

# **Technical Report**

## **Good Work Value Alignment Study**

### **Final Technical Report: Instrument Development, Round 1 Analysis, Round 2 Pilot, Predictors, and Recommendations**

Prepared for the Lumina Foundation

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# Executive Summary & Consolidated Key Findings

## 1. Executive Summary

The Good Work Value Alignment Study examined how employers and college students understand the qualities required to do good work, how well college prepares students to demonstrate those qualities, and how perceptions of preparation relate to credential value, organizational context, occupational sector, and respondent characteristics. Building from The Good Project's framework of Excellence, Ethics, and Engagement, the study developed and tested a nine-theme framework encompassing Effort; Ethics; Relationship Skills; Expertise/Skills; Purpose/Engagement; Learning/Growth/Self-Awareness; Other-Oriented Impact; Recognition/Achievement; and Health/Wellbeing.

The study proceeded in two quantitative rounds. Round 1 included 1,347 respondents: 403 employers and 944 college students across Architecture/Construction, Information Technology, and Healthcare. Round 2 was a deliberately smaller pilot of 53 respondents—38 employers and 15 students—designed to test a revised administration format, eliminate the planned missingness built into the original survey, and provide an independent assessment of patterns identified in Round 1. The Round 2 sample was not intended to provide a high-powered structural validation of the instrument, and its findings should be interpreted accordingly.

### **A consistent gap between what good work requires and how prepared students are**

The clearest finding across both rounds is that respondents generally perceived a gap between the importance of good-work capacities and students' preparation to demonstrate them.

In Round 1, both employers and students rated Importance higher than Preparedness across all nine Good Work themes, both overall and within each of the three occupational sectors. Among employers, the largest pooled gap was for Expertise/Skills, followed by Learning/Growth/Self-Awareness, and Effort. Among students, gaps were smaller and more similar in magnitude across themes.

Round 2 provided an independent test of this central pattern under a substantially revised survey format. The pilot eliminated matrix sampling and asked respondents to complete all 45 Importance items followed by all 45 Preparedness items. Despite the different administration and independent sample, positive Importance–Preparedness gaps again appeared across all nine themes for both employers and students using the original 45-item theoretical structure.

Seven of the nine employer gaps remained statistically significant after the Bonferroni adjustment, whereas none of the student gaps did so in the much smaller student pilot sample. Together, the two rounds provide consistent descriptive evidence for the study's central premise: across a broad set of technical, interpersonal, ethical, developmental, and wellbeing-related capacities, both employers and students tend to see what good work requires as exceeding the preparation students currently possess or receive.

### **Employers and students do not necessarily use the measures in equivalent ways**

At the same time, the psychometric analyses caution against treating employer and student ratings as directly interchangeable measurements of the same latent constructs. Round 1 measurement-invariance analyses found substantial heterogeneity across constructs and sectors. Metric invariance was supported for some measures but not others, and scalar invariance was generally less well supported. Sector-specific analyses similarly showed that the extent of employer–student invariance varied by construct and occupational field. The results therefore do not support a blanket assumption that employer and student scores can always be interpreted as operating on an identical measurement scale.

This is an important substantive as well as methodological finding. Employers are evaluating the preparedness of recent graduates from the standpoint of workplace experience, whereas students are evaluating their own preparation from the standpoint of their educational experience. Differences between their ratings can reflect genuine differences in perception as well as differences in how the underlying constructs and response scales function across groups. Consequently, cohort differences should be interpreted carefully rather than automatically attributed to either employer accuracy or student miscalibration.

### **The nine themes remain useful conceptually, but their empirical boundaries are less clear-cut**

Round 1 structural analyses also showed that the nine theoretically derived Good Work themes were not reproduced as nine cleanly differentiated empirical factors. Alternative empirical structures emerged in employer and student analyses, and correlations among several dimensions suggested considerable overlap among aspects of good work.

Item-level analyses identified additional variation in how consistently individual items operated within their intended themes. A 37-item scoring specification was therefore developed in Round 1 and examined alongside the original 45-item theoretical instrument. Importantly, the resulting Round 1 reduced scoring specification did not uniformly increase reliability: alpha increased for some themes but decreased for others.

Round 2 reinforces the need for caution before treating the reduced instrument as a finalized replacement for the original scale. Only three of the nine themes identified the same weakest item in both rounds: Ethics, Purpose/Engagement, and Other-Oriented Impact. The remaining six identified different items. The small pilot sample means these differences cannot establish that the Round 1 reductions were incorrect, but neither does the pilot provide sufficient independent evidence to characterize the 37-item specification as a fully validated or optimized final instrument.

At the same time, the substantive gap findings were notably robust to scoring specification. When Round 2 analyses were repeated using the 37-item Round 1 specification, the overall pattern remained similar to the primary 45-item analysis. This suggests that the central Importance–Preparedness finding is not simply an artifact of which of the two item specifications is used.

### **Credential value is meaningfully related to perceived preparation gaps**

Round 1 analyses also demonstrate an important relationship between perceptions of higher education and perceptions of preparedness. Among employers, higher Credential Value ratings were associated with smaller overall Good Work gaps. This relationship varied by sector: the Healthcare interaction was significant relative to Architecture/Construction, whereas the Information Technology interaction was not. Organizational Culture also predicted the employer gap in some analyses, although its sector interactions were not significant. Notably, Organizational Culture operated in opposite directions for the two groups. Higher organizational culture ratings were associated with smaller Good Work gaps among employers but larger gaps among students, and a combined model confirmed that the difference between these slopes was statistically significant. This divergence is worth noting because the two groups are rating different referents — employers describe the organizations in which they work, students describe institutional environments they anticipate or have observed — and the reversal suggests these ratings carry different meaning across the two samples.

Among students, Credential Value was negatively associated with the overall Good Work gap. When the student models were interacted with sector, the Credential Value main effect remained significant, but neither the Information Technology nor Healthcare interaction was significant. Thus, the Round 1 evidence supports an association between perceiving greater value in higher education and perceiving greater alignment between importance and preparation, but it does not support a simple conclusion that credentials function fundamentally differently for students across the three sectors.

Round 2 redesigned the Credential Value instrument using uniform, neutrally framed wording across employers and students so that all eight subscales — including Identity, which only students rated in Round 1 — were administered to both groups. The resulting scale demonstrated high internal consistency in the pooled sample. Employers descriptively rated all eight Credential Value subscales higher than students, but none of those group differences survived the study's Bonferroni correction. Given the pilot sample size, these differences should not be treated as established cohort effects.

### **Round 2 supports the revised administration while underscoring the need for further validation**

The Round 2 pilot successfully demonstrated the feasibility of administering the complete Good Work battery without matrix sampling. Unlike Round 1, in which the design produced approximately 40% planned missingness on individual Good Work items and 25% on individual Credential Value items, the revised administration presented the complete Good Work item set to each respondent. It also added an opening theme-ranking task and behavioral-anchoring instructions and revised Credential Value into a common 34-item instrument for both groups.

The pilot therefore accomplished an important methodological goal: the central Importance–Preparedness gap pattern observed in Round 1 reappeared in an independent sample without relying on the Round 1 matrix-sampling structure. At the same time, its small sample places firm limits on structural interpretation. The Round 2 factor analyses cannot confirm or reject the nine-factor framework, subgroup differences were generally underpowered, and most Round 1 item-reduction flags did not independently replicate. The strongest contribution of Round 2 is therefore evidence of feasibility and convergence in the direction of the central gap findings, rather than definitive validation of a particular factor structure or shortened instrument.

## 2. Consolidated Key Findings

Across Round 1 and Round 2, the study supports six major conclusions.

1. **A perceived Importance–Preparedness gap is the most consistent finding across the study.** In Round 1, employers and students reported positive gaps across all nine Good Work themes overall and within each occupational sector. Round 2 reproduced the same directional pattern: using the primary 45-item analysis, every employer and student theme again had a positive mean gap. The replication of this pattern under a different administration format and in an independent sample strengthens confidence that perceived preparation gaps are a substantive feature of these data rather than solely a consequence of the original matrix-sampling design.
2. **Employers tend to perceive especially large gaps in several core workplace capacities.** In the Round 1 pooled employer results, Expertise/Skills showed the largest mean gap, followed by Learning/Growth/Self-Awareness and Effort. Round 2 showed a similar employer pattern: Expertise/Skills and Effort were again among the largest gaps. The convergence across rounds points particularly to employers' concerns about the distance between the importance of technical/professional competence, sustained effort, and continued learning and the preparation of recent graduates to demonstrate those capacities.
3. **Student and employer ratings should be treated as related perspectives, not automatically as directly equivalent measurements.** Round 1 measurement-invariance testing did not support uniform employer–student invariance across the study's measures. Results varied by construct and sector, with scalar invariance generally less well supported than less restrictive forms of invariance. These findings caution against interpreting every difference in employer and student raw means as a straightforward difference in the underlying trait. The two cohorts provide substantively important but psychometrically distinct vantage points on preparation for good work.

4. **The nine-theme framework has conceptual value, but further measurement development is warranted.** The factor analyses did not consistently recover nine cleanly differentiated empirical dimensions, and the Round 1 item-reduction analyses produced mixed effects on reliability. Round 2 independently identified the same weakest item for three themes but different weakest items for six. At the same time, the primary 45-item and secondary 37-item Round 2 analyses yielded broadly similar gap findings. Together, these results favor retaining the nine themes as a useful substantive framework while continuing to test their measurement structure rather than treating either the 45-item or 37-item configuration as definitively established.
5. **Perceived credential value is associated with perceived alignment between college preparation and the requirements of good work.** Round 1 regression analyses found that higher Credential Value ratings were associated with smaller Good Work gaps among both employers and students. Among employers, this relationship varied significantly for Healthcare relative to Architecture/Construction; among students, sector interactions were not significant. Round 2 demonstrated that the revised common Credential Value instrument can be administered to both cohorts with high internal consistency, although the pilot was too small to establish reliable employer–student differences at the subscale level.
6. **Round 2 strengthens confidence in the central finding while narrowing what can responsibly be claimed about the instrument.** The revised full-block administration was feasible and eliminated the planned item-level missingness of Round 1. The central positive Importance–Preparedness pattern persisted. However, the pilot's small sample prevents strong conclusions about dimensionality, item reduction, or subgroup differences. The combined evidence therefore supports continued use and study of the Good Work framework, while pointing toward additional validation rather than declaring the current shortened instrument final.

### 3. Summary of Strategic Recommendations

The combined Round 1 and Round 2 findings suggest five priorities for future research and application.

**Table 1. Five Recommendations**

| Recommendation | Suggestion                                                                                                                                        | Interpretation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1              | <b>Focus educational improvement on the recurring Importance-Preparedness gaps rather than on a single narrow definition of career readiness.</b> | Across both rounds, perceived gaps extended across technical, interpersonal, ethical, developmental, purpose-related, and wellbeing dimensions of good work. For employers in particular, Expertise/Skills, Effort, and Learning/Growth/Self-Awareness repeatedly emerged among the areas with larger gaps. Higher education and workforce partners should therefore consider preparation for good work as multidimensional rather than reducing readiness to technical skills or credential attainment alone. |

|   |                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 | <b>Preserve employer and student perspectives as distinct sources of information.</b>                             | <p>The measurement-invariance findings indicate that employer and student ratings cannot always be assumed to function identically. Future studies should continue collecting parallel data from both populations, but should avoid treating simple raw-score differences as unqualified evidence that one group is more or less accurate. Analyses should distinguish within-group patterns, within-respondent Importance-Preparedness gaps, and cross-group comparisons according to the measurement properties of the specific construct being examined.</p>                              |
| 3 | <b>Retain the nine-theme Good Work framework for substantive research while continuing instrument validation.</b> | <p>The nine themes provide a useful organizing framework for examining preparation for good work, but the empirical analyses do not yet justify treating nine distinct latent factors as definitively established. Likewise, the 37-item Round 1 specification should be regarded as a promising scoring alternative rather than a finalized "optimized" instrument. Future validation should compare the original and reduced specifications in a substantially larger independent sample and determine which items and dimensions replicate before a definitive short form is adopted.</p> |

|   |                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4 | <b>Carry forward the Round 2 administration improvements.</b>                                                      | The pilot demonstrated the feasibility of eliminating matrix sampling and administering the complete Good Work battery in full Importance and Preparedness blocks. Future administrations should build on this approach, including the behavioral anchoring introduced in Round 2, so that instrument development can proceed using fully observed item responses rather than relying on the planned missingness that complicated Round 1 psychometric analyses. The revised common Credential Value wording also provides a stronger foundation for future employer–student comparisons. |
| 5 | <b>Conduct a larger independent validation study before drawing definitive structural or subgroup conclusions.</b> | Round 2 was intentionally designed as a modest pilot rather than a high-powered validation study. A larger follow-up should test the Good Work factor structure, evaluate the stability of the item-level findings, reassess measurement invariance between employers and students and across sectors, and examine the revised Credential Value and Organizational Culture measures with adequate statistical power. This next stage would allow the study to distinguish findings that replicate across samples from patterns that may reflect sample-specific variation.                |

The overall conclusion from the two rounds is therefore both substantive and methodological. The evidence consistently points to a perceived gap between what good work requires and how well college prepares students to meet those requirements, but the study also shows that measuring that gap across students and employers is more complex than a simple comparison of ratings. Round 2 strengthens confidence in the central gap pattern while reinforcing the need for continued validation of how the nine dimensions of good work are best measured. Together, the findings provide a foundation for further work on how postsecondary education can prepare students not simply to obtain employment, but to perform work that is excellent, ethical, engaging, and sustainable.

# Part I. What We Set Out to Measure and Why

Survey development began with The Good Project’s established framework of the Three Es of Good Work: Excellence, Ethics, and Engagement. The purpose of the present study was not to discard or replace that framework, but to investigate how these foundational dimensions are understood and enacted in a changing educational and economic context. Before survey items were drafted, the research team assembled and systematically analyzed more than a decade of Good Project qualitative data on how students, workers, practitioners, and experts describe meaningful, responsible, and high-quality work.

## 1.1 Qualitative Data Corpus

Seven distinct data sources contributed to the survey’s conceptual and empirical foundation. Table 2 summarizes each source, its content, and its specific contribution to the final instrument.

**Table 2 . Qualitative Data Sources**

| Data Source                                 | Description                                                                                                                          | Codes / Items              | Contribution to Survey                             |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------------|
| GPLP Student Role-Model Essays (Year 1)     | ~700 essays describing good work role models; open-coded with frequency tallies (Hardworking n=303; Excellence n=205; Kindness n=96) | High-freq behavioral codes | Student-derived behavioral and dispositional codes |
| GPLP Student Good Work Definitions (Year 1) | Short essays coded with abstract attributes: e.g., hard-working, ethical, meaningful, growth mindset,                                | Abstract conceptual codes  | Conceptual framing of good work attributes         |

|                                               |                                                                                                                                              |                            |                                                                         |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------|
|                                               | common good,<br>quality work                                                                                                                 |                            |                                                                         |
| GCI Student<br>Open-Ended Data                | Multiple items<br>asking 'What does<br>good work mean to<br>you?' Themes: e.g.,<br>effort, impact,<br>community, values                      | 100 codes                  | Broad responses on<br>good work meaning<br>from high school<br>students |
| GCI TA/Fellow<br>Interviews & Focus<br>Groups | Student leaders<br>described good<br>work as combining<br>personal pride,<br>diligence, creativity,<br>and responsibility to<br>others       | Qualitative<br>elaboration | Deeper elaboration<br>of codes from<br>education leaders                |
| 'New World of Work'<br>Pilot Survey (Q42)     | Adults across<br>sectors described<br>good worker in their<br>field. Themes: ethics,<br>teamwork,<br>communication,<br>adaptability, service | 233 codes                  | Cross-sector<br>professional<br>perspective                             |
| Civic Collaboratory<br>Focus Groups           | Practitioners<br>discussed definition,<br>conditions, and<br>motivations for good<br>work. Introduced<br>purpose/mission,<br>economic        | 46 excerpts                | Practitioner and<br>organizational<br>culture perspective               |

|                  |                                                                                                                   |                           |                                                         |
|------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------|
|                  | sustainability, mental health, mentorship                                                                         |                           |                                                         |
| Expert Interview | Emphasized alignment with values, dignity, agency/choice, economic needs, mental health, flexibility, hybrid work | In-depth single interview | Expert conceptual framing; economic sustainability lens |

The total pre-consolidation code pool across all sources comprised approximately 860 raw codes and code variants, treated as independent code lists reflecting the distinct vocabulary and coding decisions of each dataset. This breadth of sourcing was intentional: by drawing on data from students, current workers, focus group participants, and individual experts, the survey's conceptual coverage reflects how 'good work' is understood across career stages and perspectives, not only from the vantage point of a single population.

## 1.2 The Good Project Framework and Research Questions

The Three Es provide the conceptual anchor for the study. Excellence refers to work that is high quality and competently performed; ethics refers to work carried out responsibly and with attention to its effects on others; and engagement refers to work that is meaningful and personally involving. The nine survey themes should therefore be understood as a more granular, contemporary operationalization of these interrelated ideas. Effort, Expertise / Skills, Learning, Growth & Self-Awareness, and Recognition & Achievement elaborate aspects of Excellence; Ethics, Relationship Skills, and Other-Oriented elaborate ethical and social responsibility; and Purpose / Engagement and Health & Wellbeing elaborate the conditions and experiences associated with sustained Engagement.

These mappings are interpretive rather than mutually exclusive: several themes—especially relationships, learning, and wellbeing—may express more than one of the Three Es.

The study addresses four core research questions:

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### Research Questions

(RQ1) How do students and professionals **define 'good work'** and credential value beyond economic metrics?

(RQ2) How are these definitions informed by their educational experiences?

(RQ3) Where do learners' and employers' perspectives **align or diverge**?

(RQ4) How do identity and institutional **context** — particularly race, gender, and career domain— shape these views?

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These questions shaped both the content structure of the surveys (requiring parallel good work ratings from both populations) and the analytic design (requiring cross-group comparison of importance and preparedness), which in turn drove key measurement decisions throughout instrument development.

## Part II. What We Did: Build the Survey Instruments

### Phase 1: Code Consolidation and Thematic Framework

#### Code Consolidation

Explicit rules were established before merging codes across sources: root-word variants were collapsed (creative + creativity), plural and spelling variants were collapsed (attentive to detail / attentive to details), and word-form variants were collapsed (exceeding goals / exceeds goals). Intentionally compound codes such as Honesty/Integrity/Trustworthiness were preserved intact, while codes with meaningful nuance were kept separate even when superficially similar. These rules were applied iteratively with AI assistance, with the PI correcting over-collapsing in real time and documenting corrections directly in the working spreadsheet.

The consolidated codes were organized into a master sheet arrayed across provisional thematic columns labeled as open questions — Ethics?, Goal Oriented?, Relationship Oriented?, Effort?, and so on — reflecting genuine analytic uncertainty at that stage of the process.

The outcome of the sorting and sub-facet mapping process was a provisional 9-category thematic structure: Effort, Ethics, Relationship Skills, Expertise/Skills, Purpose and Engagement, Learning, Growth & Self-Awareness, Other-Oriented, Recognition & Achievement, and Health & Wellbeing. Construct definitions for each category had been written inductively from the codes during sorting, and within-category sub-facet maps documented the specific dimensions each theme's survey items would need to cover.

#### AI-Assisted Validity Check

To serve as both an independent validity check and a conceptual map for survey domains, the full code pool was submitted to a large language model (ChatGPT) to generate an unsupervised cluster solution. The AI produced 10 thematic clusters: Effort & Perseverance, Quality & Standards, Ethics & Integrity, Relationships & Service, Personal Growth & Learning, Emotions & Motivation, Leadership & Influence, Creativity & Innovation, Practical Contribution, and Recognition & Impact. This AI-generated structure was placed in direct juxtaposition with the researcher-led 9-category system for a formal side-by-side comparison. Where the two systems agreed, confidence in the category was higher. Where they diverged — particularly around Leadership/Influence and Creativity/Innovation, which lacked clean researcher counterparts — a placement decision was required.

The decision made at this stage — to absorb Leadership into Expertise/Skills and Creativity into Learning/Growth rather than creating standalone themes — directly shaped the 9-theme structure that became the survey baseline. Codes identified as outside the scope of workplace-relevant good work (e.g., Public figure/Politician, Celebrity, Housework/Homemaking) were set aside explicitly.

#### Final Nine-Theme Framework

The outcome of the code consolidation process was nine cleaned category sheets, each containing the full code list, its working construct definition, and its sub-facet map. Table 3 summarizes the final thematic structure and code counts.

**Table 3. Final Nine Good Work Themes and Code Counts**

| Theme                   | Core Construct                                                                                | Final Code Count |
|-------------------------|-----------------------------------------------------------------------------------------------|------------------|
| 1. Effort               | Motivation, persistence, diligence, commitment, initiative, follow-through                    | 54 codes         |
| 2. Ethics               | Honesty, integrity, fairness, speaking up, doing the right thing                              | 31 codes         |
| 3. Relationship Skills  | Teamwork, communication, empathy, conflict resolution, inclusion, mentorship                  | 74 codes         |
| 4. Expertise / Skills   | Technical knowledge, critical thinking, problem-solving, attention to detail, decision-making | 40 codes         |
| 5. Purpose / Engagement | Meaning, values alignment, intrinsic motivation, passion, goal-directedness                   | 26 codes         |

|                                      |                                                                             |          |
|--------------------------------------|-----------------------------------------------------------------------------|----------|
| 6.<br>Learning/Growth/Self-Awareness | Learning from mistakes, growth mindset, adaptability, curiosity, resilience | 46 codes |
| 7. Other-Oriented Impact             | Common good, community contribution, service, citizenship, ripple effects   | 42 codes |
| 8. Recognition / Achievement         | Excellence, quality, accountability, results, follow-through on commitments | 31 codes |
| 9. Health / Wellbeing                | Work-life balance, mental health, fair pay, authentic self at work, agency  | 34 codes |

**Terminological Note:** Throughout subsequent quantitative analyses and psychometric tables shorter variable stubs are frequently utilized for parsimony (e.g., Relational, Learning, Other, Recognition, and Wellbeing instead of the full thematic headers defined above).

The development of parallel survey instruments for employers and college students was driven by a dual purpose: first, to establish a grounded, psychometrically sound framework for measuring 'Good Work' dimensions; and second, to contextualize these behaviors in relation to credential values and organizational workplace cultures. To enable rigorous cross-group comparison, the items were aligned across cohorts while preserving population-specific referent frames.

## Phase 2: Item Generation and Behavioral Reframing

### First Behavioral Item Pool

The research team drew on the nine category sheets and their sub-facet maps to generate a 45-item behavioral scale (5 items per theme). The initial items used frequency-rated ('How often have you...') stems such as: 'Completed a challenging task even when you felt tired or

distracted,' 'Checked your work for errors before submitting or presenting it,' and 'Chose not to take a shortcut because it would violate workplace rules.' This first draft pool confirmed the behavioral orientation of the instrument before any adaptation for parallel student and employer versions.

