, 2019; DeVellis, 2017; Worthington & Whittaker, 2006); and drafting and refinement for clarity and single-barrelled wording, yielding 30 items plus the outcome measures. No formal cognitive-interviewing or independent expert-panel phase was conducted at this stage; refinement relied on the developer's practice expertise and theoretical mapping — a limitation of the development process (see Section 4.4).

SSF-OS. The scale comprises 30 items—10 each for Security, Status and Freedom—rated 1 (strongly disagree) to 5 (strongly agree); subscale scores are item means. Decision outcomes. Two four-item measures were written for this study: Decision Clarity (confidence and clarity about the decision) and Decision Strain (stress, tension and difficulty). Developed alongside the SSF-OS and not independently validated, they are reported as preliminary nomological evidence. Four Clarity items were administered; a fifth candidate item in the data template was never administered and was excluded. Parallel student and parent versions were administered, with parent items adapted so parents reported their own orientation toward their child's decision (e.g., "It is important to me that my child's study-abroad path leads to a stable, secure career"). Both versions (Supplementary Appendix A) contained an unscored attention check.

Items used a five-category ordered response format. Five categories were chosen over seven for two reasons specific to this population: the instrument was administered to parents and students spanning a wide range of formal education and, in many households, completed in a second language, conditions under which the design judgement was that a finer-grained format would increase inconsistent category use; and the primary analyses treat responses as ordinal rather than assuming interval spacing, so the additional categories a seven-point format would supply are not required for the model to recover fine distinctions among latent orientations. The choice is nonetheless a limitation for a scale in development, and comparison of response formats is a legitimate target for the refinement work described in Section 4.5.

Procedure. The questionnaire was administered online through Google Forms, which recorded a timestamp and electronic consent for every response; adults consented, and under-18s gave assent with parental consent. Data were collected February–June 2026; 30 pilot responses collected in February were retained, with wording, response options and administration unchanged thereafter, so the sets are directly poolable. The study protocol was approved by an independent ethics review board prior to data collection.

2.4. Data Analysis: Sample Size

Sample size was determined by the factor-analytic and dyadic objectives. The calibration and

validation samples (895 and 907 respondents) each gave roughly 30 respondents per item, exceeding common minimums for stable factor estimation (Comrey & Lee, 1992). The 801 complete dyads allowed the student–parent comparisons to be estimated with standard errors clustered by family.

2.5. Data Analysis: Analytic Strategy

The sample was split by family code using a documented random seed, both dyad members falling in the same half: a calibration sample of 500 families (n = 895) and a validation sample of 501 families (n = 907), with no family in both. Exploratory factor analysis (EFA; ML, oblimin rotation) used the calibration sample only; confirmatory models were estimated in the validation sample, so no observation informing factor discovery contributed to confirmation, with full-sample estimates reported thereafter. Because the items are five-category ordered responses, the primary confirmatory, invariance and latent-mean analyses used weighted least squares mean- and variance-adjusted (WLSMV) estimation on polychoric correlations with scaled test statistics (lavaan); ML estimates are retained as sensitivity analyses. Models were judged against the comparative fit index (CFI) and Tucker–Lewis index (TLI) ≥ .90 (acceptable) and ≥ .95 (good), the root mean square error of approximation (RMSEA) ≤ .08 and ≤ .06 (with 90% confidence intervals), and the standardised root mean square residual (SRMR) ≤ .08 (Hu & Bentler, 1999; Kline, 2016).