### **Reorientation toward Credential Value**

After the first behavioral draft, the team clarified the core goal of the research: not simply 'who does good work,' but 'how college prepares people for good work,' with two parallel audiences. All items were reframed into an importance/preparation structure, and the matrix structure that became the study's central analytic design was established:

- Importance rating (1–5): How important is this behavior for good work in your field?
- Preparedness rating (1–5): How well has college prepared you to do this? (students) / How prepared are recent graduates to do this? (employers)

This two-column structure established importance–preparedness gap scores as the central analytic outcome of the survey and the prototype instrument.

### **Theme Boundary Clarifications and Item Refinement**

Six rounds of item development addressed overlap, language, and coverage. Round 2 identified eight specific coverage gaps in the initial item pool (including resilience, quality-checking, ethical courage, and social responsibility). Round 3 rewrote all items per survey design best practices, producing a side-by-side 'Former vs. Updated' table with rationale for every change. Representative transformations:

- **Effort:** 'Put their best effort into their work' → 'Put full effort into completing their work' (removed 'best' for social desirability bias)
- **Ethics:** 'Be honest' → 'Act with honesty, even when it is unpopular' (made observable; removed trait framing)
- **Recognition:** 'Take pride in their work' → 'Feel satisfied when they finish their work' (removed 'pride' as judgmental; more neutral)

Rounds 4 and 5 involved PI review and a colleague review of the annotated survey document, with final item wording reflecting three-layer consensus of AI recommendations, PI recommendations, and colleague review. Round 6 streamlined the item set to five items per theme, verified for specificity, readability, field-neutrality, and parallel student/employer framing.

Item boundary clarifications at this stage resolved conceptual overlap across adjacent themes — for example, establishing that Effort items should capture internal drive and persistence (not outcomes), that behaviors reflecting consistent process and follow-through were folded into Effort rather than treated as a separate construct, and that Recognition & Achievement items should capture the quality and visibility of actual output rather than the effort or process behind it. These distinctions were documented explicitly to prevent later cross-loading in factor analysis.

### Phase 3: Integration of Validated Literature Scales

In addition to inductively generated good work items, the team incorporated and adapted items from seven established scales in the educational value, work readiness, and employability literature. This step occurred after the good work behavioral battery was drafted, and before the credential value section was finalized. Table 4 summarizes each scale consulted and the adaptations made.

**Table 4. Survey Adaptations**

| Scale & Academic Source                                      | Key Measured Constructs                                                        | Adaptation & Structural Implementation                                                                                                                 |
|--------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Perceived Value of Higher Education<br>(Ledden et al., 2007) | Functional value, epistemic value, social value, emotional value, satisfaction | Functional value and satisfaction items adapted into 'Perceived Value & ROI' and 'Overall Satisfaction' subscales; economic 'sacrifice' items omitted. |
| Self-Perceived Employability<br>(Rothwell et al., 2008)      | Internal and external employability, career ambition, university commitment    | Internal employability mapped to student 'Career Skills & Confidence' and external employability mapped to 'Job Market Awareness'.                     |

|                                                                               |                                                                                       |                                                                                                                                                             |
|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Readiness Scale<br>(Caballero et al., 2011)                              | Personal work characteristics, organizational acumen, competence, social intelligence | Guided the development of field-neutral behavioral indicators within individual Good Work themes; no standalone readiness subscale was built.               |
| Students' Attitude Scale toward University<br>(Gelislil & Kazykhankyzy, 2013) | University and development, belonging, emotional engagement, personal growth          | Adapted 'University and Development' to 'Perceived Value & ROI'; belonging items informed 'Diversity' subscale; emotional engagement guided 'Satisfaction'. |
| PEW Research / Gallup 'Is College Worth It?' Surveys                          | Work preparation, sense of belonging, perceived economic value, job market demand     | Provided benchmarks for closed-ended economic value questions; 'worth the cost' item retained with minimal semantic adaptation.                             |
| Gallup-Inspired Good Job Score                                                | Leadership feedback, workplace purpose, growth opportunities, fairness & wellbeing    | Fully adopted into the 15-item 'Organizational Culture' scale. Shared a parallel 5-subscale structure (3 items each) across both cohorts.                   |
| Academic Flourishing Measures<br>(VanderWeele, 2017)                          | Epistemic capacities, academic flourishing, civic purpose and direction               | Adapted into student 'Civic Engagement' and employer 'Civic/Public Value' subscales to capture                                                              |

|  |  |                              |
|--|--|------------------------------|
|  |  | non-economic ROI dimensions. |
|--|--|------------------------------|

The validated scales fed primarily into the credential value section (Parts 2–3 of both surveys). The Good Work themes (Part 4) remained grounded in the qualitative corpus, with literature scales providing supplementary construct support rather than direct item import.

## Phase 4: External Review (Lumina Foundation Advisor Feedback)

A subsequent revision period involved two Lumina Foundation external reviewers — Wendy Sedlak and Jasmine Davis-Randolph — who provided detailed tracked-changes feedback across all sections of both surveys. Their input drove several structural changes:

- **Credential screener:** The credential question was restructured from a single broad question into three separate questions (degree, certificate/licensure, apprenticeship), responding to concerns that the original structure conflated distinct credential types.
- **Non-economic value items:** Open-ended credential value items were converted to close-ended Likert format for ease of response at scale.
- **Matrix sampling structure:** The advisors raised concerns about respondent burden for a 45-item double-rated section. The team introduced 3-of-5 matrix sampling, in which each respondent sees only three of the five items per theme, reducing visible burden while maintaining full coverage across the sample. This design decision later required multiple imputation to address the resulting ~40% planned missingness.
- **Ten-theme restructure (subsequently reversed):** Together, the team and advisors proposed reorganizing into 10 themes. After review, the team reverted to the original 9-theme structure in Version 2 of the student survey, determining that the original boundaries were both more theoretically coherent and more easily communicable to stakeholders.
- **Good Job Score / Organizational Culture:** Added 15-item Gallup-inspired organizational culture scale to both surveys, organized under Leadership, Purpose & Mission, Growth & Development, Fairness & Wellbeing and Diversity & Inclusion items.

## Final Survey Structure

The survey was structured into six sequential, substantive sections, which are parallel across cohorts except where noted:

**1. Part 1: Screener & Eligibility Filter:** Employer respondents were screened for current employment in one of the three target sectors and asked about their organizational role, hiring responsibilities, organization size and type, credential requirements for entry-level positions, and years of experience. Student respondents were screened for current enrollment in a credential-bearing program in a target field and asked about their intended career, credential level, major or program of study, and plans for licensure or certification.

**2. Part 2: Credential Value Battery:** Both surveys included a set of Likert-scale items assessing perceptions of the value of postsecondary credentials, organized into parallel subscales adapted from the validated literature reviewed in Phase 3. Employers were assessed on 7 subscales: Perceived Value & ROI, Preparation & Readiness, Employability Confidence, Job Market Demand, Overall Satisfaction, Diversity, and Civic/Public Value of college credentials. Students were assessed on 7 subscales that covered the same domains with items reframed around their own educational experience rather than observations of recent graduates, plus an additional identity subscale. Both surveys used matrix sampling in this section (3-of-4 items shown per respondent per subscale).

**3. Part 3: Open-Ended Core:** Both surveys included two open-ended questions: one asking respondents to define "good work" in their own words, and a second asking whether they distinguished between "good work" (quality, meaning, ethics) and a "good job" (pay, benefits, working conditions). The employer survey included a third open-ended item inviting narrative examples of successful or unsuccessful hires, with a note not to include real names.

**4. Part 4: Good Work Importance and Preparedness:** This section formed the analytic core of both instruments. Respondents rated each of the nine Good Work behavioral themes on two parallel dimensions using a 1–5 scale. Employers rated: (a) how important each behavior is for doing good work in their field, and (b) how well prepared recent college graduates in their field are to perform it. Students rated: (a) how important each behavior will be for doing good work in their future career, and (b) how well their college or university has prepared them to do it. Each theme was represented by five behavioral items; each respondent saw three of the five items per theme (3-of-5 matrix sampling), producing approximately 40% planned item-level missingness across this section.

**5. Part 5: Organizational Culture:** Both surveys included the 15-item Gallup-inspired Good Job Score, organized under five subscales: Leadership, Purpose & Mission, Growth & Development, Fairness & Wellbeing, and Diversity. Employer items described current organizational practices

in the third person; student items asked about desired qualities in a future workplace. This section used no matrix sampling; all items were shown to all respondents.

**6. Part 6: Socio-Demographics:** Both surveys closed with standard demographic items including gender, age, race/ethnicity, and geographic location. Employer surveys additionally collected information on organizational sector, size, and type. Student surveys additionally collected information on institution type, year in program, and household income.

## Part III. What We Did: Collect and Prepare the Data

### 3.1 Survey Administration

Data collection was conducted in accordance with Harvard IRB-approved protocols. The employer survey was administered via Prolific and hosted on Qualtrics; the student survey was administered via CollegePulse and also hosted on Qualtrics. Response records were fully anonymous, with Prolific IDs and student email hashes utilized strictly for quality screening, deduplication, and incentive distribution.

### 3.2 Sample Sizes and Sector Breakdown

After removing incomplete, duplicate, or unverified records, the finalized, clean analytic sample comprised **N = 1,347** respondents (**n = 403** active industry employers; **n = 944** college students). The sample breakdown across sectors is detailed below:

**Table 5. Sample Sizes**

| Occupational Sector           | Employer Cohort (n) | Student Cohort (n) | Pooled Sample Size (N) |
|-------------------------------|---------------------|--------------------|------------------------|
| Architecture and Construction | 146                 | 135                | 281                    |
| Information Technology (IT)   | 118                 | 387                | 505                    |
| Healthcare and Medicine       | 139                 | 422                | 561                    |
| Total Active Sample           | 403                 | 944                | 1,347                  |

### 3.3 Missing Data and Multiple Imputation

The introduction of planned matrix sampling—utilizing a 3-of-5 item selection for the Good Work scale (Part 4) and a 3-of-4 item selection for the Credential Value scale (Part 2)—successfully resolved respondent fatigue. This structured missingness-by-design resulted in approximately 40% planned missingness for individual Good Work items and 25% planned missingness for individual Credential Value items, which required multiple imputation (MI) for nearly all subsequent Round 1 analyses. To establish unbiased, conservative, and robust parameter estimates, multiple imputation (MI) using multivariate normal (MVN) wide-data imputation was performed in Stata, generating  $M = 30$  complete imputed datasets.

## Part IV: Analyses & Results

### Section 1: Composite Construction, Descriptive Estimation, and Measurement Invariance

**Composite Descriptive Results.** We estimated pooled means, standard errors, and 95% confidence intervals for the study composites for employers and students overall and separately within Architecture/Construction, Information Technology, and Healthcare. Across the nine Good Work facets, both groups rated Importance higher than Preparedness, resulting in positive Importance–Preparedness gaps for every facet overall and within each sector. Employer ratings showed particularly pronounced gaps for Expertise/Skills, while Health/Wellbeing showed the largest overall gap among students. Organizational Culture ratings were generally favorable across constructs and sectors, with student descriptive ratings higher than employer ratings across all five constructs overall. Credential Value ratings also varied across constructs and sectors; because the employer and student Credential Value measures include some group-specific composites, these descriptive estimates should be interpreted according to the constructs measured within each group rather than as uniformly parallel employer–student comparisons. For full estimates, see Supplement A: Tables 6b, 7b, and 8b.

**Table 6. Good Work Importance, Preparedness and Gap Descriptive Estimates (Pooled Samples)**

| Good Work Facet | Domain       | Employer Mean | Employer SE | Employer 95% CI | Student Mean | Student SE | Student 95% CI |
|-----------------|--------------|---------------|-------------|-----------------|--------------|------------|----------------|
| Effort          | Importance   | 4.346         | 0.031       | [4.284, 4.408]  | 4.256        | 0.023      | [4.211, 4.300] |
|                 | Preparedness | 3.714         | 0.044       | [3.628, 3.799]  | 3.973        | 0.027      | [3.921, 4.026] |
|                 | Gap          | 0.632         | 0.048       | [0.538, 0.726]  | 0.282        | 0.023      | [0.236, 0.328] |
| Ethics          | Importance   | 4.253         | 0.032       | [4.190, 4.317]  | 4.329        | 0.022      | [4.286, 4.373] |

|                                |              |       |       |                |       |       |                |
|--------------------------------|--------------|-------|-------|----------------|-------|-------|----------------|
|                                | Preparedness | 3.719 | 0.040 | [3.639, 3.798] | 4.027 | 0.027 | [3.973, 4.080] |
|                                | Gap          | 0.534 | 0.046 | [0.445, 0.624] | 0.303 | 0.022 | [0.259, 0.347] |
| Relationship Skills            | Importance   | 4.223 | 0.036 | [4.153, 4.294] | 4.334 | 0.022 | [4.290, 4.378] |
|                                | Preparedness | 3.749 | 0.040 | [3.671, 3.827] | 4.040 | 0.028 | [3.985, 4.094] |
|                                | Gap          | 0.474 | 0.045 | [0.385, 0.563] | 0.294 | 0.024 | [0.248, 0.341] |
| Expertise/Skills               | Importance   | 4.420 | 0.030 | [4.361, 4.478] | 4.382 | 0.022 | [4.338, 4.425] |
|                                | Preparedness | 3.659 | 0.042 | [3.576, 3.742] | 4.098 | 0.026 | [4.047, 4.150] |
|                                | Gap          | 0.760 | 0.048 | [0.665, 0.855] | 0.284 | 0.022 | [0.240, 0.327] |
| Purpose/Engagement             | Importance   | 3.821 | 0.044 | [3.734, 3.908] | 4.178 | 0.026 | [4.128, 4.228] |
|                                | Preparedness | 3.519 | 0.045 | [3.431, 3.607] | 3.870 | 0.031 | [3.808, 3.931] |
|                                | Gap          | 0.302 | 0.049 | [0.206, 0.399] | 0.308 | 0.026 | [0.258, 0.359] |
| Learning/Growth/Self-Awareness | Importance   | 4.130 | 0.035 | [4.062, 4.199] | 4.251 | 0.023 | [4.207, 4.296] |
|                                | Preparedness | 3.482 | 0.047 | [3.389, 3.575] | 3.954 | 0.029 | [3.897, 4.012] |
|                                | Gap          | 0.649 | 0.050 | [0.551, 0.746] | 0.297 | 0.025 | [0.249, 0.345] |
| Other-Oriented Impact          | Importance   | 3.946 | 0.043 | [3.862, 4.030] | 4.196 | 0.025 | [4.146, 4.246] |
|                                | Preparedness | 3.500 | 0.047 | [3.408, 3.591] | 3.931 | 0.030 | [3.871, 3.990] |

|                         |              |       |       |                |       |       |                |
|-------------------------|--------------|-------|-------|----------------|-------|-------|----------------|
|                         | Gap          | 0.447 | 0.046 | [0.356, 0.538] | 0.266 | 0.025 | [0.216, 0.315] |
| Recognition/Achievement | Importance   | 4.064 | 0.037 | [3.992, 4.136] | 4.199 | 0.024 | [4.153, 4.245] |
|                         | Preparedness | 3.572 | 0.047 | [3.479, 3.664] | 3.963 | 0.028 | [3.907, 4.019] |
|                         | Gap          | 0.492 | 0.049 | [0.396, 0.589] | 0.236 | 0.023 | [0.191, 0.282] |
| Health/Wellbeing        | Importance   | 4.060 | 0.037 | [3.987, 4.133] | 4.284 | 0.023 | [4.239, 4.330] |
|                         | Preparedness | 3.489 | 0.047 | [3.398, 3.581] | 3.785 | 0.033 | [3.720, 3.850] |
|                         | Gap          | 0.571 | 0.049 | [0.475, 0.667] | 0.500 | 0.032 | [0.438, 0.562] |

*Note.* Estimates are pooled across multiply imputed datasets. SE = standard error; CI = confidence interval. Gap scores were calculated as Importance minus Preparedness, such that positive values indicate that perceived importance exceeded perceived preparedness.

**Table 7. Organizational Culture Descriptive Estimates (Pooled Only)**

| Organizational Culture Facet | Employer Mean | Employer SE | Employer 95% CI | Student Mean | Student SE | Student 95% CI |
|------------------------------|---------------|-------------|-----------------|--------------|------------|----------------|
| Leadership                   | 3.804         | 0.043       | [3.719, 3.889]  | 4.428        | 0.020      | [4.388, 4.468] |
| Mission/Purpose              | 4.065         | 0.034       | [3.998, 4.131]  | 4.235        | 0.022      | [4.191, 4.279] |
| Growth & Development         | 4.047         | 0.037       | [3.975, 4.119]  | 4.510        | 0.018      | [4.474, 4.546] |
| Fairness & Wellbeing         | 4.070         | 0.036       | [3.999, 4.140]  | 4.567        | 0.019      | [4.530, 4.604] |
| Diversity & Inclusion        | 4.126         | 0.034       | [4.060, 4.192]  | 4.373        | 0.022      | [4.330, 4.415] |

*Note.* Estimates are pooled across multiply imputed datasets. SE = standard error; CI = confidence interval. Estimates are presented separately for employers and students overall and within Architecture/Construction, Information Technology, and Healthcare.

**Table 8. Credential Value Descriptive Estimates (Pooled Only)**

| Credential Value Construct | Employer Mean | Employer SE | Employer 95% CI | Student Mean | Student SE | Student 95% CI |
|----------------------------|---------------|-------------|-----------------|--------------|------------|----------------|
| Perceived Value & ROI      | 3.903         | 0.045       | [3.815, 3.991]  | 4.098        | 0.024      | [4.051, 4.145] |
| Preparation & Readiness    | 3.551         | 0.044       | [3.465, 3.637]  | 3.943        | 0.026      | [3.892, 3.993] |
| Employability & Confidence | 3.830         | 0.036       | [3.759, 3.901]  | 3.793        | 0.027      | [3.740, 3.845] |
| Job Market Demand          | 3.730         | 0.045       | [3.642, 3.819]  | 3.819        | 0.027      | [3.766, 3.872] |
| Overall Satisfaction       | 3.920         | 0.036       | [3.850, 3.990]  | 3.948        | 0.027      | [3.895, 4.001] |
| Diversity                  | 4.115         | 0.031       | [4.054, 4.176]  | 3.993        | 0.024      | [3.946, 4.040] |
| Civic                      | 3.702         | 0.039       | [3.625, 3.778]  | 3.922        | 0.025      | [3.873, 3.970] |

*Note.* Estimates are pooled across multiply imputed datasets. SE = standard error; CI = confidence interval. Employer and student Credential Value measures contain both shared and group-specific composites. Although the row labels are common to both groups, the underlying item sets are not identical: the employer and student Perceived Value & ROI composites draw on different items, and students additionally completed an eighth subscale (Identity) that employers did not rate in Round 1 and that is therefore not shown here. Employer and student estimates within a row should not be interpreted as directly equivalent measures.

## Section 1.2: Within-Group Importance-Preparedness Gap Tests

**Importance-Preparedness Gaps.** We examined differences between perceived importance and preparedness across the nine Good Work facets using within-group one-sample  $t$  tests and between-group independent-samples  $t$  tests, with a Bonferroni-adjusted significance threshold of  $\alpha = .05/9$  (.0056). Overall, both employers and students reported positive importance-preparedness gaps across all nine facets, indicating that perceived importance exceeded perceived preparedness.

Among employers, the largest overall gap was for Expertise/Skills, followed by Learning/Growth/Self-Awareness and Effort; among students, the largest overall gap was for Health/Wellbeing. Sector-specific analyses similarly showed positive gaps across all facets for both groups, although the employer Architecture/Construction Purpose/Engagement gap did not meet the Bonferroni-adjusted threshold.

Between employers and students, gaps were significantly larger for employers overall for Effort, Ethics, Relationship Skills, Expertise/Skills, Learning/Growth/Self-Awareness, Other-Oriented Impact, and Recognition/Achievement, whereas the overall differences for Purpose/Engagement and Health/Wellbeing were not significant. Sector-specific employer-student differences varied, with the most consistent and largest differences occurring for Expertise/Skills. See Supplement A Table 9b, Table 10b for full results.

**Table 9. Within-Group Importance-Preparedness Gap Tests**

| Good Work Facet     | Group    | N   | Mean Gap | SD    | t      | df  | p     | d     |
|---------------------|----------|-----|----------|-------|--------|-----|-------|-------|
| Effort              | Employer | 403 | 0.639    | 0.886 | 14.490 | 402 | 0.000 | 0.722 |
|                     | Student  | 944 | 0.278    | 0.700 | 12.199 | 943 | 0.000 | 0.397 |
| Ethics              | Employer | 403 | 0.517    | 0.781 | 13.295 | 402 | 0.000 | 0.662 |
|                     | Student  | 944 | 0.309    | 0.645 | 14.713 | 943 | 0.000 | 0.479 |
| Relationship Skills | Employer | 403 | 0.492    | 0.831 | 11.896 | 402 | 0.000 | 0.593 |
|                     | Student  | 944 | 0.283    | 0.700 | 12.409 | 943 | 0.000 | 0.404 |
| Expertise/Skills    | Employer | 403 | 0.788    | 0.869 | 18.204 | 402 | 0.000 | 0.907 |
|                     | Student  | 944 | 0.275    | 0.641 | 13.180 | 943 | 0.000 | 0.429 |

|                                |          |     |       |       |        |     |       |       |
|--------------------------------|----------|-----|-------|-------|--------|-----|-------|-------|
| Purpose/Engagement             | Employer | 403 | 0.315 | 0.816 | 7.754  | 402 | 0.000 | 0.386 |
|                                | Student  | 944 | 0.308 | 0.756 | 12.495 | 943 | 0.000 | 0.407 |
| Learning/Growth/Self-Awareness | Employer | 403 | 0.642 | 0.896 | 14.382 | 402 | 0.000 | 0.716 |
|                                | Student  | 944 | 0.284 | 0.718 | 12.155 | 943 | 0.000 | 0.396 |
| Other-Oriented Impact          | Employer | 403 | 0.433 | 0.850 | 10.218 | 402 | 0.000 | 0.509 |
|                                | Student  | 944 | 0.281 | 0.719 | 12.023 | 943 | 0.000 | 0.391 |
| Recognition/Achievement        | Employer | 403 | 0.512 | 0.801 | 12.833 | 402 | 0.000 | 0.639 |
|                                | Student  | 944 | 0.227 | 0.644 | 10.819 | 943 | 0.000 | 0.352 |
| Health/Wellbeing               | Employer | 403 | 0.593 | 0.899 | 13.247 | 402 | 0.000 | 0.660 |
|                                | Student  | 944 | 0.490 | 0.938 | 16.056 | 943 | 0.000 | 0.523 |

*Note.* Gap scores were calculated as Importance minus Preparedness, such that positive values indicate that perceived importance exceeded perceived preparedness. Within-group tests are one-sample *t* tests comparing each mean gap with zero. *d* = Cohen's *d*, calculated as the mean gap divided by its standard deviation. Statistical significance was evaluated using a Bonferroni-adjusted  $\alpha = .05/9 = .0056$  for the nine Good Work facets. Descriptive gap estimates in Table 6 are pooled across 30 multiply imputed datasets. The hypothesis tests in Table 9 were conducted using the first completed imputation (*m* = 1) of the stacked employer–student dataset; consequently, mean gap values may differ slightly from the pooled estimates reported in Table 6.

**Table 10. Employer–Student Comparisons of Importance–Preparedness Gaps**

| Good Work Facet     | Empl.<br>N | Empl.<br>M (SD)  | Stud.<br>N | Stud.<br>M (SD)  | Mean<br>Difference | t (df)          | p     | d     |
|---------------------|------------|------------------|------------|------------------|--------------------|-----------------|-------|-------|
| Effort              | 403        | 0.639<br>(0.886) | 944        | 0.278 (0.700)    | 0.361              | 7.993 (1345)    | 0.000 | 0.476 |
| Ethics              | 403        | 0.517 (0.781)    | 944        | 0.309<br>(0.645) | 0.208              | 5.090<br>(1345) | 0.000 | 0.303 |
| Relationship Skills | 403        | 0.492 (0.831)    | 944        | 0.283<br>(0.700) | 0.209              | 4.746 (1345)    | 0.000 | 0.282 |

|                                |     |               |     |               |       |               |       |       |
|--------------------------------|-----|---------------|-----|---------------|-------|---------------|-------|-------|
| Expertise/Skills               | 403 | 0.788 (0.869) | 944 | 0.275 (0.641) | 0.513 | 12.020 (1345) | 0.000 | 0.715 |
| Purpose/Engagement             | 403 | 0.315 (0.816) | 944 | 0.308 (0.756) | 0.008 | 0.163 (1345)  | 0.871 | 0.010 |
| Learning/Growth/Self-Awareness | 403 | 0.642 (0.896) | 944 | 0.284 (0.718) | 0.358 | 7.766 (1345)  | 0.000 | 0.462 |
| Other-Oriented Impact          | 403 | 0.433 (0.850) | 944 | 0.281 (0.719) | 0.151 | 3.345 (1345)  | 0.001 | 0.199 |
| Recognition/Achievement        | 403 | 0.512 (0.801) | 944 | 0.227 (0.644) | 0.285 | 6.907 (1345)  | 0.000 | 0.411 |
| Health/Wellbeing               | 403 | 0.593 (0.899) | 944 | 0.490 (0.938) | 0.103 | 1.869 (1345)  | 0.062 | 0.111 |

*Note.* Gap scores were calculated as Importance minus Preparedness, such that positive values indicate that perceived importance exceeded perceived preparedness. Mean differences are Employer minus Student, such that positive values indicate a larger importance–preparedness gap among employers. Between-group comparisons use independent-samples *t* tests. *d* = Cohen’s *d*, calculated using the pooled standard deviation. Statistical significance was evaluated using a Bonferroni-adjusted  $\alpha = .05/9 = .0056$  for the nine Good Work facets. Descriptive gap estimates in Table 6 are pooled across 30 multiply imputed datasets. The hypothesis tests in Table 10 were conducted using the first completed imputation ( $m = 1$ ) of the stacked employer–student dataset; consequently, mean gap values may differ slightly from the pooled estimates reported in Table 6.

## Section 1.3 Good Work Measurement Invariance APA Results

**Good Work Measurement Invariance.** We tested employer–student measurement invariance for the Good Work Importance and Preparedness facets using sequential configural, metric, and scalar models and the prespecified  $\alpha = .01$  criterion. For Importance, metric invariance was supported for the 5-item Other-Oriented Impact models, whereas the remaining models showed significant deterioration when factor loadings were constrained across groups. At the scalar level, the 5-item Effort models and Expertise/Skills did not show significant deterioration relative to their metric models; however, because their corresponding metric models had already failed, these results do not establish scalar invariance. For Preparedness, metric invariance was supported for Expertise/Skills, the five-item Other-Oriented Impact model, and Recognition/Achievement; scalar invariance was not supported for any Preparedness facet. Overall, full scalar employer–student invariance was not established for any Good Work facet, although several facets demonstrated evidence of metric invariance. See Supplement A, Tables 11b, 12b for full results.

**Table 11. Good Work Measurement Invariance Model Fit Statistics**

| Domain / Measure                 | Model      | $\chi^2$ | df | p     | RMSEA | CFI   | TLI   | SRMR  |
|----------------------------------|------------|----------|----|-------|-------|-------|-------|-------|
| Importance – Effort              | Configural | 48.143   | 10 | 0.000 | 0.075 | 0.986 | 0.971 | 0.027 |
| Importance – Effort              | Metric     | 83.025   | 15 | 0.000 | 0.082 | 0.974 | 0.966 | 0.142 |
| Importance – Effort              | Scalar     | 91.205   | 20 | 0.000 | 0.073 | 0.973 | 0.973 | 0.144 |
| Importance – Ethics              | Configural | 58.956   | 10 | 0.000 | 0.085 | 0.982 | 0.963 | 0.032 |
| Importance – Ethics              | Metric     | 118.789  | 15 | 0.000 | 0.101 | 0.961 | 0.948 | 0.131 |
| Importance – Ethics              | Scalar     | 205.748  | 20 | 0.000 | 0.117 | 0.930 | 0.930 | 0.135 |
| Importance – Relationship Skills | Configural | 20.246   | 10 | 0.027 | 0.039 | 0.996 | 0.993 | 0.015 |
| Importance – Relationship Skills | Metric     | 42.550   | 15 | 0.000 | 0.052 | 0.990 | 0.987 | 0.075 |
| Importance – Relationship Skills | Scalar     | 70.729   | 20 | 0.000 | 0.061 | 0.982 | 0.982 | 0.076 |
| Importance – Expertise/Skills    | Configural | 38.575   | 10 | 0.000 | 0.065 | 0.991 | 0.983 | 0.018 |
| Importance – Expertise/Skills    | Metric     | 88.293   | 15 | 0.000 | 0.085 | 0.978 | 0.970 | 0.173 |
| Importance – Expertise/Skills    | Scalar     | 93.950   | 20 | 0.000 | 0.074 | 0.977 | 0.977 | 0.174 |

|                                             |            |         |    |       |       |       |       |       |
|---------------------------------------------|------------|---------|----|-------|-------|-------|-------|-------|
| Importance — Purpose/Engagement             | Configural | 71.480  | 10 | 0.000 | 0.096 | 0.981 | 0.963 | 0.033 |
| Importance — Purpose/Engagement             | Metric     | 111.157 | 15 | 0.000 | 0.098 | 0.971 | 0.961 | 0.090 |
| Importance — Purpose/Engagement             | Scalar     | 172.046 | 20 | 0.000 | 0.106 | 0.954 | 0.954 | 0.093 |
| Importance — Learning/Growth/Self-Awareness | Configural | 36.112  | 10 | 0.000 | 0.062 | 0.988 | 0.975 | 0.023 |
| Importance — Learning/Growth/Self-Awareness | Metric     | 62.899  | 15 | 0.000 | 0.069 | 0.977 | 0.970 | 0.093 |
| Importance — Learning/Growth/Self-Awareness | Scalar     | 117.301 | 20 | 0.000 | 0.085 | 0.954 | 0.954 | 0.094 |
| Importance — Other-Oriented Impact          | Configural | 101.718 | 10 | 0.000 | 0.117 | 0.971 | 0.942 | 0.037 |
| Importance — Other-Oriented Impact          | Metric     | 114.461 | 15 | 0.000 | 0.099 | 0.968 | 0.958 | 0.054 |
| Importance — Other-Oriented Impact          | Scalar     | 179.418 | 20 | 0.000 | 0.109 | 0.949 | 0.949 | 0.053 |
| Importance — Recognition/Achievement        | Configural | 48.225  | 10 | 0.000 | 0.075 | 0.977 | 0.954 | 0.039 |
| Importance — Recognition/Achievement        | Metric     | 75.979  | 15 | 0.000 | 0.078 | 0.963 | 0.951 | 0.116 |
| Importance — Recognition/Achievement        | Scalar     | 95.470  | 20 | 0.000 | 0.075 | 0.955 | 0.955 | 0.117 |
| Importance — Health/Wellbeing               | Configural | 86.908  | 10 | 0.000 | 0.107 | 0.963 | 0.926 | 0.030 |
| Importance — Health/Wellbeing               | Metric     | 108.683 | 15 | 0.000 | 0.096 | 0.955 | 0.940 | 0.068 |
| Importance — Health/Wellbeing               | Scalar     | 179.575 | 20 | 0.000 | 0.109 | 0.923 | 0.923 | 0.067 |
| Preparedness — Effort                       | Configural | 46.521  | 10 | 0.000 | 0.074 | 0.989 | 0.977 | 0.017 |
| Preparedness — Effort                       | Metric     | 70.592  | 15 | 0.000 | 0.074 | 0.983 | 0.977 | 0.064 |
| Preparedness — Effort                       | Scalar     | 117.148 | 20 | 0.000 | 0.085 | 0.970 | 0.970 | 0.068 |
| Preparedness — Ethics                       | Configural | 21.267  | 10 | 0.019 | 0.041 | 0.996 | 0.992 | 0.012 |
| Preparedness — Ethics                       | Metric     | 46.839  | 15 | 0.000 | 0.056 | 0.989 | 0.985 | 0.097 |
| Preparedness — Ethics                       | Scalar     | 97.813  | 20 | 0.000 | 0.076 | 0.973 | 0.973 | 0.105 |
| Preparedness — Relationship Skills          | Configural | 56.297  | 10 | 0.000 | 0.083 | 0.987 | 0.973 | 0.021 |
| Preparedness — Relationship Skills          | Metric     | 81.147  | 15 | 0.000 | 0.081 | 0.981 | 0.974 | 0.115 |
| Preparedness — Relationship Skills          | Scalar     | 141.964 | 20 | 0.000 | 0.095 | 0.965 | 0.965 | 0.124 |
| Preparedness — Expertise/Skills             | Configural | 28.336  | 10 | 0.002 | 0.052 | 0.994 | 0.988 | 0.014 |

|                                               |            |         |    |       |       |       |       |       |
|-----------------------------------------------|------------|---------|----|-------|-------|-------|-------|-------|
| Preparedness — Expertise/Skills               | Metric     | 34.554  | 15 | 0.003 | 0.044 | 0.994 | 0.992 | 0.032 |
| Preparedness — Expertise/Skills               | Scalar     | 131.945 | 20 | 0.000 | 0.091 | 0.964 | 0.964 | 0.053 |
| Preparedness — Purpose/Engagement             | Configural | 55.167  | 10 | 0.000 | 0.082 | 0.990 | 0.980 | 0.026 |
| Preparedness — Purpose/Engagement             | Metric     | 81.279  | 15 | 0.000 | 0.081 | 0.985 | 0.980 | 0.142 |
| Preparedness — Purpose/Engagement             | Scalar     | 128.656 | 20 | 0.000 | 0.090 | 0.976 | 0.976 | 0.151 |
| Preparedness — Learning/Growth/Self-Awareness | Configural | 35.095  | 10 | 0.000 | 0.061 | 0.992 | 0.984 | 0.026 |
| Preparedness — Learning/Growth/Self-Awareness | Metric     | 62.985  | 15 | 0.000 | 0.069 | 0.985 | 0.979 | 0.093 |
| Preparedness — Learning/Growth/Self-Awareness | Scalar     | 147.085 | 20 | 0.000 | 0.097 | 0.959 | 0.959 | 0.109 |
| Preparedness — Other-Oriented Impact          | Configural | 72.940  | 10 | 0.000 | 0.097 | 0.984 | 0.968 | 0.021 |
| Preparedness — Other-Oriented Impact          | Metric     | 86.409  | 15 | 0.000 | 0.084 | 0.982 | 0.976 | 0.069 |
| Preparedness — Other-Oriented Impact          | Scalar     | 150.845 | 20 | 0.000 | 0.099 | 0.966 | 0.966 | 0.081 |
| Preparedness — Recognition/Achievement        | Configural | 68.251  | 10 | 0.000 | 0.093 | 0.980 | 0.960 | 0.025 |
| Preparedness — Recognition/Achievement        | Metric     | 71.001  | 15 | 0.000 | 0.074 | 0.981 | 0.974 | 0.040 |
| Preparedness — Recognition/Achievement        | Scalar     | 149.686 | 20 | 0.000 | 0.098 | 0.956 | 0.956 | 0.056 |
| Preparedness — Health/Wellbeing               | Configural | 190.354 | 10 | 0.000 | 0.164 | 0.954 | 0.908 | 0.032 |
| Preparedness — Health/Wellbeing               | Metric     | 211.494 | 15 | 0.000 | 0.140 | 0.950 | 0.933 | 0.129 |
| Preparedness — Health/Wellbeing               | Scalar     | 246.775 | 20 | 0.000 | 0.130 | 0.942 | 0.942 | 0.136 |

*Note.*  $N$  = analytic sample size;  $\chi^2$  = model chi-square;  $df$  = degrees of freedom; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis index; SRMR = standardized root mean square residual. Configural models allowed measurement parameters to vary across employer and student groups; metric models constrained factor loadings to equality across groups; scalar models additionally constrained item intercepts to equality. Four- and five-item specifications were evaluated for Effort and Other-Oriented Impact; the remaining facets used five-item specifications.

**Table 12. Good Work Measurement Invariance Likelihood-Ratio Tests**

| Domain / Measure | Comparison | $\Delta\chi^2$ | $\Delta df$ | p |
|------------------|------------|----------------|-------------|---|
|------------------|------------|----------------|-------------|---|

|                                             |                       |        |   |       |
|---------------------------------------------|-----------------------|--------|---|-------|
| Importance — Effort                         | Metric vs. Configural | 34.883 | 5 | 0.000 |
| Importance — Effort                         | Scalar vs. Metric     | 8.180  | 5 | 0.147 |
| Importance — Ethics                         | Metric vs. Configural | 59.833 | 5 | 0.000 |
| Importance — Ethics                         | Scalar vs. Metric     | 86.959 | 5 | 0.000 |
| Importance — Relationship Skills            | Metric vs. Configural | 22.304 | 5 | 0.000 |
| Importance — Relationship Skills            | Scalar vs. Metric     | 28.179 | 5 | 0.000 |
| Importance — Expertise/Skills               | Metric vs. Configural | 49.719 | 5 | 0.000 |
| Importance — Expertise/Skills               | Scalar vs. Metric     | 5.657  | 5 | 0.341 |
| Importance — Purpose/Engagement             | Metric vs. Configural | 39.677 | 5 | 0.000 |
| Importance — Purpose/Engagement             | Scalar vs. Metric     | 60.890 | 5 | 0.000 |
| Importance — Learning/Growth/Self-Awareness | Metric vs. Configural | 26.787 | 5 | 0.000 |
| Importance — Learning/Growth/Self-Awareness | Scalar vs. Metric     | 54.402 | 5 | 0.000 |
| Importance — Other-Oriented Impact          | Metric vs. Configural | 12.743 | 5 | 0.026 |
| Importance — Other-Oriented Impact          | Scalar vs. Metric     | 64.957 | 5 | 0.000 |
| Importance — Recognition/Achievement        | Metric vs. Configural | 27.755 | 5 | 0.000 |
| Importance — Recognition/Achievement        | Scalar vs. Metric     | 19.491 | 5 | 0.002 |
| Importance — Health/Wellbeing               | Metric vs. Configural | 21.774 | 5 | 0.001 |
| Importance — Health/Wellbeing               | Scalar vs. Metric     | 70.892 | 5 | 0.000 |
| Preparedness — Effort                       | Metric vs. Configural | 24.071 | 5 | 0.000 |
| Preparedness — Effort                       | Scalar vs. Metric     | 46.556 | 5 | 0.000 |
| Preparedness — Ethics                       | Metric vs. Configural | 25.571 | 5 | 0.000 |
| Preparedness — Ethics                       | Scalar vs. Metric     | 50.975 | 5 | 0.000 |
| Preparedness — Relationship Skills          | Metric vs. Configural | 24.851 | 5 | 0.000 |
| Preparedness — Relationship Skills          | Scalar vs. Metric     | 60.817 | 5 | 0.000 |
| Preparedness — Expertise/Skills             | Metric vs. Configural | 6.218  | 5 | 0.286 |

|                                               |                       |        |   |       |
|-----------------------------------------------|-----------------------|--------|---|-------|
| Preparedness — Expertise/Skills               | Scalar vs. Metric     | 97.391 | 5 | 0.000 |
| Preparedness — Purpose/Engagement             | Metric vs. Configural | 26.112 | 5 | 0.000 |
| Preparedness — Purpose/Engagement             | Scalar vs. Metric     | 47.377 | 5 | 0.000 |
| Preparedness — Learning/Growth/Self-Awareness | Metric vs. Configural | 27.891 | 5 | 0.000 |
| Preparedness — Learning/Growth/Self-Awareness | Scalar vs. Metric     | 84.099 | 5 | 0.000 |
| Preparedness — Other-Oriented Impact          | Metric vs. Configural | 13.469 | 5 | 0.019 |
| Preparedness — Other-Oriented Impact          | Scalar vs. Metric     | 64.436 | 5 | 0.000 |
| Preparedness — Recognition/Achievement        | Metric vs. Configural | 2.750  | 5 | 0.738 |
| Preparedness — Recognition/Achievement        | Scalar vs. Metric     | 78.684 | 5 | 0.000 |
| Preparedness — Health/Wellbeing               | Metric vs. Configural | 21.140 | 5 | 0.001 |
| Preparedness — Health/Wellbeing               | Scalar vs. Metric     | 35.281 | 5 | 0.000 |

*Note.*  $N$  = analytic sample size;  $\chi^2$  = model chi-square;  $df$  = degrees of freedom; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis index; SRMR = standardized root mean square residual. Configural models allowed measurement parameters to vary across employer and student groups; metric models constrained factor loadings to equality across groups; scalar models additionally constrained item intercepts to equality. Four- and five-item specifications were evaluated for Effort and Other-Oriented Impact; the remaining facets used five-item specifications.

## Section 1.4 Organizational Culture Measurement Invariance Results

**Organizational Culture Measurement Invariance.** We tested employer–student measurement invariance for five organizational culture constructs using sequential configural, metric, and scalar models. Using the prespecified  $\alpha = .01$  criterion, metric invariance was supported for Fairness & Wellbeing and Diversity & Inclusion, for which constraining factor loadings to equality did not significantly worsen model fit. Metric invariance was not supported for Leadership, Mission/Purpose, or Growth & Development. Scalar invariance was not supported for any of the five constructs: constraining item intercepts to equality significantly worsened model fit in every case. Thus, employer and student responses demonstrated comparable factor loadings for Fairness & Wellbeing and Diversity & Inclusion, but none of the organizational culture constructs demonstrated full scalar invariance. See Supplement A Tables 13b and 14b for full results.

**Table 13. Organizational Culture Measurement Invariance Model Fit Statistics**

| Measure               | Invariance Model | $\chi^2$ | df | p     | RMSEA | CFI   | TLI   | SRMR  |
|-----------------------|------------------|----------|----|-------|-------|-------|-------|-------|
| Leadership            | Configural       | 0.000    | 0  | .     | 0.000 | 1.000 | 1.000 | 0.000 |
| Leadership            | Metric           | 37.549   | 3  | 0.000 | 0.131 | 0.982 | 0.963 | 0.176 |
| Leadership            | Scalar           | 280.086  | 6  | 0.000 | 0.261 | 0.855 | 0.855 | 0.214 |
| Mission/Purpose       | Configural       | 0.000    | 0  | .     | 0.000 | 1.000 | 1.000 | 0.000 |
| Mission/Purpose       | Metric           | 12.301   | 3  | 0.006 | 0.068 | 0.995 | 0.989 | 0.063 |
| Mission/Purpose       | Scalar           | 34.979   | 6  | 0.000 | 0.085 | 0.983 | 0.983 | 0.065 |
| Growth & Development  | Configural       | 0.000    | 0  | .     | 0.000 | 1.000 | 1.000 | 0.000 |
| Growth & Development  | Metric           | 14.042   | 3  | 0.003 | 0.074 | 0.993 | 0.985 | 0.104 |
| Growth & Development  | Scalar           | 161.645  | 6  | 0.000 | 0.196 | 0.895 | 0.895 | 0.124 |
| Fairness & Wellbeing  | Configural       | 0.000    | 0  | .     | 0.000 | 1.000 | 1.000 | 0.000 |
| Fairness & Wellbeing  | Metric           | 6.379    | 3  | 0.095 | 0.041 | 0.998 | 0.995 | 0.069 |
| Fairness & Wellbeing  | Scalar           | 180.758  | 6  | 0.000 | 0.208 | 0.877 | 0.877 | 0.097 |
| Diversity & Inclusion | Configural       | 0.000    | 0  | .     | 0.000 | 1.000 | 1.000 | 0.000 |
| Diversity & Inclusion | Metric           | 3.779    | 3  | 0.286 | 0.020 | 0.999 | 0.999 | 0.049 |

|                       |        |         |   |       |       |       |       |       |
|-----------------------|--------|---------|---|-------|-------|-------|-------|-------|
| Diversity & Inclusion | Scalar | 126.522 | 6 | 0.000 | 0.173 | 0.921 | 0.921 | 0.077 |
|-----------------------|--------|---------|---|-------|-------|-------|-------|-------|

*Note.*  $N$  = analytic sample size;  $\chi^2$  = model chi-square;  $df$  = degrees of freedom; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis index; SRMR = standardized root mean square residual. Configural models allowed measurement parameters to vary across employer and student groups; metric models constrained factor loadings to equality across groups; scalar models additionally constrained item intercepts to equality. For just-identified configural models ( $df = 0$ ), global fit indices are not substantively interpretable.

**Table 14. Organizational Culture Measurement Invariance Likelihood-Ratio Tests.**

| Measure               | Comparison            | $\Delta\chi^2$ | $\Delta df$ | p     |
|-----------------------|-----------------------|----------------|-------------|-------|
| Leadership            | Metric vs. Configural | 37.549         | 3           | 0.000 |
| Leadership            | Scalar vs. Metric     | 242.537        | 3           | 0.000 |
| Mission/Purpose       | Metric vs. Configural | 12.301         | 3           | 0.006 |
| Mission/Purpose       | Scalar vs. Metric     | 22.677         | 3           | 0.000 |
| Growth & Development  | Metric vs. Configural | 14.042         | 3           | 0.003 |
| Growth & Development  | Scalar vs. Metric     | 147.603        | 3           | 0.000 |
| Fairness & Wellbeing  | Metric vs. Configural | 6.379          | 3           | 0.095 |
| Fairness & Wellbeing  | Scalar vs. Metric     | 174.379        | 3           | 0.000 |
| Diversity & Inclusion | Metric vs. Configural | 3.779          | 3           | 0.286 |
| Diversity & Inclusion | Scalar vs. Metric     | 122.744        | 3           | 0.000 |

*Note.*  $\Delta\chi^2$  = likelihood-ratio chi-square difference;  $\Delta df$  = difference in degrees of freedom. Metric models were compared with their corresponding configural models, and scalar models were compared with their corresponding metric models. A statistically significant likelihood-ratio test at the prespecified  $\alpha = .01$  threshold indicates that imposing the additional equality constraints significantly worsened model fit.

## Section 1.5 Credential Value Measurement Invariance Results

**Credential Value Measurement Invariance.** Measurement invariance analyses examined whether credential value measures functioned similarly across employer and student groups. Configural, metric, and scalar models were estimated for the Overall Satisfaction and Civic measures; the four-item Diversity, Job Market, Perceived Value, Employment, and Preparation & Readiness measures; and the full 27-item Credential Value measure. Because the employer and student Credential Value subscales contained slightly different item sets, cross-group invariance testing used the 27 items that could be aligned across cohorts. These common-item models correspond to the seven Credential Value domains reported in Table 8, although the Satisfaction model uses three items rather than four and the Employment/Career model uses four rather than the five-item student scoring composite.