Four core structural specifications were compared: a one-factor lower bound; an independent-cluster confirmatory factor analysis model (ICM-CFA); an exploratory structural equation model (ESEM); and an orthogonal bifactor model summarised by explained common variance (ECV) and omega-hierarchical (Marsh et al., 2014; Reise, 2012; Rodriguez et al., 2016). The ICM-CFA was refitted on one randomly selected member per family to check dyadic non-independence (Kenny et al., 2006), and the three-factor model was re-estimated from a polychoric correlation matrix as an ordinal sensitivity analysis. Three two-factor collapse models were also estimated in the validation sample. Under WLSMV, invariance across students and parents was tested using configural, equal-thresholds, and equal-thresholds-and-loadings models; the ML sensitivity analysis used the configural–metric–scalar sequence. Both were evaluated by ΔCFI ≤ .01 (Cheung & Rensvold, 2002; Putnick & Bornstein, 2016). Reliability used alpha, omega and composite reliability (CR); convergent validity used average variance extracted (AVE); discriminant validity used the heterotrait–monotrait ratio (HTMT; Henseler et al., 2015; Rönkkö & Cho, 2022). A short form (six items per orientation, selected on primary loading, conceptual breadth and non-redundancy) was derived in the calibration sample and evaluated in the validation sample. Group differences were estimated by regressing each scale on respondent role with family-clustered standard errors, complemented by paired within-dyad comparisons. Dyadic dependence in the role-invariance comparison was addressed by re-estimating the sequence in 20 one-respondent-per-family subsamples; latent means were compared in a multiple-indicators multiple-causes (MIMIC) specification; and stage robustness was tested by refitting in active-decision respondents and testing pre- versus post-decision invariance.

Two related specifications should be distinguished, because both involve polychoric correlations and the labelling could otherwise mislead. The primary analysis estimates the model directly from the ordered-categorical responses using WLSMV, which computes polychoric correlations and thresholds as part of a single estimation. The separately labelled polychoric sensitivity analysis instead computes the polychoric correlation matrix first and fits an ML model to that matrix as though it were a covariance matrix, which does not carry thresholds through the estimation. The two agree closely here; the primary specification is the WLSMV one throughout.

Interpretive criteria: alpha and omega ≥ .70; Kaiser–Meyer–Olkin sampling adequacy ≥ .70 with significant Bartlett's test; primary EFA loadings ≥ .40 with cross-loadings < .30; the fit thresholds above, with the three-factor model outperforming alternatives; AVE ≥ .50; HTMT < .85. Fixed cutoffs were treated as interpretive benchmarks rather than absolute rules, given evidence that their performance varies across model types and conditions (Goretzko et al., 2024; McNeish & Wolf, 2023). Criteria not met are reported as such, with their implications for interpretation stated.

Descriptive, exploratory-factor, reliability and dyadic analyses used Python 3.10 (pandas, NumPy, SciPy, statsmodels, factor_analyzer); the confirmatory, invariance and latent-mean models were estimated in R 4.3.3 using lavaan, by WLSMV on polychoric correlations with scaled test statistics, with ML estimates retained as sensitivity analyses. A fixed random seed was used throughout, and the calibration/validation split was drawn once at family level and used consistently in all analyses requiring a calibration–validation split. Full analysis code is available from the author on request.

3. Results

3.1. Descriptive Statistics and Reliability

Subscale means clustered near the scale midpoint and all five measures were internally consistent (Table 1). Item distributions were close to symmetric (skewness −0.16 to 0.11; excess kurtosis −0.94 to −0.65) and, because only complete questionnaires were retained, there were no missing data. AVE for the orientation subscales fell below the .50 benchmark; its implications for interpretation are considered in Section 4.1. Alpha 95% confidence intervals, corrected item–total ranges and per-role item statistics are reported in Supplementary Table S2.

Table 1
Descriptive statistics and reliability (ω, CR and AVE from the primary full-sample WLSMV solution; α from raw item responses)

Scale	*Items*	*M*	*SD*	α	*ω*	*CR*	*AVE*
Security	10	3.05	0.78	.869	.886	.886	.442
Status	10	3.06	0.71	.824	.846	.846	.357
Freedom	10	2.94	0.76	.848	.866	.866	.393
Decision Clarity	4	2.92	0.94	.838	.863	.863	.613
Decision Strain	4	2.93	0.98	.868	.893	.893	.676

Note. α = alpha; ω = omega; CR = composite reliability; AVE = average variance extracted.

Table 1 shows the reliability profile in one place: all five scales exceed the alpha and omega benchmarks, the two outcome measures exceed the AVE benchmark, and the three orientation subscales fall short of it, with means close to the scale midpoint and Security the most reliable of the three.

3.2. Exploratory Structure (Calibration Sample)

The calibration data were highly factorable (Kaiser–Meyer–Olkin sampling adequacy = .91; Bartlett's $\chi^2(435) = 7{,}881.1$, $p < .001$). The first three eigenvalues (5.57, 4.76, 2.35) dominated, falling to 1.19 at the fourth; three factors explained 36% of common variance, and parallel analysis against the 95th percentile of random data retained exactly three (a common-factor variant suggested a marginal fourth). All 30 items loaded most strongly on their intended factor (primary loadings .40–.75), and 29 of 30 met the pre-specified cross-loading criterion of < .30. The exception was ST6 (item codes S, ST and F denote the Security, Status and Freedom items listed in Supplementary Appendix A), which loaded .40 on Status and .32 on Security; the next largest cross-loading was ST9 at .23, also on Security. The full pattern matrix, including every cross-loading, is reported in Supplementary Table S3. ST6 was retained in the 30-item form on content grounds, because it is the only item indexing global rather than domestic or peer recognition, but the decision is reported here rather than left implicit, and its consequences are quantified in Section 3.9. It is excluded from the short form (Section 3.4).

3.3. Confirmatory Models

In the validation sample, which contributed nothing to factor discovery, the three-factor model fitted acceptably under the primary WLSMV specification: $\chi^2(402) = 1{,}073.5$, CFI = .947, TLI = .942, RMSEA = .043, 90% CI [.040, .046], SRMR = .051; full-sample estimates were essentially identical (CFI = .944). On identical observations, a one-factor model was decisively rejected (CFI = .327) and

three two-factor alternatives fitted poorly (WLSMV CFI ≤ .715; ML values in Table 2). ML sensitivity estimates were consistent (validation CFI = .926; full-sample CFI = .926), as were ML-estimated ESEM and orthogonal bifactor models (Table 2). In the full-sample WLSMV solution, standardised loadings ranged .49–.80 (validation sample .48–.80; Supplementary Tables S2 and S4) and factor correlations were modest (Security–Status .37; Security–Freedom −.19; Status–Freedom .25). Refitting on one member per family (ML, CFI = .915) left conclusions unchanged, so the results are not artefacts of dyadic non-independence.

The bifactor indices support interpreting the three subscales separately rather than reporting a total score: the general factor was weak (ECV = .219; omega-hierarchical .133 against omega-total .943). Discriminant validity was strong, with maximum HTMT values of .338 among students and .334 among parents, both well below .85 (Supplementary Table S2).

The ICM-CFA is treated as primary despite the somewhat better descriptive fit of the ESEM and bifactor specifications, for three reasons. First, the question at issue is whether three a priori orientations are separable, which is a confirmatory question; a specification that frees all cross-loadings will almost always fit better and cannot answer it. Second, the bifactor model is informative here precisely because it fits well and still yields a weak general factor, which is the evidence against a total score rather than an argument for the bifactor model as the measurement model. Third, the ICM-CFA is the specification that can be carried forward into the invariance sequence and the latent-mean comparisons, which are the substantive contribution; the exploratory and bifactor models are reported as competing accounts of structure, not as candidates for that role.

Table 2

Fit of the measurement models (ML sensitivity estimates; primary WLSMV estimates in text).

Model	*Sample*	χ^2	*df*	*CFI*	*TLI*	*RMSEA*	*SRMR*
Three-factor ICM-CFA	Validation (n = 907)	1,026.7	402	.926	.920	.041	.048
Three-factor ICM-CFA	Full (N = 1,802)	1,582.0	402	.926	.920	.040	.044
One-factor	Full	9,267.0	405	.446	.405	.110	—
ESEM (3 factors)	Full	1,158.9	348	.949	.937	.036	—
Bifactor (orthogonal)	Full	1,159.0	375	.951	.943	.034	.062
Three-factor, polychoric	Full	—	402	.914	.907	.047	.048
Three-factor, one per family	n = 1,001	1,145.3	402	.915	.908	.043	—
One-factor	Validation (n = 907)	5,103.1	405	.445	.404	.113	.155
Two-factor (Sec+Sta | Fre)	Validation (n = 907)	2,778.5	404	.719	.698	.081	.108
Two-factor (Sec | Sta+Fre)	Validation (n = 907)	2,897.8	404	.705	.683	.083	.115
Two-factor (Sec+Fre | Sta)	Validation (n = 907)	3,371.3	404	.649	.622	.090	.130

Note. The bifactor model constrains the general and specific factors to be mutually uncorrelated. Sec = Security; Sta = Status; Fre = Freedom.