Among the subscales, configural fit was generally strong. Diversity, Job Market, Perceived Value, Employment, and Preparation & Readiness all demonstrated CFI values of .990 or higher at the configural level. Using the prespecified  $\alpha = .01$  criterion, metric invariance was supported for the Overall Satisfaction and Civic/Public Value measures, for which constraining factor loadings to equality did not significantly worsen model fit ( $\Delta\chi^2 = 7.863$ ,  $\Delta df = 3$ ,  $p = .049$ ; and  $\Delta\chi^2 = 3.811$ ,  $\Delta df = 4$ ,  $p = .432$ , respectively). Metric invariance was not supported for the four-item Diversity, Job Market, Perceived Value, Employability/Career, or Preparation & Readiness measures, nor for the full 27-item Credential Value model. Scalar invariance was not supported for any measure: constraining item intercepts to equality significantly worsened model fit in every case (all  $p < .001$ ). Thus, employer and student responses demonstrated comparable factor loadings only for the Overall Satisfaction and Civic/Public Value measures, and no Credential Value measure demonstrated full scalar invariance. One qualification applies to the Overall Satisfaction result: its configural model is just-identified ( $df = 0$ ), so the metric comparison is evaluated against a saturated baseline and the resulting evidence for metric invariance is correspondingly weaker. As with the Good Work and Organizational Culture measures, these results indicate that direct employer–student comparisons of mean Credential Value scores should be interpreted with caution. See Supplement A, Tables 15b and 16b for full results.

**Table 15. Credential Value Measurement Invariance Model Fit Statistics**

| Measure | Invariance Model | N | $\chi^2$ | df | p | RMSEA | CFI | TLI | SRMR |
|---------|------------------|---|----------|----|---|-------|-----|-----|------|
|---------|------------------|---|----------|----|---|-------|-----|-----|------|

|                      |            |          |         |    |       |       |       |       |       |
|----------------------|------------|----------|---------|----|-------|-------|-------|-------|-------|
| Overall Satisfaction | Configural | 134<br>7 | 0.000   | 0  | —     | 0.000 | 1.000 | 1.000 | 0.000 |
| Overall Satisfaction | Metric     | 134<br>7 | 7.863   | 3  | 0.049 | 0.049 | 0.997 | 0.993 | 0.084 |
| Overall Satisfaction | Scalar     | 134<br>7 | 35.935  | 6  | 0.000 | 0.086 | 0.980 | 0.980 | 0.087 |
| Civic/Public Value   | Configural | 134<br>7 | 23.192  | 4  | 0.000 | 0.084 | 0.989 | 0.966 | 0.025 |
| Civic/Public Value   | Metric     | 134<br>7 | 27.003  | 8  | 0.001 | 0.059 | 0.989 | 0.983 | 0.037 |
| Civic/Public Value   | Scalar     | 134<br>7 | 56.622  | 12 | 0.000 | 0.074 | 0.974 | 0.974 | 0.040 |
| Diversity            | Configural | 134<br>7 | 21.897  | 4  | 0.000 | 0.082 | 0.990 | 0.969 | 0.018 |
| Diversity            | Metric     | 134<br>7 | 56.242  | 8  | 0.000 | 0.095 | 0.972 | 0.958 | 0.157 |
| Diversity            | Scalar     | 134<br>7 | 97.622  | 12 | 0.000 | 0.103 | 0.950 | 0.950 | 0.162 |
| Job Market Demand    | Configural | 134<br>7 | 21.473  | 4  | 0.000 | 0.081 | 0.990 | 0.970 | 0.020 |
| Job Market Demand    | Metric     | 134<br>7 | 36.338  | 8  | 0.000 | 0.073 | 0.984 | 0.976 | 0.070 |
| Job Market Demand    | Scalar     | 134<br>7 | 111.597 | 12 | 0.000 | 0.111 | 0.943 | 0.943 | 0.068 |
| Perceived Value      | Configural | 134<br>7 | 24.328  | 4  | 0.000 | 0.087 | 0.990 | 0.970 | 0.021 |
| Perceived Value      | Metric     | 134<br>7 | 65.748  | 8  | 0.000 | 0.104 | 0.972 | 0.957 | 0.127 |
| Perceived Value      | Scalar     | 134<br>7 | 133.578 | 12 | 0.000 | 0.123 | 0.940 | 0.940 | 0.125 |
| Employability/Career | Configural | 134<br>7 | 22.030  | 4  | 0.000 | 0.082 | 0.990 | 0.970 | 0.018 |

|                                  |            |          |          |     |       |       |       |       |       |
|----------------------------------|------------|----------|----------|-----|-------|-------|-------|-------|-------|
| Employability/Career             | Metric     | 134<br>7 | 51.079   | 8   | 0.000 | 0.089 | 0.976 | 0.964 | 0.135 |
| Employability/Career             | Scalar     | 134<br>7 | 127.550  | 12  | 0.000 | 0.120 | 0.936 | 0.936 | 0.142 |
| Preparation & Readiness          | Configural | 134<br>7 | 6.847    | 4   | 0.144 | 0.033 | 0.999 | 0.996 | 0.013 |
| Preparation & Readiness          | Metric     | 134<br>7 | 45.333   | 8   | 0.000 | 0.083 | 0.983 | 0.974 | 0.082 |
| Preparation & Readiness          | Scalar     | 134<br>7 | 195.973  | 12  | 0.000 | 0.151 | 0.915 | 0.915 | 0.087 |
| Credential Value — 27-Item Model | Configural | 134<br>7 | 5176.874 | 648 | 0.000 | 0.102 | 0.774 | 0.755 | 0.071 |
| Credential Value — 27-Item Model | Metric     | 134<br>7 | 5578.341 | 675 | 0.000 | 0.104 | 0.755 | 0.745 | 0.122 |
| Credential Value — 27-Item Model | Scalar     | 134<br>7 | 6194.859 | 702 | 0.000 | 0.108 | 0.726 | 0.726 | 0.123 |

*Note.*  $N$  = analytic sample size;  $\chi^2$  = model chi-square;  $df$  = degrees of freedom; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis index; SRMR = standardized root mean square residual. Configural models allowed measurement parameters to vary across employer and student groups; metric models constrained factor loadings to equality across groups; scalar models additionally constrained item intercepts to equality. For just-identified models ( $df = 0$ ), global fit indices are not substantively interpretable.

**Table 16. Credential Value Measurement Invariance Likelihood–Ratio Tests**

| Measure              | Comparison            | $\Delta\chi^2$ | $\Delta df$ | p     |
|----------------------|-----------------------|----------------|-------------|-------|
| Overall Satisfaction | Metric vs. Configural | 7.863          | 3           | 0.049 |
| Overall Satisfaction | Scalar vs. Metric     | 28.072         | 3           | 0.000 |
| Civic                | Metric vs. Configural | 3.811          | 4           | 0.432 |
| Civic                | Scalar vs. Metric     | 29.619         | 4           | 0.000 |
| Diversity            | Metric vs. Configural | 34.345         | 4           | 0.000 |

|                                  |                       |         |    |       |
|----------------------------------|-----------------------|---------|----|-------|
| Diversity                        | Scalar vs. Metric     | 41.380  | 4  | 0.000 |
| Job Market Demand                | Metric vs. Configural | 14.865  | 4  | 0.005 |
| Job Market Demand                | Scalar vs. Metric     | 75.258  | 4  | 0.000 |
| Perceived Value                  | Metric vs. Configural | 41.419  | 4  | 0.000 |
| Perceived Value                  | Scalar vs. Metric     | 67.830  | 4  | 0.000 |
| Employment                       | Metric vs. Configural | 29.049  | 4  | 0.000 |
| Employment                       | Scalar vs. Metric     | 76.470  | 4  | 0.000 |
| Preparation & Readiness          | Metric vs. Configural | 38.486  | 4  | 0.000 |
| Preparation & Readiness          | Scalar vs. Metric     | 150.640 | 4  | 0.000 |
| Credential Value – 27-Item Model | Metric vs. Configural | 401.468 | 27 | 0.000 |
| Credential Value – 27-Item Model | Scalar vs. Metric     | 616.518 | 27 | 0.000 |

Note.  $\Delta\chi^2$  = likelihood-ratio chi-square difference;  $\Delta df$  = difference in degrees of freedom. Metric models were compared with their corresponding configural models, and scalar models were compared with their corresponding metric models. A statistically significant likelihood-ratio test at the prespecified  $\alpha = .01$  threshold indicates that imposing the additional equality constraints significantly worsened model fit.

## Section 1.6 Sector-Specific Measurement Invariance Results

**Sector-Specific Measurement Invariance.** We conducted sector-specific multigroup measurement invariance analyses to examine whether employer and student responses demonstrated comparable measurement properties within Architecture/Construction, Information Technology, and Healthcare. For each sector, increasingly restrictive configural, metric, and scalar models were estimated for the Good Work Importance and Preparedness facets and the additional comparison constructs. Results indicated substantial heterogeneity in invariance across constructs and sectors. Metric invariance was supported for some measures but not others, indicating that equality of factor loadings across employer and student groups varied by construct and occupational field. Scalar invariance was generally less well supported: imposing equality constraints on item intercepts frequently produced significant deterioration in model fit, although several individual measures showed evidence consistent with scalar invariance within particular sectors. Overall, the analyses do not support assuming uniform employer–student measurement invariance across sectors; instead, the extent of invariance was construct- and sector-specific. **See Tables 17 and 18 in Supplement A** for the full results. Results are not reported here due to length.

## Part IV, Section 2: EFA and CFA Tests

### Section 2.1 Employer EFA/CFA Results

**Employer Exploratory and Confirmatory Factor Analyses.** We conducted principal-factor exploratory factor analyses of the full employer Importance and Preparedness item sets to examine their empirical dimensionality. For Importance, the unrestricted solution produced five eigenvalues greater than 1.0, whereas the Preparedness solution produced four, with a particularly dominant first factor in both domains. We subsequently evaluated the theoretically hypothesized nine-factor structure and empirically derived five-factor alternatives using confirmatory factor analysis. For Importance, the empirical five-factor model produced modestly higher CFI and TLI than the hypothesized nine-factor model, while RMSEA and SRMR were essentially unchanged or slightly less favorable. For Preparedness, the hypothesized nine-factor model consistently outperformed the empirical five-factor model across RMSEA, CFI, TLI, and SRMR. Thus, the employer analyses did not provide consistent evidence that replacing the theoretically hypothesized nine-factor structure with the empirical five-factor alternatives improved measurement structure; although the empirical Importance model modestly improved some incremental fit indices, this pattern did not generalize across fit indices or to Preparedness.

**Table 19. Eigenvalues From Unrestricted Employer Principal-Factor Analyses**

| Domain     | Factor | Eigenvalue | Proportion | Cumulative Proportion |
|------------|--------|------------|------------|-----------------------|
| Importance | 1      | 12.541     | 0.524      | 0.524                 |
| Importance | 2      | 3.186      | 0.133      | 0.657                 |
| Importance | 3      | 1.288      | 0.054      | 0.711                 |
| Importance | 4      | 1.135      | 0.047      | 0.758                 |
| Importance | 5      | 1.042      | 0.044      | 0.802                 |
| Importance | 6      | 0.966      | 0.040      | 0.842                 |
| Importance | 7      | 0.792      | 0.033      | 0.875                 |
| Importance | 8      | 0.686      | 0.029      | 0.904                 |

|              |    |        |       |       |
|--------------|----|--------|-------|-------|
| Importance   | 9  | 0.661  | 0.028 | 0.931 |
| Importance   | 10 | 0.601  | 0.025 | 0.956 |
| Preparedness | 1  | 16.688 | 0.629 | 0.629 |
| Preparedness | 2  | 2.049  | 0.077 | 0.706 |
| Preparedness | 3  | 1.341  | 0.051 | 0.757 |
| Preparedness | 4  | 1.118  | 0.042 | 0.799 |
| Preparedness | 5  | 0.909  | 0.034 | 0.833 |
| Preparedness | 6  | 0.804  | 0.030 | 0.863 |
| Preparedness | 7  | 0.781  | 0.029 | 0.893 |
| Preparedness | 8  | 0.666  | 0.025 | 0.918 |
| Preparedness | 9  | 0.606  | 0.023 | 0.941 |
| Preparedness | 10 | 0.523  | 0.020 | 0.961 |

Note. EFA = exploratory factor analysis. Factors were extracted using principal-factor (PF) extraction. The first 10 eigenvalues are reported for each unrestricted analysis. Proportion and cumulative proportion represent the proportion of variance associated with each factor and cumulatively across factors, respectively. The Kaiser criterion (eigenvalue > 1.0) was examined as one indicator of factor retention.

**Table 20. Fit Statistics for Employer Confirmatory Factor Models**

| Report Version Name                        | N   | $\chi^2$ | df  | p     | RMSEA | CFI   | TLI   | SRMR  |
|--------------------------------------------|-----|----------|-----|-------|-------|-------|-------|-------|
| Importance — Hypothesized 9-Factor Model   | 403 | 3257.062 | 909 | 0.000 | 0.080 | 0.713 | 0.687 | 0.076 |
| Importance — Empirical 5-Factor Model      | 403 | 2923.570 | 809 | 0.000 | 0.081 | 0.720 | 0.702 | 0.077 |
| Preparedness — Hypothesized 9-Factor Model | 403 | 3022.051 | 909 | 0.000 | 0.076 | 0.794 | 0.775 | 0.058 |
| Preparedness — Empirical 5-Factor Model    | 403 | 3033.831 | 769 | 0.000 | 0.086 | 0.752 | 0.736 | 0.067 |

Note. N = sample size;  $\chi^2$  = model chi-square; df = degrees of freedom; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker-Lewis index; SRMR =

standardized root mean square residual. Models were estimated using the employer sample. The hypothesized models specified the theoretically proposed nine-factor Good Work structure; empirical five-factor alternatives were derived from the employer exploratory factor analyses.

**Table 21. Information Criteria for Employer Confirmatory Factor Models.**

| Report Version Name                        | AIC       | BIC       |
|--------------------------------------------|-----------|-----------|
| Importance — Hypothesized 9-Factor Model   | 42655.888 | 43339.707 |
| Importance — Empirical 5-Factor Model      | 40059.324 | 40603.180 |
| Preparedness — Hypothesized 9-Factor Model | 46023.756 | 46707.574 |
| Preparedness — Empirical 5-Factor Model    | 42462.412 | 42994.270 |

*Note.* AIC = Akaike information criterion; BIC = Bayesian information criterion. Lower values indicate better relative fit among models estimated using the same observed variables and sample. Here, AIC and BIC values are reported descriptively for transparency. The hypothesized and empirically derived models were estimated using different sets of observed indicators (45 items for the hypothesized models versus 42 Importance items and 41 Preparedness items for the empirical models). Accordingly, AIC and BIC values should not be compared across the hypothesized and empirical models as evidence of relative model superiority. Model evaluation should instead emphasize the absolute fit indices reported in Table 20.

## Section 2.2 Student EFA PF-PCF Results

**Student Exploratory and Confirmatory Factor Analyses.** We conducted exploratory factor analyses of the full 45-item Importance and Preparedness item sets using both principal-factor (PF) and principal-component factor (PCF) extraction to examine the empirical dimensionality of the student responses. The unrestricted analyses indicated a dominant first factor under both extraction approaches, while the PCF solutions yielded six eigenvalues greater than 1.0 for both Importance and Preparedness. We therefore examined oblimin-rotated six-factor PCF solutions and used the resulting loading patterns to specify empirical six-factor CFA alternatives. The rotated solutions showed differentiated clusters of items across the six factors, although several items exhibited relatively weak or ambiguous primary loadings. We then compared the empirical factor structures with the hypothesized nine-factor Good Work structure using CFA. For both Importance and Preparedness, the hypothesized nine-factor models provided better fit than either the empirical three-factor or six-factor alternatives across the approximate fit indices and information criteria. Together, the exploratory and confirmatory analyses favored retaining the theoretically hypothesized nine-factor structure rather than replacing it with the lower-dimensional empirical alternatives identified in the student data.

**Table 22. Eigenvalues From Unrestricted Student Exploratory Factor Analyses**

| Rating Domain | Extraction Method | Factor | Eigenvalue | Proportion | Cumulative Proportion |
|---------------|-------------------|--------|------------|------------|-----------------------|
| Importance    | PF                | 1      | 20.588     | 0.726      | 0.726                 |
| Importance    | PF                | 2      | 1.841      | 0.065      | 0.791                 |
| Importance    | PF                | 3      | 1.173      | 0.041      | 0.832                 |
| Importance    | PF                | 4      | 0.883      | 0.031      | 0.864                 |
| Importance    | PF                | 5      | 0.811      | 0.029      | 0.892                 |
| Importance    | PF                | 6      | 0.749      | 0.026      | 0.919                 |
| Importance    | PF                | 7      | 0.611      | 0.022      | 0.940                 |
| Importance    | PF                | 8      | 0.594      | 0.021      | 0.961                 |
| Importance    | PF                | 9      | 0.501      | 0.018      | 0.979                 |

|              |     |    |        |       |       |
|--------------|-----|----|--------|-------|-------|
| Importance   | PF  | 10 | 0.389  | 0.014 | 0.992 |
| Importance   | PCF | 1  | 20.951 | 0.466 | 0.466 |
| Importance   | PCF | 2  | 2.194  | 0.049 | 0.514 |
| Importance   | PCF | 3  | 1.547  | 0.034 | 0.549 |
| Importance   | PCF | 4  | 1.245  | 0.028 | 0.576 |
| Importance   | PCF | 5  | 1.201  | 0.027 | 0.603 |
| Importance   | PCF | 6  | 1.131  | 0.025 | 0.628 |
| Importance   | PCF | 7  | 0.998  | 0.022 | 0.650 |
| Importance   | PCF | 8  | 0.950  | 0.021 | 0.671 |
| Importance   | PCF | 9  | 0.867  | 0.019 | 0.691 |
| Importance   | PCF | 10 | 0.786  | 0.017 | 0.708 |
| Preparedness | PF  | 1  | 23.335 | 0.741 | 0.741 |
| Preparedness | PF  | 2  | 2.081  | 0.066 | 0.807 |
| Preparedness | PF  | 3  | 1.003  | 0.032 | 0.839 |
| Preparedness | PF  | 4  | 0.851  | 0.027 | 0.866 |
| Preparedness | PF  | 5  | 0.763  | 0.024 | 0.890 |
| Preparedness | PF  | 6  | 0.734  | 0.023 | 0.914 |
| Preparedness | PF  | 7  | 0.680  | 0.022 | 0.935 |
| Preparedness | PF  | 8  | 0.523  | 0.017 | 0.952 |
| Preparedness | PF  | 9  | 0.502  | 0.016 | 0.968 |
| Preparedness | PF  | 10 | 0.376  | 0.012 | 0.980 |
| Preparedness | PCF | 1  | 23.631 | 0.525 | 0.525 |
| Preparedness | PCF | 2  | 2.385  | 0.053 | 0.578 |
| Preparedness | PCF | 3  | 1.305  | 0.029 | 0.607 |
| Preparedness | PCF | 4  | 1.162  | 0.026 | 0.633 |

|              |     |    |       |       |       |
|--------------|-----|----|-------|-------|-------|
| Preparedness | PCF | 5  | 1.046 | 0.023 | 0.656 |
| Preparedness | PCF | 6  | 1.043 | 0.023 | 0.679 |
| Preparedness | PCF | 7  | 0.979 | 0.022 | 0.701 |
| Preparedness | PCF | 8  | 0.827 | 0.018 | 0.720 |
| Preparedness | PCF | 9  | 0.807 | 0.018 | 0.737 |
| Preparedness | PCF | 10 | 0.673 | 0.015 | 0.752 |

Note. PF = principal-factor extraction; PCF = principal-component factor extraction. The first 10 eigenvalues are reported for each unrestricted analysis. Proportion and cumulative proportion represent the proportion of variance associated with each factor and the cumulative proportion across factors, respectively. The Kaiser criterion (eigenvalue > 1.0) was examined as one indicator of factor retention.

Factor-retention results differed by extraction method. Under principal-factor (PF) extraction, three factors had eigenvalues greater than 1.0 for both Importance (20.588, 1.841, and 1.173) and Preparedness (23.335, 2.081, and 1.003); the fourth eigenvalues fell below 1.0 in both domains. Accordingly, three-factor PF solutions were extracted and obliquely rotated, and the resulting loading patterns were used to specify the empirical three-factor CFA models reported in Table 24. In contrast, principal-component factoring (PCF) retained six factors under the same eigenvalue-greater-than-one criterion, providing the basis for the empirical six-factor alternatives.

**Table 23. Rotated Six-Factor PCF Loadings for Student Responses**

| Rating Domain | Item Name              | Variable           | Primary Factor | Primary Loading | Second-Highest Absolute Loading |
|---------------|------------------------|--------------------|----------------|-----------------|---------------------------------|
| Importance    | Best Effort            | c_imp_best_effort  | 2              | 0.646           | 0.154                           |
| Importance    | Initiative             | c_imp_initiative   | 2              | 0.731           | 0.113                           |
| Importance    | Following Instructions | c_imp_instructions | 2              | 0.760           | 0.130                           |
| Importance    | Keeping Commitments    | c_imp_commitments  | 2              | 0.876           | 0.099                           |
| Importance    | Staying Focused        | c_imp_focused      | 2              | 0.794           | 0.061                           |
| Importance    | Honesty                | c_imp_honesty      | 2              | 0.337           | 0.335                           |

|            |                               |                       |   |       |       |
|------------|-------------------------------|-----------------------|---|-------|-------|
| Importance | Fairness                      | c_imp_fairness        | 3 | 0.317 | 0.305 |
| Importance | Saying and Doing              | c_imp_say_do          | 2 | 0.539 | 0.217 |
| Importance | Speaking Up                   | c_imp_speak           | 3 | 0.334 | 0.265 |
| Importance | Giving Credit                 | c_imp_credit          | 5 | 0.336 | 0.324 |
| Importance | Understanding Others          | c_imp_others          | 5 | 0.471 | 0.382 |
| Importance | Resolving Conflict            | c_imp_resolve         | 5 | 0.481 | 0.189 |
| Importance | Building Relationships        | c_imp_relationships   | 5 | 0.540 | 0.201 |
| Importance | Working Across<br>Backgrounds | c_imp_backgrounds     | 5 | 0.497 | 0.220 |
| Importance | Supporting Others             | c_imp_support         | 5 | 0.423 | 0.258 |
| Importance | Decision-Making               | c_imp_decisions       | 3 | 0.649 | 0.147 |
| Importance | Knowledge                     | c_imp_knowledge       | 3 | 0.613 | 0.207 |
| Importance | Attention to Detail           | c_imp_details         | 3 | 0.684 | 0.136 |
| Importance | Thinking                      | c_imp_thinking        | 3 | 0.662 | 0.192 |
| Importance | New Information               | c_imp_new_information | 3 | 0.651 | 0.130 |
| Importance | Alignment                     | c_imp_aligns          | 1 | 0.677 | 0.208 |
| Importance | Meaningful Work               | c_imp_meaningful      | 1 | 0.646 | 0.269 |
| Importance | Connecting to Goals           | c_imp_connects_goals  | 1 | 0.383 | 0.199 |
| Importance | Interesting Work              | c_imp_interesting     | 1 | 0.541 | 0.288 |
| Importance | Purposeful Work               | c_imp_purposeful      | 1 | 0.674 | 0.131 |
| Importance | Openness                      | c_imp_open            | 3 | 0.410 | 0.290 |
| Importance | Taking Risks                  | c_imp_risks           | 6 | 0.521 | 0.157 |
| Importance | Learning From Mistakes        | c_imp_mistakes        | 3 | 0.335 | 0.317 |
| Importance | Planning                      | c_imp_plan            | 1 | 0.315 | 0.311 |
| Importance | Staying on Task               | c_imp_on_task         | 3 | 0.344 | 0.312 |

|              |                        |                        |   |       |       |
|--------------|------------------------|------------------------|---|-------|-------|
| Importance   | Goals for Others       | c_imp_goals_others     | 1 | 0.688 | 0.149 |
| Importance   | Wellbeing of Others    | c_imp_wellbeing_others | 1 | 0.744 | 0.297 |
| Importance   | Growth of Others       | c_imp_growth_others    | 1 | 0.507 | 0.216 |
| Importance   | Community              | c_imp_community        | 1 | 0.757 | 0.063 |
| Importance   | Community and Others   | c_imp_community_others | 1 | 0.786 | 0.203 |
| Importance   | Meeting Goals          | c_imp_meets_goals      | 3 | 0.323 | 0.275 |
| Importance   | Following Through      | c_imp_follow_through   | 6 | 0.651 | 0.206 |
| Importance   | Completing Work        | c_imp_complete         | 4 | 0.306 | 0.281 |
| Importance   | High-Quality Work      | c_imp_high_quality     | 3 | 0.453 | 0.254 |
| Importance   | Results                | c_imp_results          | 6 | 0.651 | 0.225 |
| Importance   | Work-Life Balance      | c_imp_work_life        | 4 | 0.661 | 0.145 |
| Importance   | Fair Pay               | c_imp_fair_pay         | 4 | 0.806 | 0.116 |
| Importance   | Mobility               | c_imp_mobility         | 4 | 0.725 | 0.233 |
| Importance   | Health                 | c_imp_health           | 4 | 0.592 | 0.192 |
| Importance   | Self                   | c_imp_self             | 6 | 0.434 | 0.352 |
| Preparedness | Best Effort            | c_prep_best_effort     | 6 | 0.643 | 0.136 |
| Preparedness | Initiative             | c_prep_initiative      | 6 | 0.645 | 0.157 |
| Preparedness | Following Instructions | c_prep_instructions    | 6 | 0.681 | 0.141 |
| Preparedness | Keeping Commitments    | c_prep_commitments     | 6 | 0.714 | 0.172 |
| Preparedness | Staying Focused        | c_prep_focused         | 6 | 0.591 | 0.196 |
| Preparedness | Honesty                | c_prep_honesty         | 5 | 0.702 | 0.250 |
| Preparedness | Fairness               | c_prep_fairness        | 5 | 0.590 | 0.215 |
| Preparedness | Saying and Doing       | c_prep_say_do          | 5 | 0.459 | 0.353 |
| Preparedness | Speaking Up            | c_prep_speak           | 5 | 0.492 | 0.266 |
| Preparedness | Giving Credit          | c_prep_credit          | 5 | 0.732 | 0.149 |

|              |                            |                         |   |       |       |
|--------------|----------------------------|-------------------------|---|-------|-------|
| Preparedness | Understanding Others       | c_prep_others           | 2 | 0.891 | 0.052 |
| Preparedness | Resolving Conflict         | c_prep_resolve          | 2 | 0.703 | 0.152 |
| Preparedness | Building Relationships     | c_prep_relationships    | 2 | 0.778 | 0.137 |
| Preparedness | Working Across Backgrounds | c_prep_backgrounds      | 2 | 0.732 | 0.219 |
| Preparedness | Supporting Others          | c_prep_support          | 2 | 0.740 | 0.203 |
| Preparedness | Decision-Making            | c_prep_decisions        | 4 | 0.469 | 0.321 |
| Preparedness | Knowledge                  | c_prep_knowledge        | 4 | 0.504 | 0.223 |
| Preparedness | Attention to Detail        | c_prep_details          | 4 | 0.486 | 0.217 |
| Preparedness | Thinking                   | c_prep_thinking         | 4 | 0.586 | 0.242 |
| Preparedness | New Information            | c_prep_new_information  | 4 | 0.379 | 0.264 |
| Preparedness | Alignment                  | c_prep_aligns           | 4 | 0.347 | 0.344 |
| Preparedness | Meaningful Work            | c_prep_meaningful       | 4 | 0.377 | 0.300 |
| Preparedness | Connecting to Goals        | c_prep_connects_goals   | 4 | 0.378 | 0.317 |
| Preparedness | Interesting Work           | c_prep_interesting      | 4 | 0.393 | 0.329 |
| Preparedness | Purposeful Work            | c_prep_purposeful       | 4 | 0.299 | 0.298 |
| Preparedness | Openness                   | c_prep_open             | 4 | 0.401 | 0.270 |
| Preparedness | Taking Risks               | c_prep_risks            | 3 | 0.499 | 0.149 |
| Preparedness | Learning From Mistakes     | c_prep_mistakes         | 4 | 0.319 | 0.261 |
| Preparedness | Planning                   | c_prep_plan             | 4 | 0.313 | 0.257 |
| Preparedness | Staying on Task            | c_prep_on_task          | 4 | 0.410 | 0.214 |
| Preparedness | Goals for Others           | c_prep_goals_others     | 1 | 0.459 | 0.272 |
| Preparedness | Wellbeing of Others        | c_prep_wellbeing_others | 1 | 0.516 | 0.180 |
| Preparedness | Growth of Others           | c_prep_growth_others    | 1 | 0.499 | 0.220 |
| Preparedness | Community                  | c_prep_community        | 1 | 0.479 | 0.224 |

|              |                      |                         |   |       |       |
|--------------|----------------------|-------------------------|---|-------|-------|
| Preparedness | Community and Others | c_prep_community_others | 1 | 0.623 | 0.184 |
| Preparedness | Meeting Goals        | c_prep_meets_goals      | 1 | 0.601 | 0.224 |
| Preparedness | Following Through    | c_prep_follow_through   | 3 | 0.452 | 0.384 |
| Preparedness | Completing Work      | c_prep_complete         | 1 | 0.644 | 0.094 |
| Preparedness | High-Quality Work    | c_prep_high_quality     | 1 | 0.676 | 0.160 |
| Preparedness | Results              | c_prep_results          | 1 | 0.809 | 0.125 |
| Preparedness | Work-Life Balance    | c_prep_work_life        | 3 | 0.847 | 0.099 |
| Preparedness | Fair Pay             | c_prep_fair_pay         | 3 | 0.723 | 0.110 |
| Preparedness | Mobility             | c_prep_mobility         | 3 | 0.564 | 0.249 |
| Preparedness | Health               | c_prep_health           | 3 | 0.763 | 0.077 |
| Preparedness | Self                 | c_prep_self             | 3 | 0.589 | 0.190 |

*Note.* PCF = principal-component factor extraction. Six-factor solutions were rotated using oblique oblimin rotation. Primary Factor identifies the factor on which each item had its largest absolute loading; Primary Loading retains the sign of that loading. Second-Highest Absolute Loading reports the magnitude of the item's next-largest loading and is provided to identify potentially ambiguous or cross-loading items. Factor numbers are empirical factor identifiers and should not be interpreted as corresponding directly to the nine hypothesized Good Work facets.

**Table 24. Fit Statistics for Student Confirmatory Factor Models**

| Report Version Name                          | model           | N   | Chi2     | df  | p     | RMSEA | CFI   | TLI   | SRMR  |
|----------------------------------------------|-----------------|-----|----------|-----|-------|-------|-------|-------|-------|
| Importance — Hypothesized 9-Factor Model     | imp_hyp9        | 944 | 5366.775 | 909 | 0.000 | 0.072 | 0.855 | 0.843 | 0.044 |
| Preparedness — Hypothesized 9-Factor Model   | prep_hyp9       | 944 | 5891.476 | 909 | 0.000 | 0.076 | 0.868 | 0.856 | 0.038 |
| Importance — Empirical 3-Factor Model (PF)   | imp_emp3_fixed  | 944 | 7454.972 | 942 | 0.000 | 0.086 | 0.789 | 0.778 | 0.054 |
| Preparedness — Empirical 3-Factor Model (PF) | prep_emp3_fixed | 944 | 8750.604 | 942 | 0.000 | 0.094 | 0.792 | 0.782 | 0.048 |

|                                             |               |     |          |     |       |       |       |       |       |
|---------------------------------------------|---------------|-----|----------|-----|-------|-------|-------|-------|-------|
| Importance — Empirical 6-Factor PCF Model   | imp_emp6_pcf  | 944 | 6708.367 | 930 | 0.000 | 0.081 | 0.813 | 0.801 | 0.052 |
| Preparedness — Empirical 6-Factor PCF Model | prep_emp6_pcf | 944 | 7331.767 | 930 | 0.000 | 0.085 | 0.830 | 0.819 | 0.046 |

*Note.*  $N$  = sample size;  $\chi^2$  = model chi-square;  $df$  = degrees of freedom; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis index; SRMR = standardized root mean square residual. All models were estimated using the student sample. Empirical three-factor and six-factor models were specified from the exploratory analyses; the six-factor alternatives were based on the PCF solutions.

**Table 25. Information Criteria for Student Confirmatory Factor Models**

| Report Version Name                         | AIC       | BIC       |
|---------------------------------------------|-----------|-----------|
| Importance — Hypothesized 9-Factor Model    | 80971.837 | 81801.211 |
| Preparedness — Hypothesized 9-Factor Model  | 89927.726 | 90757.102 |
| Importance — Empirical 3-Factor Model       | 82994.033 | 83663.352 |
| Preparedness — Empirical 3-Factor Model     | 92720.854 | 93390.172 |
| Importance — Empirical 6-Factor PCF Model   | 82271.429 | 82998.945 |
| Preparedness — Empirical 6-Factor PCF Model | 91326.017 | 92053.539 |

*Note.* AIC = Akaike information criterion; BIC = Bayesian information criterion. Lower values indicate better relative fit among models estimated on the same data and outcome set. Information criteria should therefore be compared within Importance models and within Preparedness models, rather than across the two rating domains.

## Section 2.3 Item–Level Reliability Diagnostics and Reduction

**Item–Level Reliability Diagnostics and Reduction.** We evaluated whether removing the weakest–performing item from each five–item Good Work facet improved employer internal consistency and reduced employer–student differences in item coherence (how tightly the items correlated). Item removal produced mixed effects on reliability: employer Cronbach’s alpha increased for Ethics, Relationship Skills, and Purpose/Engagement, with the largest improvement observed for Purpose/Engagement, whereas alpha decreased for the remaining six facets. In contrast, the employer–student coherence gap narrowed following item removal for eight of the nine facets, with the largest improvement for Purpose/Engagement, followed by Relationship Skills and Ethics. Health/Wellbeing was the only facet for which the coherence gap widened after removal of the weakest item. Thus, item reduction generally improved cross–group coherence but did not consistently improve employer internal consistency, indicating that decisions to retain or remove items should consider both reliability and cross–group coherence rather than alpha alone.

**Table 26. Item–Reduction Diagnostic Results.**

| Theme                          | Weakest Item        | Emp. $\alpha$<br>Before | Emp. $\alpha$<br>After | Emp. $\alpha$<br>Change | Gap<br>Before | Gap<br>After | Gap<br>Change |
|--------------------------------|---------------------|-------------------------|------------------------|-------------------------|---------------|--------------|---------------|
| Effort                         | focused             | 0.758                   | 0.725                  | –0.033                  | –0.196        | –0.168       | 0.029         |
| Ethics                         | credit              | 0.704                   | 0.713                  | 0.009                   | –0.251        | –0.202       | 0.049         |
| Relationship Skills            | resolve             | 0.775                   | 0.783                  | 0.008                   | –0.180        | –0.117       | 0.063         |
| Expertise/Skills               | decisions           | 0.788                   | 0.771                  | –0.017                  | –0.221        | –0.182       | 0.038         |
| Purpose/Engagement             | connects<br>goals   | 0.815                   | 0.843                  | 0.028                   | –0.152        | –0.075       | 0.077         |
| Learning/Growth/Self–Awareness | risks               | 0.701                   | 0.683                  | –0.018                  | –0.192        | –0.192       | 0.001         |
| Other–Oriented Impact          | wellbeing<br>others | 0.793                   | 0.773                  | –0.020                  | –0.190        | –0.161       | 0.029         |
| Recognition/Achievement        | high quality        | 0.579                   | 0.548                  | –0.031                  | –0.261        | –0.235       | 0.026         |
| Health/Wellbeing               | self                | 0.738                   | 0.704                  | –0.034                  | –0.127        | –0.166       | –0.039        |

*Note.*  $\alpha$  = Cronbach's alpha. The weakest item was defined as the employer item with the lowest average correlation with the other four items within its five-item facet.  $\Delta\alpha$  = four-item  $\alpha$  minus five-item  $\alpha$ ; positive values indicate improved employer internal consistency following item removal. The coherence gap was calculated as the employer average inter-item correlation minus the student average inter-item correlation.  $\Delta$  Coherence Gap = four-item coherence gap minus five-item coherence gap; positive values indicate that the employer–student coherence gap narrowed following item removal, whereas negative values indicate that it widened. Change columns were computed from unrounded values and then rounded for display; they may therefore differ by up to .001 from the difference between the rounded values shown in the preceding columns.

## Section 2.4 Reduced CFA Results

**Reduced-Instrument Confirmatory Factor Analysis.** We conducted confirmatory factor analyses of the reduced 37-item instrument separately for Importance and Preparedness ratings and for employer and student samples. The hypothesized nine-factor structure was evaluated in both samples, and alternative empirically derived factor structures were additionally evaluated in the employer sample. Across both rating domains, the hypothesized nine-factor models showed better approximate fit in the student sample than in the employer sample. Within the employer sample, collapsing the hypothesized factors into the empirically derived alternative structures did not improve model fit: for Importance, the hypothesized nine-factor model outperformed the empirical eight- and seven-factor alternatives across the approximate fit indices and information criteria; for Preparedness, the hypothesized nine-factor model likewise showed better approximate fit than the empirical six- and five-factor alternatives. Overall, these analyses supported retaining the hypothesized nine-factor representation of the reduced instrument rather than the tested lower-dimensional empirical alternatives.

**Table 27. Fit Statistics for Reduced-Instrument Confirmatory Factor Models**

| Model                                                 | N   | chi2     | df  | p     | RMSEA | CFI   | TLI   | SRMR  |
|-------------------------------------------------------|-----|----------|-----|-------|-------|-------|-------|-------|
| Importance — Employer — Hypothesized 9-Factor Model   | 403 | 1995.415 | 593 | 0.000 | 0.077 | 0.780 | 0.753 | 0.067 |
| Importance — Student — Hypothesized 9-Factor Model    | 944 | 3425.195 | 593 | 0.000 | 0.071 | 0.881 | 0.866 | 0.042 |
| Importance — Employer — Empirical 8-Factor Model      | 403 | 2206.859 | 601 | 0.000 | 0.082 | 0.748 | 0.721 | 0.071 |
| Importance — Employer — Empirical 7-Factor Model      | 403 | 2230.749 | 608 | 0.000 | 0.081 | 0.745 | 0.721 | 0.071 |
| Preparedness — Employer — Hypothesized 9-Factor Model | 403 | 1941.388 | 593 | 0.000 | 0.075 | 0.837 | 0.817 | 0.052 |
| Preparedness — Student — Hypothesized 9-Factor Model  | 944 | 3538.490 | 593 | 0.000 | 0.073 | 0.897 | 0.884 | 0.035 |
| Preparedness — Employer — Empirical 6-Factor Model    | 403 | 2434.276 | 614 | 0.000 | 0.086 | 0.780 | 0.761 | 0.066 |
| Preparedness — Employer — Empirical 5-Factor Model    | 403 | 2483.481 | 619 | 0.000 | 0.087 | 0.775 | 0.757 | 0.067 |

*Note.*  $N$  = sample size;  $\chi^2$  = model chi-square;  $df$  = degrees of freedom; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker-Lewis index; SRMR = standardized root mean square residual. Hypothesized nine-factor models were estimated separately in the employer and student samples. Empirically derived alternative models were

estimated in the employer sample. Employer and student models are presented side by side for descriptive reference and are not formal nested-model comparisons.

**Table 28. Information Criteria for Reduced-Instrument Confirmatory Factor Models**

| Importance                                          | AIC        | BIC        |
|-----------------------------------------------------|------------|------------|
| Importance — Employer — Hypothesized 9-Factor Model | 34908.160  | 35496.004  |
| Importance — Employer — Empirical 8-Factor Model    | 35103.604  | 35659.457  |
| Importance — Employer — Empirical 7-Factor Model    | 35113.494  | 35641.355  |
| Importance — Student — Hypothesized 9-Factor Model  | 67456.323  | 68169.289  |
| Preparedness                                        | AIC        | BIC        |
| Preparedness — Employer Hypothesized 9-Factor       | 37,675.510 | 38,263.360 |
| Preparedness — Employer Empirical 6-Factor          | 38,126.400 | 38,630.270 |
| Preparedness — Employer Empirical 5-Factor          | 38,165.610 | 38,649.480 |
| Preparedness — Student Hypothesized 9-Factor        | 74,966.270 | 75,679.240 |

*Note.* AIC = Akaike information criterion; BIC = Bayesian information criterion. Lower AIC and BIC values indicate better relative fit among models estimated on the same data. Information criteria should be compared within Importance models and within Preparedness models, and within each sample, rather than across rating domains or across the employer and student samples, because those models were estimated on different outcome sets and sample sizes.

## Section 2.5: Partial Invariance Results

**Partial-Invariance Diagnostic Analysis.** Following the reduced-instrument measurement invariance analyses, we conducted diagnostic multigroup CFA analyses to identify potential sources of non-invariance across employer and student groups. Models were estimated separately for Importance and Preparedness ratings. The diagnostic procedure examined the full partial-invariance model and facet-level metric models, with item-level differences between employer and student groups used to identify candidate items for subsequent partial-invariance testing. Overall, the facet-level models generally showed substantially stronger fit than the full multidimensional models, although fit varied across facets and fit indices. The diagnostic analyses therefore provided the basis for identifying and testing targeted equality-constraint releases in the subsequent partial-invariance analyses.

**Table 29. Fit Statistics for Partial-Invariance Diagnostic Models.**

| Variable Name      | Model                                                                 | N        | chi2     | df   | p     | RMSEA | CFI   | TLI   | SRMR  |
|--------------------|-----------------------------------------------------------------------|----------|----------|------|-------|-------|-------|-------|-------|
| imp_full_pi        | Importance — Full Partial-Invariance Model                            | 134<br>7 | 8887.755 | 1863 | 0.000 | 0.075 | 0.820 | 0.809 | 0.106 |
| imp_effort_pi_met  | Importance — Effort — Metric Diagnostic Model                         | 134<br>7 | 83.025   | 15   | 0.000 | 0.082 | 0.974 | 0.966 | 0.142 |
| imp_ethics_pi_met  | Importance — Ethics — Metric Diagnostic Model                         | 134<br>7 | 118.789  | 15   | 0.000 | 0.101 | 0.961 | 0.948 | 0.131 |
| imp_relsk_pi_met   | Importance — Relationship Skills — Metric Diagnostic Model            | 134<br>7 | 42.550   | 15   | 0.000 | 0.052 | 0.990 | 0.987 | 0.075 |
| imp_expert_pi_met  | Importance — Expertise/Skills — Metric Diagnostic Model               | 134<br>7 | 88.293   | 15   | 0.000 | 0.085 | 0.978 | 0.970 | 0.173 |
| imp_purpose_pi_met | Importance — Purpose/Engagement — Metric Diagnostic Model             | 134<br>7 | 111.157  | 15   | 0.000 | 0.098 | 0.971 | 0.961 | 0.090 |
| imp_learn_pi_met   | Importance — Learning/Growth/Self-Awareness — Metric Diagnostic Model | 134<br>7 | 62.899   | 15   | 0.000 | 0.069 | 0.977 | 0.970 | 0.093 |
| imp_other_pi_met   | Importance — Other-Oriented Impact — Metric Diagnostic Model          | 134<br>7 | 114.461  | 15   | 0.000 | 0.099 | 0.968 | 0.958 | 0.054 |

|                       |                                                                               |          |          |      |       |       |       |       |       |
|-----------------------|-------------------------------------------------------------------------------|----------|----------|------|-------|-------|-------|-------|-------|
| imp_recog_pi_met      | Importance —<br>Recognition/Achievement — Metric<br>Diagnostic Model          | 134<br>7 | 75.979   | 15   | 0.000 | 0.078 | 0.963 | 0.951 | 0.116 |
| imp_wellbeing_pi_met  | Importance — Health/Wellbeing —<br>Metric Diagnostic Model                    | 134<br>7 | 108.683  | 15   | 0.000 | 0.096 | 0.955 | 0.940 | 0.068 |
| prep_full_pi          | Preparedness — Full<br>Partial-Invariance Model                               | 134<br>7 | 9067.089 | 1863 | 0.000 | 0.076 | 0.849 | 0.840 | 0.088 |
| prep_effort_pi_met    | Preparedness — Effort — Metric<br>Diagnostic Model                            | 134<br>7 | 70.592   | 15   | 0.000 | 0.074 | 0.983 | 0.977 | 0.064 |
| prep_ethics_pi_met    | Preparedness — Ethics — Metric<br>Diagnostic Model                            | 134<br>7 | 46.839   | 15   | 0.000 | 0.056 | 0.989 | 0.985 | 0.097 |
| prep_relsk_pi_met     | Preparedness — Relationship Skills<br>— Metric Diagnostic Model               | 134<br>7 | 81.147   | 15   | 0.000 | 0.081 | 0.981 | 0.974 | 0.115 |
| prep_expert_pi_met    | Preparedness — Expertise/Skills —<br>Metric Diagnostic Model                  | 134<br>7 | 34.554   | 15   | 0.003 | 0.044 | 0.994 | 0.992 | 0.032 |
| prep_purpose_pi_met   | Preparedness —<br>Purpose/Engagement — Metric<br>Diagnostic Model             | 134<br>7 | 81.279   | 15   | 0.000 | 0.081 | 0.985 | 0.980 | 0.142 |
| prep_learn_pi_met     | Preparedness —<br>Learning/Growth/Self-Awareness —<br>Metric Diagnostic Model | 134<br>7 | 62.985   | 15   | 0.000 | 0.069 | 0.985 | 0.979 | 0.093 |
| prep_other_pi_met     | Preparedness — Other-Oriented<br>Impact — Metric Diagnostic Model             | 134<br>7 | 86.409   | 15   | 0.000 | 0.084 | 0.982 | 0.976 | 0.069 |
| prep_recog_pi_met     | Preparedness —<br>Recognition/Achievement — Metric<br>Diagnostic Model        | 134<br>7 | 71.001   | 15   | 0.000 | 0.074 | 0.981 | 0.974 | 0.040 |
| prep_wellbeing_pi_met | Preparedness — Health/Wellbeing<br>— Metric Diagnostic Model                  | 134<br>7 | 211.494  | 15   | 0.000 | 0.140 | 0.950 | 0.933 | 0.129 |

Note.  $N$  = sample size;  $\chi^2$  = model chi-square;  $df$  = degrees of freedom; RMSEA = root mean square error of approximation; CFI = comparative fit index; TLI = Tucker–Lewis index; SRMR = standardized root mean square residual. Facet-level models are metric diagnostic models rather than tests of partial scalar invariance. Employer–student differences in item intercepts from these models were used to identify candidate intercept constraints for subsequent partial-invariance testing.