The ordering in Table 2 is stable across samples and estimators: every three-factor specification fits acceptably or well, the one-factor model fails on every index, and each two-factor collapse fits poorly, so the result does not depend on which three-factor variant is preferred.

3.4. A Short Form (SSF-OS-18)

The short form selected six items per orientation on primary loading and conceptual breadth (retaining ST2 and ST10 for reputational coverage) in the calibration sample and was evaluated out of sample. It excludes ST6 and ST9, which have the lowest primary loadings in the calibration pattern matrix (.40) and the largest cross-loadings on Security, and ST4 and ST7, which were dropped on non-redundancy because their content (pride in admission to a well-known institution; institutions that signal achievement and status) is carried by retained items ST1, ST3 and ST8; the selection therefore followed the stated criteria of primary loading, conceptual breadth and non-redundancy rather than loading alone. Under the primary WLSMV specification it fitted well out of sample ($\chi^2(132) = 299.0$, CFI = .977, TLI = .973, RMSEA = .037 [.032, .043], SRMR = .040) and in each role separately (CFI = .974 students, .976 parents); the role-invariance sequence was essentially flat (CFI .975/.974/.974), supporting short-form invariance. Full-sample alphas were

.842, .768 and .798 (95% CIs in Supplementary Table S2). Short-form scores correlated .95 with their full-scale counterparts and .67–.71 with the non-overlapping remaining items (part–whole corrected). Convergent validity improved without being resolved: by role, AVE reached .509/.518 for Security (students/parents) but remained at .378/.414 for Status and .436/.437 for Freedom. The short form is therefore promising rather than superior. Its fit indices are better and its discriminant profile cleaner, but convergent validity remains unresolved for Status and Freedom, it has been evaluated only within the present sample, and shortening a scale narrows content coverage. The 30-item form remains the reference instrument, and the short form requires validation outside this sample before being preferred for substantive use. Item loadings and subscale properties for the short form are reported in Supplementary Table S5.

3.5. Measurement Invariance across Students and Parents

Group-specific models recovered the structure in students and parents. Under WLSMV, the configural (CFI = .945), equal-thresholds (.943) and equal-thresholds-and-loadings (.945) models were indistinguishable (all $|\Delta CFI| \leq .002$), supporting full invariance of thresholds and loadings; the ML sequence agreed (Table 3). Re-estimation in 20 one-respondent-per-family subsamples gave ΔCFI within ±.002 in every draw, so the result is not an artefact of dyadic dependence, and role comparisons are unlikely to be distorted by differential item functioning.

Table 3
Measurement invariance across students and parents (ML sensitivity sequence; primary WLSMV sequence in text)

Model	χ^2	*df*	*CFI*	*RMSEA*	*ΔCFI*
Configural	2,006.0	804	.924	.041	—
Metric	2,027.8	831	.924	.040	+.0003
Scalar	2,080.1	858	.922	.040	−.0016

Note. Factor variances fixed in the reference group; invariance supported where $|\Delta CFI| \leq .01$.

Table 3 shows the change in CFI at each constraint well inside the .01 criterion — under .002 at the scalar step — so the instrument can be treated as measuring the three orientations on a common metric for students and parents.

3.6. Group Comparisons

Because students and parents share families, the comparison regressed each scale on respondent role across all 1,802 respondents with family-clustered standard errors, complemented by paired comparis*ons* within the 801 dyads. Parents scored higher on Security (b = +0.208 [+0.141, +0.275]) and Status (+0.242 [+0.182, +0.302], both $p < .001$), with no detectable difference on Freedom (p = .72); parents also reported higher strain while clarity did not differ (Table 4), and the pattern reproduced within dyads (Security +0.18, Status +0.25; Freedom +0.01, *n*s). Latent comparisons agreed: in a MIMIC specification, parents were higher on Security (standardised difference = 0.14, $p < .001$) and Status (0.19, $p < .001$), with no detectable difference on Freedom (0.01, p = .68).

Table 4
Observed-score comparisons: students (n = 1,001) vs parents (n = 801).

Scale	*Student M*	*Parent M*	*Role b*	*95% CI*	*p*	*d*
Security	2.96	3.17	+0.208	[+0.141, +0.275]	<.001	0.27
Status	2.95	3.19	+0.242	[+0.182, +0.302]	<.001	0.35
Freedom	2.93	2.94	+0.012	[−0.053, +0.077]	.721	0.02
Clarity	2.90	2.94	+0.034	[−0.051, +0.120]	.430	0.04
Strain	2.82	3.05	+0.227	[+0.137, +0.317]	<.001	0.23

Note. b = coefficient for respondent role (parent = 1), family-clustered *SE*s (N = 1,802); *d* = standardised mean difference (positive = parents higher).

Table 4 shows that the role differences on Security, Status and Strain are statistically reliable but small in magnitude (d between 0.23 and 0.35), while Freedom and Clarity do not differ by role.

3.7. Associations with Decision Clarity and Strain

The two outcome measures were distinct (two-factor CFI = .999 vs one-factor .445; $r = -.030$; HTMT = .037) and invariant across the differently framed student and parent versions under the WLSMV threshold sequence (configural, equal thresholds, equal thresholds and loadings; CFI = 1.000 throughout, all $|\Delta CFI| < .001$), supporting the student–parent comparisons, though both remain study-developed measures. Full invariance results for the outcome measures are reported in Supplementary Table S6.

Freedom was positively associated with clarity ($r = .392$) and negatively with strain ($r = -.171$); Security was strongly associated with strain ($r = .505$) but not clarity; Status with both (strain .367; clarity .198; Table 5). These are preliminary nomological evidence rather than criterion validity: the outcome measures are study-developed, and content overlap between Security and Strain items may inflate that association in particular. Associations were essentially unchanged in active-decision respondents (Security–Strain $r = .511$ vs .505 overall); the near-zero Clarity–Strain correlation held pre- ($r = -.05$) and post-decision ($r = .01$), and scoring checks confirmed no reverse-coding errors.

Table 5
Associations of the orientations with decision clarity and strain (N = 1,802).

Orientation	*r with Clarity*	*r with Strain*
Security	.032	.505
Status	.198	.367
Freedom	.392	−.171

Note. $|r| \geq .17$ significant at $p < .001$; Security–Clarity *ns*.

Table 5 shows that Freedom is the orientation most strongly associated with decision clarity and the only one associated with lower strain, whereas Security relates almost entirely to strain and not to clarity; Status sits between the two.

3.8. Robustness to Covariates

Adjusted role comparisons included gender, decision stage and intended destination. Age was examined within roles only because it was confounded with respondent role. These adjustments left the role comparisons essentially unchanged (Supplementary Appendix B). Stage robustness was tested directly: the model fitted acceptably in active-decision respondents alone (n = 1,207; CFI = .943), and pre- versus post-decision invariance held (CFI .944/.943/.947; all $|\Delta CFI| \leq .004$ between successive steps), so pooled analyses do not appear distorted by post-decision reporting.

3.9. Item-Level Sensitivity Analyses

Two item-level questions bear on the interpretation of the results and are addressed directly. The first is whether particular items account disproportionately for AVE falling below .50. Using the full-sample ML three-factor specification that serves as the sensitivity analysis throughout (N = 1,802; Table 2, second row), items were removed from each subscale in ascending order of standardised loading and the model re-estimated at each step. AVE under this specification is lower than the primary WLSMV values in Table 1, as expected when ordered-categorical items are estimated from Pearson correlations, so the series is conservative in level; the question it answers is whether deletion changes the picture, and it does not. For Status, AVE rose from .324 with no items removed to .333 with one, .343 with two, .355 with three and .370 with four — that is, with 40% of the subscale discarded — while alpha fell from .824 to .778. For Security the corresponding series was .405, .423, .443, .461 and .477 (alpha .869 to .843), and for Freedom .362, .369, .380, .391 and .403 (alpha .848 to .801). No subscale reached the benchmark and no small set of defective items is responsible: each removal adds roughly .01 to .02, which is the signature of uniformly moderate loadings across the item set rather than of a few weak items, and is what a domain-specific scale written for content breadth rather than for item redundancy would be expected to show. Item deletion therefore trades content coverage and reliability for gains that do not reach the threshold,