## Section 2.6 Employer–Student Inter–Item Coherence by Good Work Facet and Sector

**Field Coherence Diagnostic.** To examine whether weaker employer–side measurement coherence was concentrated within particular occupational fields, we compared mean inter–item correlations for the original five–item Good Work facets between employers and students separately within Architecture/Construction, Information Technology, and Healthcare. Across all 27 facet–by–sector comparisons, employer mean inter–item correlations were lower than the corresponding student correlations, indicating that the employer–student coherence difference was not confined to a single facet or occupational sector. When averaged across facets, the employer–student difference was largest in Information Technology, followed by Architecture/Construction and Healthcare, although the magnitude of the difference varied across individual facets and sectors.

To further examine whether weaker employer coherence could be attributed to isolated item relationships, we compared individual employer and student item–pair correlations for Learning/Growth/Self–Awareness, Recognition/Achievement, and Relationship Skills. Employer correlations were lower than student correlations for every item pair examined across all three facets, supporting a broader pattern of weaker within–facet coherence among employers rather than an isolated problematic item or item pair. Overall, these findings suggest that the employer–student difference in measurement coherence was broadly distributed across occupational fields and item relationships.

**Table 30. Employer–Student Inter–Item Coherence by Good Work Facet and Sector**

| Theme  | Sector      | Average Employ r | Average Student r | Gap    |
|--------|-------------|------------------|-------------------|--------|
| EFFORT | Arch/Constr | 0.415            | 0.587             | –0.172 |
| EFFORT | IT          | 0.404            | 0.590             | –0.185 |
| EFFORT | Healthcare  | 0.337            | 0.494             | –0.157 |
| ETHICS | Arch/Constr | 0.374            | 0.530             | –0.157 |
| ETHICS | IT          | 0.391            | 0.622             | –0.231 |
| ETHICS | Healthcare  | 0.242            | 0.496             | –0.254 |

|             |             |       |       |        |
|-------------|-------------|-------|-------|--------|
| EXPERTISE   | Arch/Constr | 0.472 | 0.590 | -0.118 |
| EXPERTISE   | IT          | 0.321 | 0.690 | -0.368 |
| EXPERTISE   | Healthcare  | 0.398 | 0.549 | -0.151 |
| LEARNING    | Arch/Constr | 0.316 | 0.537 | -0.221 |
| LEARNING    | IT          | 0.358 | 0.556 | -0.198 |
| LEARNING    | Healthcare  | 0.337 | 0.431 | -0.095 |
| OTHER       | Arch/Constr | 0.439 | 0.562 | -0.122 |
| OTHER       | IT          | 0.460 | 0.667 | -0.207 |
| OTHER       | Healthcare  | 0.408 | 0.530 | -0.123 |
| PURPOSE     | Arch/Constr | 0.440 | 0.585 | -0.145 |
| PURPOSE     | IT          | 0.484 | 0.614 | -0.130 |
| PURPOSE     | Healthcare  | 0.473 | 0.569 | -0.096 |
| RECOGNITION | Arch/Constr | 0.186 | 0.490 | -0.304 |
| RECOGNITION | IT          | 0.262 | 0.462 | -0.200 |
| RECOGNITION | Healthcare  | 0.225 | 0.469 | -0.244 |
| RELSKILLS   | Arch/Constr | 0.388 | 0.569 | -0.182 |
| RELSKILLS   | IT          | 0.447 | 0.637 | -0.190 |
| RELSKILLS   | Healthcare  | 0.395 | 0.493 | -0.097 |
| WELLBEING   | Arch/Constr | 0.316 | 0.484 | -0.168 |
| WELLBEING   | IT          | 0.417 | 0.525 | -0.108 |
| WELLBEING   | Healthcare  | 0.389 | 0.432 | -0.043 |

*Note.* Mean inter-item  $r$  represents the average of the 10 unique pairwise correlations among the five original items within each Good Work facet.  $\Delta r$  = employer mean inter-item  $r$  – student mean inter-item  $r$ ; negative values therefore indicate lower within-facet coherence among employers than among students. Analyses use the original five-item facets rather than the subsequently reduced 37-item scoring instrument.

**Table 31. Employer–Student Inter-Item Coherence by Sector**

| Sector      | Average Employer $r$ | Average Student $r$ | Gap    |
|-------------|----------------------|---------------------|--------|
| Arch/Constr | 0.372                | 0.548               | -0.177 |
| IT          | 0.394                | 0.596               | -0.202 |
| Healthcare  | 0.356                | 0.496               | -0.140 |

*Note.* Values represent averages across the nine Good Work facets within each occupational sector. Mean inter-item  $r$  is based on the original five-item facet specifications.  $\Delta r$  = employer mean inter-item  $r$  – student mean inter-item  $r$ ; negative values indicate lower average within-facet coherence among employers than among students.

**Table 32. Item-Pair Correlation Diagnostic for Selected Good Work Facets**

| Theme                          | Item 1         | Item 2       | Employer $r$ | Student $r$ |
|--------------------------------|----------------|--------------|--------------|-------------|
| Learning/Growth/Self-Awareness | mistakes       | on_task      | 0.314        | 0.478       |
| Learning/Growth/Self-Awareness | mistakes       | plan         | 0.374        | 0.507       |
| Learning/Growth/Self-Awareness | open           | mistakes     | 0.340        | 0.570       |
| Learning/Growth/Self-Awareness | open           | on_task      | 0.332        | 0.604       |
| Learning/Growth/Self-Awareness | open           | plan         | 0.413        | 0.617       |
| Learning/Growth/Self-Awareness | open           | risks        | 0.308        | 0.499       |
| Learning/Growth/Self-Awareness | plan           | on_task      | 0.339        | 0.486       |
| Learning/Growth/Self-Awareness | risks          | mistakes     | 0.240        | 0.428       |
| Learning/Growth/Self-Awareness | risks          | on_task      | 0.214        | 0.512       |
| Learning/Growth/Self-Awareness | risks          | plan         | 0.409        | 0.505       |
| Recognition/Achievement        | complete       | high_quality | 0.273        | 0.547       |
| Recognition/Achievement        | complete       | results      | 0.358        | 0.517       |
| Recognition/Achievement        | follow_through | complete     | 0.193        | 0.458       |

|                         |                    |                    |       |       |
|-------------------------|--------------------|--------------------|-------|-------|
| Recognition/Achievement | follow_throug<br>h | high_quality       | 0.157 | 0.486 |
| Recognition/Achievement | follow_throug<br>h | results            | 0.208 | 0.462 |
| Recognition/Achievement | high_quality       | results            | 0.135 | 0.437 |
| Recognition/Achievement | meets_goals        | complete           | 0.198 | 0.484 |
| Recognition/Achievement | meets_goals        | follow_throug<br>h | 0.314 | 0.435 |
| Recognition/Achievement | meets_goals        | high_quality       | 0.225 | 0.521 |
| Recognition/Achievement | meets_goals        | results            | 0.150 | 0.476 |
| Relationship Skills     | backgrounds        | support            | 0.438 | 0.635 |
| Relationship Skills     | others             | backgrounds        | 0.490 | 0.614 |
| Relationship Skills     | others             | relationships      | 0.557 | 0.572 |
| Relationship Skills     | others             | resolve            | 0.302 | 0.610 |
| Relationship Skills     | others             | support            | 0.491 | 0.635 |
| Relationship Skills     | relationships      | backgrounds        | 0.421 | 0.563 |
| Relationship Skills     | relationships      | support            | 0.479 | 0.557 |
| Relationship Skills     | resolve            | backgrounds        | 0.268 | 0.550 |
| Relationship Skills     | resolve            | relationships      | 0.339 | 0.573 |
| Relationship Skills     | resolve            | support            | 0.329 | 0.606 |

*Note.* Values are Pearson correlations between individual item pairs within the original five-item facet specifications. Learning/Growth/Self-Awareness, Recognition/Achievement, and Relationship Skills were examined diagnostically to assess whether lower employer mean inter-item coherence reflected isolated weak item relationships or a broader pattern across item pairs. Analyses use the original five-item facets rather than the subsequently reduced 37-item scoring instrument.

## Section 3: Pilot Diagnostics — Round 2 Pilot

### 3.1 Rationale, Sample, and Instrument Changes

Fielding a second pilot followed directly from unresolved psychometric and structural findings in the Round 1 recommendations that could only be evaluated by modifying the instrument design itself. Three core issues identified in the baseline quantitative analysis motivated this redesign:

**(1) Mitigation of Planned–Missingness Variance:** Round 1 utilized a planned matrix–sampling design that produced ~40% item–level missingness across Good Work observations and 25% missingness on the Credential Value scale. While handled successfully via a 30–imputation Multiple Imputation (MI) framework, complete–case sensitivity checks (detailed in Appendix A) revealed that imputed correlations consistently understated the within–theme covariance structure. Evaluating the survey under a fully observed administration was necessary to validate baseline correlation patterns.

**(2) Independent Evaluation of the Scale Structure:** Every scale–shortening and item–reduction decision in Section 2 was developed and tested on the identical baseline sample ( $N = 1,347$ ). The Round 2 pilot therefore provided an independent sample in which to reassess item–level performance and evaluate whether the Round 1 reduction decisions generalized beyond the sample in which they were developed. Primary analyses retained the original 45–item theoretical structure, with the previously derived 37–item specification examined as a secondary sensitivity analysis.

**(3) Neutralization of Halo–Effect Bias:** Round 1 suggested substantial within–theme response coherence consistent with a possible halo effect (pervasively elevated self–ratings and tight standard deviations) that could not be resolved by item–level text modifications alone. A format redesign—grouping items into full blocks rather than matrix–sampled blocks and adding a behavioral–anchoring frame of reference—was implemented to test whether formatting could reduce this systematic rating bias.

The Round 2 pilot was fielded to a pooled sample of  $N = 53$  respondents, comprising 38 active professional employers and 15 college students. Because this sample size was deliberately modest, it was scoped specifically to evaluate feasibility, delivery mechanics, and convergent item–level indicators. It was not intended to serve as a high–powered structural validation study, and its findings are reported accordingly.

**Table 33. Round 2 Pilot Sample**

| Occupational Sector         | Employer n | Student n | Pooled N |
|-----------------------------|------------|-----------|----------|
| Architecture & Construction | 8          | 0         | 8        |
| Information Technology      | 14         | 12        | 26       |
| Healthcare                  | 16         | 3         | 19       |
| Pooled Total Sample         | 38         | 15        | 53       |

The survey instrument underwent three substantive structural changes in the redesign: (1) Good Work items were fielded in two full blocks (all 45 Importance, then all 45 Preparedness), entirely eliminating matrix-sampling; (2) an opening ranking task and behavioral-anchoring instruction were added; and (3) the Credential Value scale was consolidated to a 34-item, neutrally framed instrument with uniform wording across cohorts to enable direct statistical comparison.

### 3.2 Data Cleaning and Instrument Structure

The pilot database was constructed from a raw Qualtrics export of 60 records. A sequential, multi-stage eligibility screen was programmatically executed: (1) active consent check, (2) age screening (18+), (3) sector eligibility confirmation, (4) completeness validation, and (5) duplicate/retake detection using Prolific ID matches. Of the 60 raw respondents, 6 were excluded for failing consent, and 1 retake was flagged and removed, yielding an active analytical pool of N = 53. Although a fast-completion flag was defined (< 300 seconds), no respondent completed below this threshold, leaving all 53 active. The active instrument comprised 90 Good Work theme items, 15 Organizational Culture items, and 34 Credential Value items.

### 3.3 Item Diagnostics Comparison: Round 1 vs. Pilot

To evaluate whether the item-level limitations flagged in Section 2 represent stable psychometric properties, the item-reduction diagnostics were run fresh on the pilot's fully observed data. The analysis evaluated the employer Importance facet (n = 38), programmatically identifying the 'weakest item' (lowest average pairwise correlation with its theme peers) for each of the nine themes. The fresh Round 2 weakest-item diagnostic reported in Table 34 is distinct from the reliability sensitivity analysis reported in Supplement B Table B3, which applies the pre-established Round 1 37-item Importance scoring specification to the Round 2 data.

**Table 34. Weakest Flagged Items**

| Good Work Theme         | Round 1 Weakest Item | Pilot Weakest Item | Same Item? |
|-------------------------|----------------------|--------------------|------------|
| 1. Effort               | focused              | instructions       | No         |
| 2. Ethics               | credit               | credit             | YES        |
| 3. Relationship Skills  | resolve              | backgrounds        | No         |
| 4. Expertise            | decisions            | new_information    | No         |
| 5. Purpose / Engagement | connects goals       | connects_goals     | YES        |
| 6. Learning / Growth    | risks                | plan               | No         |
| 7. Other-Oriented       | wellbeing others     | wellbeing_others   | YES        |
| 8. Recognition          | high quality         | complete           | No         |
| 9. Health & Wellbeing   | self                 | health             | No         |

As shown in Table 34, three of the nine themes—Ethics (credit), Purpose (connects\_goals), and Other-Oriented (wellbeing\_others)—flagged the identical weakest item across both samples. Because the Ethics and Other-Oriented items retained identical wording, their independent reconfirmation provides preliminary convergent evidence that these items may represent weaker operationalizations of their target constructs. Most notably, the Purpose item (connects\_goals) was rewritten specifically between rounds to ask an externally observable graduate behavior. Despite this redesign, it was still flagged as the weakest item in the theme, suggesting that the underlying rating-stance challenge remains unresolved. The remaining six themes flagged divergent items, a result that is likely confounded by administrative format shifts or small-sample noise ( $n = 38$ ).

### 3.4 & 3.5 Structural Testing and Dimensionality (CFA & EFA)

Confirmatory factor analyses (CFAs) were executed on the pooled Importance sample ( $n = 45$  complete cases). Five iterative models (A through E) were fitted to explore the scale structure. Model A represented the hypothesized 9-factor theoretical structure with 45 items. Models B through E represented progressively modified 8-factor specifications containing between 34 and 36 items. Full model specifications and fit statistics are reported in Supplement B, Table B1. Because of the extremely small sample relative to model complexity, these analyses are heavily overfit and are treated solely as exploratory exercises rather than formal structural tests. Absolute fit statistics therefore should not be used to validate or invalidate the measurement structure.

As an exploratory assessment of dimensionality, Horn's parallel analysis was conducted on the 45 Importance items using 500 iterations and the 95th-centile criterion. The first three components had adjusted eigenvalues of 14.964, 2.696, and 1.364, respectively, and were retained. The fourth component had an adjusted eigenvalue of 0.856 and was not retained. Thus, parallel analysis supported three components, whereas application of the Kaiser rule to the observed eigenvalues retained 11 components (Supplement B Table B2).

Unrestricted oblique Promax-rotated EFA extractions were examined to explore the content represented by the broader dimensions. These analyses suggested three broad, relatively undifferentiated groupings: Factor 1 captured Purpose, Other-Oriented, and Community content; Factor 2 combined Effort, Ethics, Relational, and Diligence content; and Factor 3 captured Recognition and Wellbeing. In this small pilot sample, the item covariance structure was therefore more consistent with a smaller number of broad components than with nine clearly differentiated empirical dimensions. However, given the 45 complete cases for 45 items, these results should be treated as exploratory and cannot provide a definitive test of dimensionality.

### 3.6 Scale Reliability Diagnostics

Reliability analyses were conducted on the employer Importance scales ( $n = 38$ ), with estimates for the original five-item facet specifications and the pre-established Round 1 37-item Importance scoring specification reported in Supplement B Table B3. This analysis is distinct from the independent Round 2 weakest-item diagnostic reported in Table 34: rather than removing the item identified as weakest in the Round 2 pilot, the reduced estimates apply the item-exclusion decisions established in Round 1.

Reliability varied across the nine original five-item scales. Full-scale Cronbach's alpha ranged from .614 to .951. Expertise/Skills exhibited the lowest full-scale reliability ( $\alpha = .614$ ), declining to .474 under the Round 1 reduced specification. Effort similarly declined from .746 to .648. In contrast, Purpose/Engagement increased from .949 to .964 under the Round 1 reduced specification.

Across the remaining themes, Ethics increased from .847 to .862; Relationship Skills declined from .876 to .831; Learning/Growth/Self-Awareness declined from .803 to .775; Other-Oriented Impact declined from .951 to .944; Recognition/Achievement declined from .849 to .841; and Health/Wellbeing remained unchanged at .774 because all five items are retained under the Round 1 Importance specification. Overall, the Round 1 reduced specification produced lower alpha estimates for six themes, higher estimates for two, and no change for Health/Wellbeing. These pilot reliability estimates are descriptive and should be interpreted cautiously given the small sample; item-level sample sizes may also vary slightly because of item nonresponse.

### 3.7 Importance–Preparedness Gap Analysis

A central aim of the Round 2 pilot was to examine whether the Importance–Preparedness gaps observed in Round 1 were also evident in an independent sample under the revised survey administration. Gap scores were calculated as Importance minus Preparedness, such that positive values indicate that Importance ratings exceeded corresponding Preparedness ratings.

Because the Round 1 item-reduction decisions were developed using the original sample, the primary Round 2 analysis was conducted using the full set of 45 Good Work items organized according to the nine theoretically specified themes: Effort, Ethics, Relationship Skills, Expertise/Skills, Purpose/Engagement, Learning/Growth/Self-Awareness, Other-Oriented Impact, Recognition/Achievement, and Health/Wellbeing. This approach allowed the Round 2 sample to provide an independent assessment of the original theoretical instrument rather than imposing item-reduction decisions derived from Round 1. The previously established 37-item scoring specification was then examined separately as a secondary sensitivity analysis to determine whether the substantive conclusions were robust to the Round 1 item reduction.

#### **Primary Analysis: Original 45-Item Instrument**

Descriptively, the Round 2 results showed a consistent pattern of positive Importance–Preparedness gaps. Among employers, mean gaps were positive across all nine

themes and ranged from 0.042 for Purpose/Engagement to 0.786 for Expertise/Skills. Among students, mean gaps were likewise positive across all nine themes, ranging from 0.247 for Recognition/Achievement to 0.833 for Health/Wellbeing. Thus, both groups generally rated the dimensions of good work as more important than students were perceived to be prepared to demonstrate.

**Table 35. Primary Gap Score Descriptives by Group**

| Measure                        | Group    | N  | Mean  | SD    |
|--------------------------------|----------|----|-------|-------|
| Effort                         | Employer | 38 | 0.775 | 0.734 |
| Effort                         | Student  | 15 | 0.493 | 0.781 |
| Ethics                         | Employer | 38 | 0.642 | 0.763 |
| Ethics                         | Student  | 15 | 0.726 | 0.929 |
| Relationship Skills            | Employer | 38 | 0.457 | 0.859 |
| Relationship Skills            | Student  | 15 | 0.367 | 1.061 |
| Expertise/Skills               | Employer | 38 | 0.786 | 0.770 |
| Expertise/Skills               | Student  | 15 | 0.480 | 0.838 |
| Purpose/Engagement             | Employer | 38 | 0.042 | 0.782 |
| Purpose/Engagement             | Student  | 15 | 0.610 | 1.003 |
| Learning/Growth/Self-Awareness | Employer | 38 | 0.605 | 0.897 |
| Learning/Growth/Self-Awareness | Student  | 15 | 0.583 | 0.700 |
| Other-Oriented Impact          | Employer | 37 | 0.535 | 0.859 |
| Other-Oriented Impact          | Student  | 15 | 0.716 | 0.974 |
| Recognition/Achievement        | Employer | 38 | 0.312 | 0.816 |
| Recognition/Achievement        | Student  | 15 | 0.247 | 0.962 |
| Health/Wellbeing               | Employer | 38 | 0.620 | 0.951 |
| Health/Wellbeing               | Student  | 15 | 0.833 | 1.270 |

Note. Gap scores were calculated as Importance – Preparedness; positive values indicate that Importance ratings exceeded Preparedness ratings.

Within each group, one-sample *t* tests were used to determine whether mean gap scores differed significantly from zero. To control familywise Type I error across the nine themes, a Bonferroni-adjusted significance threshold of  $\alpha = .00556$  was applied. Among employers, seven of the nine themes met this adjusted threshold: Effort, Ethics, Relationship Skills, Expertise/Skills, Learning/Growth/Self-Awareness, Other-Oriented Impact, and Health/Wellbeing.

Purpose/Engagement and Recognition/Achievement did not. Among students, several positive gaps were significant at the conventional .05 level, but none met the stricter Bonferroni-adjusted threshold, though Learning/Growth fell just short.

**Table 36. Primary Within-Group Tests of Importance-Preparedness Gaps**

| Measure                        | Group    | N  | MeanGap | SD    | t     | df | p     |
|--------------------------------|----------|----|---------|-------|-------|----|-------|
| Effort                         | Employer | 38 | 0.775   | 0.734 | 6.506 | 37 | 0.000 |
| Effort                         | Student  | 15 | 0.493   | 0.781 | 2.445 | 14 | 0.028 |
| Ethics                         | Employer | 38 | 0.642   | 0.763 | 5.189 | 37 | 0.000 |
| Ethics                         | Student  | 15 | 0.726   | 0.929 | 3.025 | 14 | 0.009 |
| Relationship Skills            | Employer | 38 | 0.457   | 0.859 | 3.277 | 37 | 0.002 |
| Relationship Skills            | Student  | 15 | 0.367   | 1.061 | 1.339 | 14 | 0.202 |
| Expertise/Skills               | Employer | 38 | 0.786   | 0.770 | 6.289 | 37 | 0.000 |
| Expertise/Skills               | Student  | 15 | 0.480   | 0.838 | 2.219 | 14 | 0.043 |
| Purpose/Engagement             | Employer | 38 | 0.042   | 0.782 | 0.332 | 37 | 0.742 |
| Purpose/Engagement             | Student  | 15 | 0.610   | 1.003 | 2.356 | 14 | 0.034 |
| Learning/Growth/Self-Awareness | Employer | 38 | 0.605   | 0.897 | 4.158 | 37 | 0.000 |
| Learning/Growth/Self-Awareness | Student  | 15 | 0.583   | 0.700 | 3.228 | 14 | 0.006 |
| Other-Oriented Impact          | Employer | 37 | 0.535   | 0.859 | 3.789 | 36 | 0.001 |
| Other-Oriented Impact          | Student  | 15 | 0.716   | 0.974 | 2.845 | 14 | 0.013 |
| Recognition/Achievement        | Employer | 38 | 0.312   | 0.816 | 2.356 | 37 | 0.024 |

|                         |          |    |       |       |       |    |       |
|-------------------------|----------|----|-------|-------|-------|----|-------|
| Recognition/Achievement | Student  | 15 | 0.247 | 0.962 | 0.993 | 14 | 0.337 |
| Health/Wellbeing        | Employer | 38 | 0.620 | 0.951 | 4.017 | 37 | 0.000 |
| Health/Wellbeing        | Student  | 15 | 0.833 | 1.270 | 2.541 | 14 | 0.024 |

Note. Gap = Importance – Preparedness. Positive values indicate that Importance ratings exceeded Preparedness ratings. Tests evaluate whether the mean gap differs significantly from zero. Bonferroni-adjusted  $\alpha$  for the nine themes = .00556.