and the low AVE is reported as a property of the instrument at this stage of development rather than as a defect that deletion would cure.

The second question concerns ST6, the single item exceeding the pre-specified cross-loading criterion. Refitting the three-factor model without ST6 improved fit (CFI .926 to .944, RMSEA .040 to .036, SRMR .044 to .038, ML estimates on the full sample) and reduced the Security–Status factor correlation from .355 to .311. Removing ST9 as well, the item with the next largest cross-loading, took that correlation to .285 and CFI to .951. Loadings for the other two subscales changed by no more than .003 and their AVE by less than .001 throughout. Two things follow. The cross-loading is consequential: ST6 contributes to the observed association between Security and Status rather than only to Status. And the substantive conclusions do not depend on it, since the three-factor structure, the ordering of the model comparisons and the discriminant separation all hold, and hold somewhat more clearly, without it. The item is retained in the 30-item form for content coverage and is not part of the 18-item short form, which excludes ST6 and ST9, the two Status items with the lowest primary loadings and the largest cross-loadings on Security, together with ST4 and ST7 (Section 3.4). The short form therefore provides a cleaner discriminant specification, but should not be preferred for substantive use until it has been validated outside the present sample.

4. Discussion

This study asked whether Security, Status and Freedom function as distinguishable, measurable value orientations in family decisions about international higher education. The evidence is encouraging on both counts, with qualifications.

4.1. Three Separable Orientations, Measured Equivalently Across Roles

Every item loaded on its intended factor in the calibration sample; a three-factor model fitted acceptably in a held-out validation sample drawn from separate families, while a one-factor model was decisively rejected and every two-factor collapse fitted poorly. The structure held under the primary ordered-categorical (WLSMV) estimation, an ML sensitivity analysis, and a one-member-per-family reanalysis, and thresholds and loadings were fully invariant across students and parents. Two findings carry the weight. The first is separability: the orientations are not facets of a single evaluative disposition, and the margin against the one-factor alternative — CFI .947 against .327 on identical observations — is not a marginal one. The second is role invariance, replicated across 20 one-respondent-per-family subsamples, with the latent-mean differences it licenses corroborated in a MIMIC specification. It is an uncommon result in family research and the precondition for treating a parent's score and a student's score as commensurable rather than merely similar-looking.

One clarification matters for what follows. Invariance of thresholds and loadings establishes that the instrument measures the same constructs on the same metric in both roles, which is the precondition for comparing scores. It does not establish that parents and students hold equivalent priorities; that is an empirical question the latent-mean comparison then answers, and the answer is that they differ modestly on two of the three orientations. Scalar-level invariance — equal thresholds and loadings — is the level required for the latent-mean comparisons reported in Section 3.6, and it is the level obtained; residual invariance is neither required for those comparisons nor claimed.

The bifactor results give a clear scoring instruction: with a weak general factor and low omega-hierarchical, a total SSF-OS score would carry little interpretable information, and the three subscales should be reported separately. AVE remained below .50 for all three subscales, and the sensitivity analyses in Section 3.9 show that this is not attributable to a small number of weak items: removing 40% of the Status subscale still leaves AVE below the benchmark while degrading reliability. Each orientation is therefore measured with more residual item variance than the conventional convergent-validity benchmark allows — a reason to read the subscales descriptively and at profile level rather than as precise point estimates, and the target of the item refinement set

out in Section 4.5. It does not bear on the structural and invariance findings above, which rest on model comparison and on the equality of thresholds and loadings across groups rather than on item homogeneity within a factor.

4.2. The Orientations and the Decision Outcomes

At the level of the individual respondent, Freedom accompanied greater decision clarity while Security and Status accompanied greater strain, and the two outcome measures were invariant across the differently framed student and parent versions. These associations are preliminary nomological evidence for the scale rather than criterion validity: the outcome measures were written for this study, they share a common reporting source with the orientations, and item-content overlap between Security and Strain may inflate that association in particular. Recent dyadic work in adjacent domains locates most of the predictive information in a person's own reports rather than in a family member's or in configural terms (Izquierdo-Sotorrío et al., 2024; Shen et al., 2026; Tunç et al., 2026), and parental preferences shape tertiary pathways without overriding the student's own trajectory (Christoph et al., 2024). Whether that pattern holds for the three orientations is a dyadic question, addressed in a separate study using the linked dyads; the analyses reported here are individual-level.

A distinction should be drawn explicitly here, because the study uses dyads while measuring individuals. Three things are separable: an individual's own orientation toward the study-abroad decision, which is what the SSF-OS measures and what every analysis in this paper reports; the similarity or discrepancy between a parent's and a student's orientations, which the linked dyads make computable but which is analysed in a separate study; and a genuinely shared family-level orientation, which would require a family-level construct with its own measurement model and is not tested here. The decision is described throughout as a family project because that is its social character, but the orientations are individual decision frames, and no analysis reported here licenses a family-level interpretation.

Parents and students differed in degree on Security and Status, with no detectable mean difference on Freedom. The magnitude of those differences deserves emphasis, because it is easily overstated. The Security and Status differences are statistically clear but modest, and Freedom is essentially identical across roles. The more striking result is therefore the combination: parents and students share the same measurement structure and the same underlying orientations, and differ only in the weight placed on two of the three. This concerns the self-reported value placed on each orientation; it does not speak to observed conflict, negotiation, coercion or decision-making power within families, none of which were assessed. A difference in reported priority is not evidence of a difference in influence over the outcome.

4.3. Implications, Framed as Hypotheses

If these associations reflect something causal, guidance working with an individual's own orientation — making an implicit risk-management frame explicit, giving autonomy considerations standing — may be a useful point of departure; the design cannot establish that, and the suggestion is a hypothesis for intervention research. In assessment terms, the subscale profile rather than a composite is the reportable unit. Any counselling use of individual profiles is a promising future application rather than a present recommendation: the content, temporal and incremental validation set out in Section 4.5 would need to be completed before scores were used to inform advice about an identified individual or family.

4.4. Limitations

Several limitations qualify these conclusions. The design is cross-sectional, so the direction of any relation between the orientations and the outcome measures is unknown; the associations reported in Section 3.7 are associations, and nothing in this design licenses saying that an orientation produces clarity or strain. Item development drew on practitioner expertise and theoretical mapping without an independent expert panel, content-validity indices or cognitive interviewing — the most significant weakness in a paper whose contribution is an instrument — and the same

person generated the constructs, wrote the items and interpreted the results, precisely the class of measurement decisions that recent methodological work urges researchers to report transparently and subject to independent scrutiny (Flake & Fried, 2020). Because that independent content-validation stage has not been conducted, the factor structure recovered here may in part reflect the conceptual decisions of a single developer, and the claims made for the instrument are limited accordingly. AVE remained below .50 for all subscales and, as Section 3.9 shows, is not attributable to identifiable weak items; the outcome measures are new and unvalidated, and item-content overlap between Security and Strain may inflate their association, so that correlation in particular should be read as shared method and content rather than as evidence of criterion validity.