Employer–student comparisons showed considerably less evidence of systematic group differences. None of the nine differences in gap scores met the Bonferroni-adjusted significance threshold. The largest observed group difference occurred for Purpose/Engagement, for which students reported a larger mean gap ( $M = 0.610$ ) than employers ( $M = 0.042$ ), corresponding to a mean employer–student difference of  $-0.568$  ( $p = .033$ , Cohen’s  $d = -0.646$ ). Although this represented a moderate effect descriptively, it did not remain statistically significant after adjustment for multiple comparisons. Across the remaining themes, employer–student differences were comparatively small.

**Table 37. Primary Employer–Student Comparisons of Gap Scores**

| Measure                        | Employer Mean | Student Mean | Mean Difference | t      | df | p     | Cohens D |
|--------------------------------|---------------|--------------|-----------------|--------|----|-------|----------|
| Effort                         | 0.775         | 0.493        | 0.282           | 1.236  | 51 | 0.222 | 0.375    |
| Ethics                         | 0.642         | 0.726        | -0.083          | -0.337 | 51 | 0.737 | -0.104   |
| Relationship Skills            | 0.457         | 0.367        | 0.090           | 0.321  | 51 | 0.750 | 0.099    |
| Expertise/Skills               | 0.786         | 0.480        | 0.306           | 1.271  | 51 | 0.209 | 0.385    |
| Purpose/Engagement             | 0.042         | 0.610        | -0.568          | -2.194 | 51 | 0.033 | -0.646   |
| Learning/Growth/Self-Awareness | 0.605         | 0.583        | 0.022           | 0.085  | 51 | 0.933 | 0.026    |
| Other-Oriented Impact          | 0.535         | 0.716        | -0.180          | -0.660 | 50 | 0.512 | -0.203   |
| Recognition/Achievement        | 0.312         | 0.247        | 0.065           | 0.249  | 51 | 0.804 | 0.077    |
| Health/Wellbeing               | 0.620         | 0.833        | -0.214          | -0.668 | 51 | 0.507 | -0.205   |

Note. Mean Difference = Employer mean gap – Student mean gap. Cohen’s  $d$  uses the pooled standard deviation. Bonferroni-adjusted alpha for nine themes = .00556.

### Sensitivity Analysis: Round 1 37-Item Reduction

Results were broadly consistent with the primary 45-item analysis. Mean gaps remained positive for nearly all group-by-theme combinations; the sole exception was the employer Purpose/Engagement score, which shifted slightly below zero ( $M = -0.086$ ). Employer gaps were largest for Effort ( $M = 0.877$ ), Learning/Growth/Self-Awareness ( $M = 0.816$ ), and Expertise/Skills ( $M = 0.768$ ), while student gaps were largest for Health/Wellbeing ( $M = 0.923$ ) and Learning/Growth/Self-Awareness ( $M = 0.811$ ).

Applying the same Bonferroni-adjusted  $\alpha = .00556$ , the sensitivity analysis again showed seven significant employer gaps. Among students, the Learning/Growth/Self-Awareness gap met the adjusted threshold under the 37-item specification ( $M = 0.811$ ,  $t(14) = 4.569$ ,  $p < .001$ ), whereas it fell just short under the 45-item primary analysis ( $p = .006$ ). This is the one substantive difference between the two specifications. None of the employer–student comparisons met the adjusted significance criterion under either scoring model.

Direct comparison of pooled gap estimates from the 45-item primary analysis and 37-item sensitivity analysis showed generally modest changes in theme-level estimates, although the magnitude of change varied across themes. Effort increased from 0.695 to 0.803, Ethics remained nearly unchanged (0.666 to 0.667), Expertise/Skills decreased slightly from 0.699 to 0.682, and Health/Wellbeing remained nearly unchanged (0.680 to 0.681). The largest shift was for Learning/Growth/Self-Awareness, which increased from 0.599 under the 45-item specification to 0.814 under the 37-item specification. **See Supplement A, Tables 38–41 for full results.**

Taken together, the sensitivity analysis indicates that the central Round 2 gap findings are not dependent on applying the Round 1 item reduction. Although the magnitude of some theme-level gaps changed under the reduced specification, the full 45-item theoretical scoring model and the reduced 37-item specification yielded the same broad substantive pattern for employers. Accordingly, the 45-item analysis is retained as the primary Round 2 result, while the 37-item results provide evidence that the overall direction of the findings is reasonably robust to the alternative scoring specification.

### 3.8 Organizational Culture and Credential Value in the Round 2 Pilot

Reliability was high for both the Organizational Culture and Credential Value measures in the Round 2 pilot (Supplement B Table B4). For Organizational Culture, Cronbach's alpha was .928 for employers ( $n = 38$ ), .984 for students ( $n = 15$ ), and .958 in the pooled sample ( $N = 53$ ). For Credential Value, alpha was .967 for employers, .957 for students, and .967 in the pooled sample.

Credential Value subscale reliability was also strong. Across the eight pooled subscales, Cronbach's alpha ranged from .799 to .910: Perceived Value & ROI ( $\alpha = .799$ ), Preparation & Readiness ( $\alpha = .882$ ), Employability & Confidence ( $\alpha = .817$ ), Job Market Demand ( $\alpha = .881$ ), Overall Satisfaction ( $\alpha = .860$ ), Diversity ( $\alpha = .889$ ), Civic/Public Value ( $\alpha = .910$ ), and Identity ( $\alpha = .901$ ) (Supplement B Table B5).

Exploratory dimensionality analyses provided substantially different results depending on the retention criterion. For employer Organizational Culture, Horn's parallel analysis retained one component, whereas the Kaiser criterion identified two observed eigenvalues greater than 1.00. For pooled Credential Value, parallel analysis likewise retained one component, compared with six observed eigenvalues greater than 1.00 under the Kaiser criterion.

Employer–student comparisons across the eight Credential Value subscales are reported in Supplement B Table B6. Employer means exceeded student means on all subscales. The smallest unadjusted  $p$  value occurred for Overall Satisfaction, for which employers reported a mean of 4.329 compared with 3.817 among students, a mean difference of 0.512,  $t(51) = 2.775$ ,  $p = .008$ . However, using the Bonferroni-adjusted criterion of  $\alpha = .00625$  for eight comparisons, none of the eight employer–student differences met the adjusted significance criterion.

### 3.9 Cross-Round Synthesis & Limits of Pilot Inference

Synthesizing the results across both rounds reveals a clear hierarchy of evidence. The pilot successfully accomplished its primary objectives—demonstrating the feasibility of full-block administration, eliminating the planned missingness present in Round 1, and providing an independent sample in which to reassess the Good Work scales. Most importantly, the central Importance–Preparedness gap pattern was evident again in Round 2. Using the original 45-item theoretical structure, employers reported positive gaps across all nine themes, with seven surviving the Bonferroni-adjusted significance threshold. Positive gaps were also observed across all nine themes among students, although none survived the more stringent correction in this substantially smaller subgroup. The secondary 37-item sensitivity analysis produced

substantively similar results, indicating that the overall Round 2 gap pattern was not dependent on applying the item-reduction decisions developed in Round 1.

At the same time, the pilot's finer-grained findings should not be treated as confirmatory because of the small sample size. The majority of item-reduction flags (six of nine themes) differed between rounds, although Ethics, Purpose/Engagement, and Other-Oriented Impact identified the same weakest items in both samples. Employer-student differences in gap magnitude were also not statistically reliable after correction for multiple comparisons. Finally, parallel analysis identified a single dominant component for Organizational Culture and Credential Value in the Round 2 pilot rather than reproducing the hypothesized multi-subscale structures. Given the small pilot sample, these exploratory results should not be treated as definitive evidence of unidimensionality or as a rejection of the conceptual subscale structures.

# Part IV, Section IV: Predictors of the Importance-Preparedness Gap

## Section I: Gap Predicted by Credential Value and Organizational Culture

All models below were estimated on the reduced 37-item Good Work composites. Credential Value and Organizational Culture measures are unchanged from the original analysis; only the Good Work scale gap composites were rebuilt to reflect the reduced model.

### Employer models

#### Overall predictors

We ran two multiply-imputed OLS regressions (30 imputations) on the employer file, predicting the overall Good Work gap score from the overall Credential Value composite and from the overall Organizational Culture composite, each entered separately.

We found that both significantly predicted the gap, and both in the same direction: employers who rated their sector's credentials more highly, and employers who rated their organizational culture more highly, reported smaller gaps between what they consider important and how prepared they judge recent graduates to be.

**Table 42. Credential Value and Organizational Culture predicting the overall Good Work gap, employers**

|                                 | Overall Good Work Importance-Preparedness Gap |                     |
|---------------------------------|-----------------------------------------------|---------------------|
| Credential Value, Overall       | -0.328***<br>(0.053)                          |                     |
| Organizational Culture, Overall |                                               | -0.175**<br>(0.055) |
| Intercept                       | 1.803***<br>(0.207)                           | 1.250***<br>(0.225) |

|                          |        |        |
|--------------------------|--------|--------|
| Number of observations   | 403    | 403    |
| Model F                  | 37.84  | 10.11  |
| Model F df (numerator)   | 1      | 1      |
| Model F df (denominator) | 341.9  | 331.2  |
| Model p                  | 0.0000 | 0.0016 |

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

### By Good Work Theme

We ran the same two predictors separately against each of the nine theme-level gap scores.

We found a marked asymmetry between the two predictors. Credential Value significantly predicted seven of the nine Good Work theme gaps, failing only for Purpose and Other-Oriented. Organizational Culture predicted only two — Expertise and Learning — with four additional themes falling just short of significance and three clearly null. Credential Value is thus a broad predictor operating across nearly the whole Good Work framework, while Organizational Culture is narrow and concentrated in the two themes most directly tied to skill and knowledge development.

**Table 43. Credential Value predicting each theme gap, employers**

| Gap Outcome                    | Credential Value | SE      | Intercept | Intercept SE | N   | Model F | F df (num.) | F df (denom.) | Model p |
|--------------------------------|------------------|---------|-----------|--------------|-----|---------|-------------|---------------|---------|
| Effort                         | -0.486***        | (0.081) | 2.536***  | (0.316)      | 403 | 35.84   | 1           | 251.7         | 0.0000  |
| Ethics                         | -0.369***        | (0.077) | 1.958***  | (0.300)      | 403 | 23.22   | 1           | 229.1         | 0.0000  |
| Relationship Skills            | -0.307***        | (0.081) | 1.682***  | (0.314)      | 403 | 14.48   | 1           | 246.5         | 0.0002  |
| Expertise/Skills               | -0.421***        | (0.081) | 2.360***  | (0.312)      | 403 | 27.05   | 1           | 227.1         | 0.0000  |
| Purpose/Engagement             | -0.100           | (0.090) | 0.660     | (0.349)      | 403 | 1.25    | 1           | 182.2         | 0.2655  |
| Learning/Growth/Self-Awareness | -0.480***        | (0.092) | 2.621***  | (0.358)      | 403 | 27.28   | 1           | 154.8         | 0.0000  |
| Other-Oriented Impact          | -0.152           | (0.081) | 0.998**   | (0.317)      | 403 | 3.51    | 1           | 199.0         | 0.0624  |
| Recognition/Achievement        | -0.348***        | (0.075) | 1.753***  | (0.295)      | 403 | 21.40   | 1           | 239.0         | 0.0000  |

|                  |           |         |          |         |     |       |   |       |        |
|------------------|-----------|---------|----------|---------|-----|-------|---|-------|--------|
| Health/Wellbeing | -0.291*** | (0.084) | 1.659*** | (0.330) | 403 | 11.83 | 1 | 196.2 | 0.0007 |
|------------------|-----------|---------|----------|---------|-----|-------|---|-------|--------|

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

**Table 44. Organizational Culture predicting each theme gap, employers**

| Gap Outcome                    | Org. Culture Overall | SE      | Intercept | Intercept SE | N   | Model F | F df (num.) | F df (denom.) | Model p |
|--------------------------------|----------------------|---------|-----------|--------------|-----|---------|-------------|---------------|---------|
| Effort                         | -0.162               | (0.084) | 1.325***  | (0.343)      | 403 | 3.72    | 1           | 255.0         | 0.0549  |
| Ethics                         | -0.152               | (0.082) | 1.155***  | (0.337)      | 403 | 3.45    | 1           | 171.6         | 0.0649  |
| Relationship Skills            | -0.149               | (0.084) | 1.103**   | (0.342)      | 403 | 3.15    | 1           | 202.8         | 0.0775  |
| Expertise/Skills               | -0.289***            | (0.084) | 1.910***  | (0.341)      | 403 | 11.96   | 1           | 201.1         | 0.0007  |
| Purpose/Engagement             | -0.097               | (0.090) | 0.667     | (0.366)      | 403 | 1.17    | 1           | 169.9         | 0.2811  |
| Learning/Growth/Self-Awareness | -0.357***            | (0.090) | 2.217***  | (0.368)      | 403 | 15.90   | 1           | 193.8         | 0.0001  |
| Other-Oriented Impact          | -0.097               | (0.080) | 0.808*    | (0.323)      | 403 | 1.49    | 1           | 213.5         | 0.2233  |
| Recognition/Achievement        | -0.101               | (0.084) | 0.825*    | (0.342)      | 403 | 1.47    | 1           | 144.8         | 0.2279  |
| Health/Wellbeing               | -0.172               | (0.093) | 1.239**   | (0.378)      | 403 | 3.47    | 1           | 121.5         | 0.0649  |

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

### By subscale

We ran each Credential Value subscale and each Organizational Culture subscale separately against the overall gap score. Employers have seven Credential Value subscales and five Organizational Culture subscales.

We found that six of the seven Credential Value subscales significantly predicted the gap. The single exception was Diversity, which was non-significant and also the only subscale in the entire set to carry a positive coefficient. Employability and Confidence and Preparation and Readiness were the strongest predictors. Among Organizational Culture subscales, only Leadership and Fairness & Wellbeing reached significance; Mission, Growth, and Diversity did not.

**Table 45. Credential value subscales predicting the overall Good Work gap, employers**

| Credential Value Subscale  | Coefficient | SE      | Intercept | Intercept SE | N   | Model F | F df (num.) | F df (denom.) | Model p |
|----------------------------|-------------|---------|-----------|--------------|-----|---------|-------------|---------------|---------|
| Perceived Value & ROI      | -0.152***   | (0.038) | 1.140***  | (0.152)      | 403 | 16.17   | 1           | 284.5         | 0.0001  |
| Preparation & Readiness    | -0.283***   | (0.039) | 1.565***  | (0.144)      | 403 | 53.02   | 1           | 278.5         | 0.0000  |
| Employability & Confidence | -0.352***   | (0.046) | 1.892***  | (0.179)      | 403 | 58.22   | 1           | 310.7         | 0.0000  |
| Job Market Demand          | -0.126**    | (0.039) | 1.015***  | (0.150)      | 403 | 10.33   | 1           | 268.2         | 0.0015  |
| Overall Satisfaction       | -0.232***   | (0.049) | 1.452***  | (0.196)      | 403 | 21.94   | 1           | 251.4         | 0.0000  |
| Diversity                  | 0.031       | (0.061) | 0.417     | (0.253)      | 403 | 0.26    | 1           | 234.0         | 0.6122  |
| Civic                      | -0.258***   | (0.045) | 1.499***  | (0.169)      | 403 | 33.39   | 1           | 278.1         | 0.0000  |

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

**Table 46. Organizational Culture subscales predicting the overall Good Work gap, employers**

| Organizational Culture Subscale | Coefficient | SE      | Intercept | Intercept SE | N   | Model F | F df (num.) | F df (denom.) | Model p |
|---------------------------------|-------------|---------|-----------|--------------|-----|---------|-------------|---------------|---------|
| Leadership                      | -0.207***   | (0.038) | 1.331***  | (0.148)      | 403 | 29.66   | 1           | 322.6         | 0.0000  |
| Mission/Purpose                 | -0.086      | (0.051) | 0.896***  | (0.209)      | 403 | 2.91    | 1           | 312.1         | 0.0892  |
| Growth & Development            | -0.082      | (0.047) | 0.877***  | (0.193)      | 403 | 3.07    | 1           | 307.0         | 0.0809  |
| Fairness & Wellbeing            | -0.144**    | (0.046) | 1.129***  | (0.190)      | 403 | 9.72    | 1           | 342.5         | 0.0020  |
| Diversity & Inclusion           | -0.024      | (0.049) | 0.641**   | (0.207)      | 403 | 0.23    | 1           | 364.5         | 0.6340  |

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

### By sector

We ran both overall predictors fully interacted with sector.

We found that both models significantly predicted the gap and that the Credential Value association varies by sector: the interaction between Credential Value and the Healthcare sector was significant, indicating a weaker Credential Value–gap association among Healthcare employers than among those in Architecture and Construction. The Information Technology interaction was not significant. Organizational Culture showed no significant interaction with sector in either direction.

**Table 47. Organizational Culture and Credential Value predicting the overall Good Work gap by Sector, employers**

| Predictor / Term                                | Credential Value Model | SE      | Organizational Culture Model | SE      |
|-------------------------------------------------|------------------------|---------|------------------------------|---------|
| Credential Value                                | –0.480***              | (0.078) |                              |         |
| Sector main effect                              |                        |         |                              |         |
| Information Technology                          | –0.133                 | (0.524) | –0.151                       | (0.608) |
| Healthcare                                      | –0.890                 | (0.491) | 1.003*                       | (0.502) |
| Sector × Credential Value interaction           |                        |         |                              |         |
| Information Technology × Credential Value       | 0.089                  | (0.135) |                              |         |
| Healthcare × Credential Value                   | 0.300*                 | (0.127) |                              |         |
| Organizational Culture                          |                        |         | –0.094                       | (0.093) |
| Sector × Organizational Culture interaction     |                        |         |                              |         |
| Information Technology × Organizational Culture |                        |         | 0.058                        | (0.147) |
| Healthcare × Organizational Culture             |                        |         | –0.218                       | (0.125) |
| Intercept                                       | 2.221***               | (0.288) | 0.846*                       | (0.378) |
| Number of observations                          | 403                    |         | 403                          |         |
| Model F                                         | 11.56                  |         | 3.75                         |         |
| Model F df (numerator)                          | 5                      |         | 5                            |         |
| Model F df (denominator)                        | 388.6                  |         | 389.0                        |         |
| Model p                                         | 0.0000                 |         | 0.0025                       |         |

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

## Student models

### Overall predictors

We ran the same two models on the student file.

Among students, both Credential Value and Organizational Culture significantly predicted the overall Good Work gap, but in opposite directions. Higher Credential Value was associated with smaller gaps ( $B = -0.318$ ), whereas higher Organizational Culture ratings were associated with larger gaps ( $B = 0.116$ ).

**Table 48. Credential Value and Organizational Culture Predicting the Overall Good Work Gap, Students**

| Predictor / Term         | Credential Value Model<br>Slope + SE | Organizational Culture Model<br>Slope + SE |
|--------------------------|--------------------------------------|--------------------------------------------|
| Credential Value         | -0.318***<br>(0.026)                 |                                            |
| Organizational Culture   |                                      | 0.116***<br>(0.033)                        |
| Intercept                | 1.559***<br>(0.103)                  | -0.205<br>(0.145)                          |
| Number of observations   | 944                                  | 944                                        |
| Model F                  | 150.64                               | 12.70                                      |
| Model F df (numerator)   | 1                                    | 1                                          |
| Model F df (denominator) | 844.5                                | 925.0                                      |
| Model p                  | 0.0000                               | 0.0004                                     |

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

### By Good Work theme

We ran both predictors separately against each of the nine theme gaps.

We found that Credential Value significantly predicted all nine theme gaps, with no exceptions – a broader and more uniform pattern than the seven-of-nine seen among employers. Organizational Culture predicted six of nine, but the more consequential difference is directional rather than a matter of count: all nine student coefficients are positive, whereas all nine employer coefficients are negative. Among students, higher ratings of organizational culture were associated with larger Good Work gaps; among employers, with smaller ones. The combined models reported below confirm that this difference in slope is statistically significant rather than an artifact of estimating the two groups separately.

**Table 49. Credential Value Predicting each Theme Gap, Students**

| Theme                 | Credential Value | SE      | Intercept | SE      | Model F | df2   | Model p |
|-----------------------|------------------|---------|-----------|---------|---------|-------|---------|
| Effort                | -0.340***        | (0.040) | 1.653***  | (0.158) | 73.46   | 453.7 | 0.0000  |
| Ethics                | -0.241***        | (0.037) | 1.223***  | (0.149) | 41.70   | 343.4 | 0.0000  |
| Relationship Skills   | -0.316***        | (0.039) | 1.565***  | (0.158) | 64.36   | 607.5 | 0.0000  |
| Expertise             | -0.258***        | (0.036) | 1.297***  | (0.143) | 52.22   | 538.5 | 0.0000  |
| Purpose               | -0.264***        | (0.043) | 1.353***  | (0.169) | 38.17   | 724.3 | 0.0000  |
| Learning              | -0.368***        | (0.041) | 1.799***  | (0.162) | 81.71   | 565.4 | 0.0000  |
| Other-Oriented Impact | -0.328***        | (0.041) | 1.525***  | (0.165) | 63.61   | 557.6 | 0.0000  |
| Recognition           | -0.295***        | (0.036) | 1.355***  | (0.142) | 68.88   | 549.4 | 0.0000  |
| Wellbeing             | -0.453***        | (0.051) | 2.267***  | (0.201) | 80.45   | 510.0 | 0.0000  |

Note. N = 944 for all models. Numerator df = 1 for all models. Standard errors are in parentheses.

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

**Table 50. Organizational Culture Predicting Each Theme Gap, Students**

| Theme  | Organizational Culture | SE      | Intercept | SE      | Model F | df2   | Model p |
|--------|------------------------|---------|-----------|---------|---------|-------|---------|
| Effort | 0.104*                 | (0.050) | -0.146    | (0.221) | 4.42    | 429.1 | 0.0362  |
| Ethics | 0.032                  | (0.045) | 0.136     | (0.199) | 0.51    | 439.3 | 0.4741  |

|                       |          |         |         |         |       |       |        |
|-----------------------|----------|---------|---------|---------|-------|-------|--------|
| Relationship Skills   | 0.142**  | (0.050) | -0.306  | (0.222) | 8.22  | 485.0 | 0.0043 |
| Expertise             | 0.041    | (0.044) | 0.100   | (0.199) | 0.86  | 491.8 | 0.3537 |
| Purpose               | 0.148**  | (0.053) | -0.339  | (0.238) | 7.69  | 548.1 | 0.0057 |
| Learning              | 0.067    | (0.050) | 0.057   | (0.224) | 1.76  | 649.2 | 0.1853 |
| Other-Oriented Impact | 0.165**  | (0.051) | -0.494* | (0.227) | 10.56 | 545.9 | 0.0012 |
| Recognition           | 0.112*   | (0.044) | -0.301  | (0.198) | 6.43  | 525.9 | 0.0115 |
| Wellbeing             | 0.235*** | (0.063) | -0.555* | (0.277) | 14.17 | 525.1 | 0.0002 |

Note. N = 944 for all models. Numerator df = 1 for all models. Standard errors are in parentheses.