Three features of the sample bound what can be claimed from it. Recruitment ran through 56 Indian institutions that agreed to circulate the survey, so participation was conditional on institutional cooperation and on self-selection within each institution, and a participant-level response rate cannot be computed; the sample should not be read as representative of Indian families considering study abroad, still less of Indian families generally. Analyses account for clustering within families but not within institutions, because institutional identifiers were not retained at data collection — a design decision taken for participant confidentiality that, in retrospect, foreclosed a useful analysis. Recruitment practices, socioeconomic composition and counselling environments plausibly vary across those 56 institutions, so standard errors are likely to be somewhat underestimated and the generalisability of point estimates correspondingly limited; future administrations should retain institutional identifiers and model the second level explicitly. And the study was conducted entirely in India. Family structures, financing arrangements, the social meaning of institutional prestige and perceptions of migration risk differ substantially across sending countries, so the three orientations should not be assumed to hold their present structure, or their invariance across roles, elsewhere until cross-national invariance has been tested. Available covariates do not eliminate residual confounding by socioeconomic position, school type or prior international exposure, and the complete-case requirement may have introduced modest selection bias if missingness was systematic.

4.5. Future Directions

Four priorities follow. First, independent expert review, cognitive interviewing and formal content-validity reporting for the full 30-item form, together with refinement of the Status and Freedom item sets, whose uniformly moderate loadings are documented in Section 3.9, and a comparison of response formats. Second, administration alongside an established value inventory and an autonomy measure to test incremental validity over general value and autonomy constructs, with a retest interval to establish temporal stability. Third, cross-national administration to test whether the structure and its invariance hold outside India. Fourth, longitudinal and, ideally, intervention designs capable of addressing the causal questions this study can only raise.

5. Conclusion

The central finding is that Security, Status and Freedom are empirically separable in family study-abroad decisions and can be measured comparably in parents and students. Separability rests on model comparison in a held-out validation sample drawn from different families, and comparability on full invariance of thresholds and loadings across roles, replicated across 20 one-respondent-per-family subsamples. Those two results are the contribution. The associations with decision clarity and strain, and the modest parent–student differences in Security and Status, are preliminary supporting evidence rather than the main claim. The SSF-OS should accordingly be characterised as a promising preliminary instrument and not as a validated one: AVE falls below the conventional benchmark for all three subscales, and item deletion does not provide a satisfactory general remedy without sacrificing content coverage, the outcome measures were written for this study, the design is cross-sectional, the sample is drawn from a single country, and no independent content-validation stage has been conducted. Independent replication, a formal

content-validity phase, and validation against established value and autonomy measures are required before the instrument can be considered validated, and evidence for temporal stability and incremental validity over those measures remains necessary.

Supplementary Materials: Table S1 (construct definitions and boundaries); Appendix A (full scored item set); Table S2 (primary WLSMV item statistics, per-role AVE/omega/HTMT, alpha confidence intervals, dyadic-dependence resampling and decision-stage robustness); Table S3 (EFA pattern matrix, calibration sample); Table S4 (confirmatory factor loadings, validation sample); Table S5 (SSF-OS-18 short-form loadings and subscale properties); Table S6 (outcome-measure invariance); Appendix B (covariate robustness, full text).

Data availability: The de-identified respondent-level data and analysis code are available from the corresponding author on reasonable request, subject to the consent terms agreed with participants.

Declaration of AI-assisted technologies in the writing process: An artificial-intelligence assistant (Claude, Anthropic) supported citation verification. All analyses were run on the author's data, and all results and conclusions were reviewed and verified by the author, who takes full responsibility for the content.

Declaration of interest: The author is affiliated with Karan Gupta Consulting, Mumbai, India, and also serves as Managing Director for India and South Asia at IE University. No participants were recruited from the author's professional practice, and the study does not evaluate IE University or the consultancy as an intervention. No other potential competing interest was reported.

Ethical statement: This study was approved by the Zigma Six Ethics Review Board, Mumbai, India. The protocol number for this approval is SS/2026/001-17, granted prior to data collection. The Board is registered with the United States Department of Health and Human Services, Office for Human Research Protections (IRB registration number IRB00015192) and holds Federalwide Assurance FWA00036459. All methods were performed in accordance with the United States Federal Policy for the Protection of Human Subjects, the ethical standards of the American Psychological Association, and the Indian Council of Medical Research Ethical Guidelines for Biomedical Research on Human Subjects. The Zigma Six Ethics Review Board certified that the protocol met the requirements of these frameworks. All participants provided informed consent electronically; participants aged 15–17 gave assent with parental consent.

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