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

### By subscale

We ran each of the eight student Credential Value subscales and each of the five Organizational Culture subscales separately against the overall gap score.

We found that all eight Credential Value subscales significantly predicted the gap, including Identity, which has no employer counterpart. Notably, Diversity — the one employer subscale that failed to predict — was significant among students, and in the same negative direction as every other subscale. Among Organizational Culture subscales, Leadership, Growth and Development, and Fairness and Wellbeing were significant; Mission and Diversity were not. The directional reversal observed at the theme level holds at the subscale level as well. All five employer subscale coefficients are negative, whereas four of the five student coefficients are positive; the sole exception is Mission, which is negative among students but non-significant in both groups. The two subscales significant in both groups reverse sign entirely: Leadership is -0.207 among employers and +0.125 among students, and Fairness and Wellbeing is -0.144 among employers and +0.176 among students.

**Table 51. Credential Value Subscales Predicting the Overall Good Work Gap, Students**

| Credential Value Subscale | Coefficient | SE | Intercept | SE | Model F | df2 | Model p |
|---------------------------|-------------|----|-----------|----|---------|-----|---------|
|---------------------------|-------------|----|-----------|----|---------|-----|---------|

|                            |           |         |          |         |        |       |        |
|----------------------------|-----------|---------|----------|---------|--------|-------|--------|
| Perceived Value            | -0.067**  | (0.025) | 0.585*** | (0.104) | 7.23   | 553.7 | 0.0074 |
| Preparation & Readiness    | -0.203*** | (0.022) | 1.109*** | (0.088) | 86.00  | 709.1 | 0.0000 |
| Employability & Confidence | -0.251*** | (0.020) | 1.259*** | (0.079) | 152.16 | 688.5 | 0.0000 |
| Job Market Demand          | -0.176*** | (0.021) | 0.982*** | (0.083) | 68.64  | 734.6 | 0.0000 |
| Overall Satisfaction       | -0.219*** | (0.020) | 1.174*** | (0.083) | 114.39 | 677.0 | 0.0000 |
| Diversity                  | -0.250*** | (0.024) | 1.306*** | (0.096) | 110.74 | 648.4 | 0.0000 |
| Civic                      | -0.248*** | (0.023) | 1.280*** | (0.090) | 120.39 | 657.0 | 0.0000 |
| Identity                   | -0.259*** | (0.023) | 1.323*** | (0.093) | 124.54 | 578.4 | 0.0000 |

Note. N = 944 for all models. Numerator df = 1 for all models. Standard errors are in parentheses.

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

**Table 52. Organizational Culture Subscales Predicting the Overall Good Work Gap, Students**

| Culture Subscale | B        | SE (B)  | Intercept | SE (Intercept) | Model F | df2   | Model p |
|------------------|----------|---------|-----------|----------------|---------|-------|---------|
| Leadership       | 0.125*** | (0.027) | -0.244*   | (0.122)        | 21.20   | 916.8 | 0.0000  |
| Mission          | -0.029   | (0.025) | 0.434***  | (0.107)        | 1.39    | 904.8 | 0.2382  |
| Growth           | 0.138*** | (0.030) | -0.312*   | (0.135)        | 21.52   | 918.5 | 0.0000  |
| Fairness         | 0.176*** | (0.029) | -0.494*** | (0.134)        | 36.50   | 897.0 | 0.0000  |
| Diversity        | 0.042    | (0.026) | 0.127     | (0.113)        | 2.65    | 910.6 | 0.1038  |

Note. N = 944 for all models. Numerator df = 1 for all models. Standard errors are in parentheses.

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

### By sector

We ran both overall predictors fully interacted with sector.

We found that both models were significant at the model level but that no individual sector main effect and no sector interaction reached significance in either. The Credential Value model's significance is carried entirely by the main effect of Credential Value itself. In the Organizational Culture model, no individual coefficient reached significance at all, so its omnibus result should not be read as evidence of a sector pattern.

**Table 53. Credential Value and Organizational Culture by Sector, Students**

| Predictor                                       | Credential Value Model | Organizational Culture Model |
|-------------------------------------------------|------------------------|------------------------------|
| Credential Value                                | -0.250***              |                              |
|                                                 | (0.074)                |                              |
| Sector: Information Technology                  | 0.446                  | -0.378                       |
|                                                 | (0.332)                | (0.414)                      |
| Sector: Healthcare                              | 0.274                  | 0.190                        |
|                                                 | (0.334)                | (0.425)                      |
| Credential Value × Information Technology       | -0.118                 |                              |
|                                                 | (0.085)                |                              |
| Credential Value × Healthcare                   | -0.062                 |                              |
|                                                 | (0.084)                |                              |
| Organizational Culture                          |                        | 0.113                        |
|                                                 |                        | (0.079)                      |
| Organizational Culture × Information Technology |                        | 0.098                        |
|                                                 |                        | (0.095)                      |
| Organizational Culture × Healthcare             |                        | -0.052                       |
|                                                 |                        | (0.096)                      |
| Intercept                                       | 1.280***               | -0.186                       |
|                                                 | (0.291)                | (0.347)                      |

|         |        |        |
|---------|--------|--------|
| N       | 944    | 944    |
| Model F | 31.10  | 4.68   |
| df1     | 5      | 5      |
| df2     | 926.4  | 930.6  |
| Model p | 0.0000 | 0.0003 |

Note. Outcome is the overall Good Work gap. Standard errors are in parentheses. Sector coefficients represent differences from the reference sector; interaction coefficients represent differences in the predictor slope relative to the reference sector. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

## Combined models

### By respondent group

We ran two OLS regressions on the stacked employer–student file (single imputation), predicting the overall gap from each overall predictor fully interacted with respondent group.

We found that the two predictors behave differently across groups. The Credential Value slope did **not** differ significantly between employers and students — the interaction was null, meaning the much larger student model test in the separate analyses reflects sample size and variance rather than a genuinely different relationship. Organizational Culture, by contrast, showed a significant group interaction: Organizational Culture was negatively associated with the gap among employers but positively associated with the gap among students, and the difference between those slopes was statistically significant.

**Table 54. Credential Value and Organizational Culture by Respondent Group**

| Predictor                        | Credential Value Model | Organizational Culture Model |
|----------------------------------|------------------------|------------------------------|
| Credential Value                 | -0.332***              |                              |
|                                  | (0.044)                |                              |
| Respondent Group: Student        | -0.260                 | -1.494***                    |
|                                  | (0.203)                | (0.244)                      |
| Credential Value × Student       | 0.011                  |                              |
|                                  | (0.052)                |                              |
| Organizational Culture           |                        | -0.180***                    |
|                                  |                        | (0.046)                      |
| Organizational Culture × Student |                        | 0.297***                     |
|                                  |                        | (0.058)                      |
| Intercept                        | 1.824***               | 1.280***                     |
|                                  | (0.171)                | (0.188)                      |

|                |        |        |
|----------------|--------|--------|
| N              | 1347   | 1347   |
| Model F        | 84.52  | 27.92  |
| df1            | 3      | 3      |
| df2            | 1343   | 1343   |
| R <sup>2</sup> | 0.1588 | 0.0587 |

Note. Outcome is the overall Good Work gap. Employers are the reference respondent group. Standard errors are in parentheses. The Student coefficient represents the difference from employers at the predictor reference value; interaction coefficients represent differences in the predictor slope between students and employers. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

### By sector and respondent group

We ran both predictors fully interacted with sector and respondent group.

We found a significant three-way interaction between Credential Value, sector, and respondent group, concentrated in the Healthcare sector: the sector-specific pattern in the Credential Value–gap association differs between employers and students. No three-way interaction reached significance in the Organizational Culture model. Adding sector to the group models produced only a modest gain in explained variance.

**Table 55. Credential Value and Organizational Culture by Sector and Respondent Group**

| Predictor                                 | Credential Value Model | Organizational Culture Model |
|-------------------------------------------|------------------------|------------------------------|
| Credential Value                          | −0.483***              |                              |
|                                           | (0.065)                |                              |
| Sector: Information Technology            | −0.031                 | 0.088                        |
|                                           | (0.437)                | (0.516)                      |
| Sector: Healthcare                        | −0.875*                | 1.046*                       |
|                                           | (0.411)                | (0.424)                      |
| Credential Value × Information Technology | 0.068                  |                              |

|                                                           |          |         |
|-----------------------------------------------------------|----------|---------|
|                                                           | (0.113)  |         |
| Credential Value × Healthcare                             | 0.306**  |         |
|                                                           | (0.106)  |         |
| Respondent Group: Student                                 | -0.943*  | -0.947* |
|                                                           | (0.391)  | (0.481) |
| Credential Value × Student                                | 0.233*   |         |
|                                                           | (0.102)  |         |
| Information Technology × Student                          | 0.460    | -0.601  |
|                                                           | (0.560)  | (0.676) |
| Healthcare × Student                                      | 1.165*   | -0.893  |
|                                                           | (0.542)  | (0.617) |
| Credential Value × Information Technology × Student       | -0.181   |         |
|                                                           | (0.144)  |         |
| Credential Value × Healthcare × Student                   | -0.373** |         |
|                                                           | (0.138)  |         |
| Organizational Culture                                    |          | -0.089  |
|                                                           |          | (0.077) |
| Organizational Culture × Information Technology           |          | 0.006   |
|                                                           |          | (0.125) |
| Organizational Culture × Healthcare                       |          | -0.219* |
|                                                           |          | (0.105) |
| Organizational Culture × Student                          |          | 0.189   |
|                                                           |          | (0.114) |
| Organizational Culture × Information Technology × Student |          | 0.122   |
|                                                           |          | (0.160) |

|                                               |          |         |
|-----------------------------------------------|----------|---------|
| Organizational Culture × Healthcare × Student |          | 0.173   |
|                                               |          | (0.146) |
| Intercept                                     | 2.223*** | 0.818** |
|                                               | (0.241)  | (0.311) |
| N                                             | 1347     | 1347    |
| Model F                                       | 26.62    | 10.02   |
| df1                                           | 11       | 11      |
| df2                                           | 1335     | 1335    |
| R <sup>2</sup>                                | 0.1799   | 0.0763  |

*Note.* Outcome is the overall Good Work gap. Employers are the reference respondent group. Standard errors are in parentheses. Sector coefficients represent differences from the reference sector. Two-way and three-way interaction coefficients represent differences associated with sector, respondent group, and their interactions with the respective predictor. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

## Section 2: Employer organizational moderators

### Individual moderator models

We ran five separate multiply-imputed OLS regressions on the employer file, each predicting the overall Good Work gap score from a single organizational characteristic: whether the respondent's organization hires employees, whether the respondent personally supervises employees, organization size, the entry-level education required for the role, and whether the role requires certification or licensure.

We found that four of the five moderators significantly predicted the gap at the model level; only supervisory status did not. The strongest of these was the entry-level education required for the role: relative to roles requiring no formal credential, employers whose entry-level positions require an Associate, Bachelor's, or Graduate degree all reported substantially smaller gaps between what they consider important and how prepared they judge recent graduates to be. The pattern is not graded by credential level — it is closer to a single step down at the point where any postsecondary credential is required. Certification and licensure requirements also predicted the gap, with employers whose roles require no certification reporting a larger gap than those requiring a trade certification. Hiring responsibility showed a smaller but significant effect, with employers who hire reporting a smaller gap. Organization size reached significance at the model level, but the individual size categories showed no ordered pattern and only the largest category differed from the smallest.

**Table 56. Employer Organizational Moderators Predicting the Overall Good Work Gap (Separate Models)**

| Moderator                                      | B       | SE      | Intercept | SE (Intercept) | N   | Model F | df1 | df2   | Model p |
|------------------------------------------------|---------|---------|-----------|----------------|-----|---------|-----|-------|---------|
| Organization hires employees (ref: No): Yes    | -0.160* | (0.067) | 0.624***  | (0.048)        | 399 | 5.64    | 1   | 313.2 | 0.0182  |
| Respondent supervises employees (ref: No): Yes | -0.055  | (0.071) | 0.580***  | (0.059)        | 401 | 0.59    | 1   | 342.1 | 0.4426  |
| Organization size: 10–49 employees             | 0.030   | (0.124) | 0.484***  | (0.100)        | 400 | 2.82    | 4   | 384.2 | 0.0249  |
| Organization size: 50–249 employees            | 0.013   | (0.119) |           |                |     |         |     |       |         |
| Organization size: 250–999 employees           | -0.053  | (0.126) |           |                |     |         |     |       |         |

|                                                     |           |         |          |         |     |      |   |       |        |
|-----------------------------------------------------|-----------|---------|----------|---------|-----|------|---|-------|--------|
| Organization size: 1,000+ employees                 | 0.248*    | (0.120) |          |         |     |      |   |       |        |
| Entry-level education: High school diploma          | 0.023     | (0.105) | 0.747*** | (0.080) | 403 | 7.46 | 5 | 388.4 | 0.0000 |
| Entry-level education: Some college, no degree      | -0.127    | (0.124) |          |         |     |      |   |       |        |
| Entry-level education: Associate degree             | -0.418**  | (0.143) |          |         |     |      |   |       |        |
| Entry-level education: Bachelor's degree            | -0.378*** | (0.096) |          |         |     |      |   |       |        |
| Entry-level education: Graduate degree              | -0.466**  | (0.149) |          |         |     |      |   |       |        |
| Certification/licensure: Professional certification | -0.141    | (0.107) | 0.466*** | (0.080) | 401 | 9.40 | 2 | 375.3 | 0.0001 |
| Certification/licensure: No certification required  | 0.192*    | (0.090) |          |         |     |      |   |       |        |

*Note.* Outcome is the overall Good Work gap. Each moderator was estimated in a separate model. Reference categories were No for organization hires employees and respondent supervises employees, 1–9 employees for organization size, no formal credential for entry-level education, and trade certification for certification/licensure. Standard errors are in parentheses. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

### Combined moderator models

We then ran two multivariate models. Model 1 included three organizational moderators—whether the organization hires employees, whether the respondent supervises employees, and organization size. Model 2 included all five moderators, adding entry-level education requirements and certification/licensure requirements. Because of missing data across the moderator variables, the two models were estimated on different samples.

Both models significantly predicted the gap. In Model 2, entry-level education requirements accounted for much of what the other moderators appeared to explain when tested separately. The education requirement effects persisted with modest attenuation and remained the only consistently significant block. Hiring responsibility, which was significant both when tested alone and in Model 1, fell to non-significance once education and licensure requirements were included. The certification/licensure effect disappeared entirely, suggesting that the earlier association overlapped substantially with educational requirements. Organization size behaved

inconsistently across the three specifications in which it appeared—significant alone, non-significant in Model 1, and significant again in Model 2—with no ordered pattern across organization sizes.

**Table 57. Employer organizational moderators predicting the overall Good Work gap (combined models)**

| Moderator / Category                                                    | Model 1<br>(3) | Model 2<br>(5) |
|-------------------------------------------------------------------------|----------------|----------------|
| Organization hires employees (ref: No)                                  |                |                |
| Yes                                                                     | -0.193*        | -0.155         |
|                                                                         | (0.086)        | (0.085)        |
| Respondent supervises employees (ref: No)                               |                |                |
| Yes                                                                     | 0.098          | 0.097          |
|                                                                         | (0.091)        | (0.090)        |
| Organization size (ref: 1–9 employees)                                  |                |                |
| 10–49 employees                                                         | 0.016          | 0.046          |
|                                                                         | (0.125)        | (0.123)        |
| 50–249 employees                                                        | 0.021          | 0.109          |
|                                                                         | (0.121)        | (0.121)        |
| 250–999 employees                                                       | -0.071         | 0.031          |
|                                                                         | (0.127)        | (0.129)        |
| 1,000+ employees                                                        | 0.200          | 0.270*         |
|                                                                         | (0.123)        | (0.123)        |
| Entry-level education required for the role (ref: no formal credential) |                |                |
| High school diploma                                                     | —              | -0.021         |
|                                                                         |                | (0.108)        |
| Some college, no degree                                                 | —              | -0.103         |

|                                                                          |          |           |
|--------------------------------------------------------------------------|----------|-----------|
|                                                                          |          | (0.129)   |
| Associate degree                                                         | —        | -0.338*   |
|                                                                          |          | (0.152)   |
| Bachelor's degree                                                        | —        | -0.365*** |
|                                                                          |          | (0.104)   |
| Graduate degree                                                          | —        | -0.384*   |
|                                                                          |          | (0.165)   |
| Certification/licensure required for the role (ref: trade certification) |          |           |
| Professional certification                                               | —        | -0.068    |
|                                                                          |          | (0.111)   |
| No certification required                                                | —        | 0.079     |
|                                                                          |          | (0.094)   |
| Intercept                                                                | 0.531*** | 0.611***  |
|                                                                          | (0.113)  | (0.162)   |
| N                                                                        | 394      | 392       |
| Model F                                                                  | 2.47     | 4.12      |
| df1                                                                      | 6        | 13        |
| df2                                                                      | 379.2    | 372.9     |
| Model p                                                                  | 0.0233   | 0.0000    |

Note. Outcome is the overall Good Work gap. Standard errors are in parentheses. Model 1 includes organization hiring status, respondent supervisory status, and organization size. Model 2 additionally includes entry-level education and certification/licensure requirements. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

## Section 3: Student credential and experience moderators

### Individual moderator models

We ran five separate multiply-imputed OLS regressions on the student file, each predicting the overall Good Work gap score from a single credential or experience characteristic: institution type, the credential currently being pursued, the highest credential expected before entering the field, certification and licensure intent, and apprenticeship or internship participation.

We found that only two of the five moderators significantly predicted the gap. Institution type, credential currently pursued, and certification intent were all non-significant at the model level, and no individual coefficient within them approached significance.

The highest credential a student expects to earn did predict the gap: relative to students expecting a community or technical college certificate, those expecting a Bachelor's or a Graduate degree reported significantly larger gaps, with students expecting an Associate degree falling in between and not significantly different. Students who were unsure what credential they would ultimately earn reported the largest gap of any group.

Apprenticeship and internship participation also predicted the gap, and the direction requires care because the reference category is a school-facilitated placement rather than non-participation. Relative to students in a placement arranged through their school or college, every other group reported a larger gap: students in an employer- or union-arranged placement, students not participating at all, and students who were unsure. The finding is therefore that school-facilitated placements are associated with the smallest gap — not that participation of any kind is associated with a larger one.

**Table 58. Student credential and experience moderators predicting the overall Good Work gap (separate models)**

| Moderator / Category                      | B (SE)         | Intercept (SE)      | N   | Model F | df1 | df2   | Model p |
|-------------------------------------------|----------------|---------------------|-----|---------|-----|-------|---------|
| Institution type (ref: community college) |                |                     |     |         |     |       |         |
| Public 4-year university                  | 0.027 (0.045)  | 0.298***<br>(0.040) | 944 | 1.76    | 4   | 931.4 | 0.1349  |
| Private 4-year university                 | -0.172 (0.094) |                     |     |         |     |       |         |

|                                                                              |                  |                  |     |      |   |       |        |
|------------------------------------------------------------------------------|------------------|------------------|-----|------|---|-------|--------|
| Technical/vocational school                                                  | -0.178 (0.152)   |                  |     |      |   |       |        |
| Other                                                                        | 0.056 (0.218)    |                  |     |      |   |       |        |
| Credential currently pursuing (ref: community/technical college certificate) |                  |                  |     |      |   |       |        |
| Associate degree                                                             | 0.086 (0.091)    | 0.215** (0.078)  | 944 | 0.82 | 2 | 919.3 | 0.4388 |
| Bachelor's degree                                                            | 0.102 (0.080)    |                  |     |      |   |       |        |
| Highest credential expected (ref: community/technical college certificate)   |                  |                  |     |      |   |       |        |
| Associate degree                                                             | 0.179 (0.103)    | 0.074 (0.090)    | 944 | 2.56 | 4 | 929.4 | 0.0373 |
| Bachelor's degree                                                            | 0.247** (0.093)  |                  |     |      |   |       |        |
| Graduate or professional degree                                              | 0.250** (0.096)  |                  |     |      |   |       |        |
| Not sure (non-response)                                                      | 0.353** (0.127)  |                  |     |      |   |       |        |
| Certification/licensure intent (ref: industry or trade certification)        |                  |                  |     |      |   |       |        |
| State or professional license                                                | -0.025 (0.051)   | 0.308*** (0.044) | 944 | 0.74 | 3 | 924.5 | 0.5304 |
| No formal certification or licensure required                                | 0.030 (0.057)    |                  |     |      |   |       |        |
| Not sure (non-response)                                                      | 0.032 (0.061)    |                  |     |      |   |       |        |
| Apprenticeship/internship (ref: yes, through school or college)              |                  |                  |     |      |   |       |        |
| Yes, through an employer or union                                            | 0.156*** (0.045) | 0.224*** (0.031) | 944 | 4.32 | 3 | 932.1 | 0.0049 |
| No                                                                           | 0.096* (0.045)   |                  |     |      |   |       |        |
| Not sure (non-response)                                                      | 0.111* (0.054)   |                  |     |      |   |       |        |

Note. Outcome is the overall Good Work gap. Each moderator was estimated in a separate model. Reference categories are shown in parentheses. Standard errors are shown in parentheses following coefficients and intercepts. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

We then ran two multivariate models. Model 1 included highest credential expected, certification/licensure intent, and apprenticeship/internship experience. Model 2 included all five student moderators, adding institution type and credential currently pursued to the three moderators included in Model 1. Both models were estimated on the full student sample (N = 944).

Both models significantly predicted the overall Good Work gap. The results were highly consistent across specifications. Highest credential expected and apprenticeship/internship experience remained significant predictors at nearly identical magnitudes in both models. Adding institution type and credential currently pursued in Model 2 produced little change in these estimates, and neither of the newly added moderators had significant coefficients. Certification/licensure intent remained non-significant in both models. Overall, the expanded model provided little evidence that institution type or the credential students were currently pursuing explained additional variation in the Good Work gap beyond the moderators already included in Model 1.

**Table 59. Student credential and experience moderators predicting the overall Good Work gap (combined models)**

| Moderator / Category                                                       | Model 1 B (SE)  | Model 2 B (SE)  |
|----------------------------------------------------------------------------|-----------------|-----------------|
| Highest credential expected (ref: community/technical college certificate) | —               | —               |
| Associate degree                                                           | 0.185 (0.104)   | 0.178 (0.111)   |
| Bachelor's degree                                                          | 0.233* (0.096)  | 0.251* (0.108)  |
| Graduate or professional degree                                            | 0.245* (0.099)  | 0.259* (0.111)  |
| Not sure (non-response)                                                    | 0.348** (0.129) | 0.360** (0.138) |
| Certification/licensure intent (ref: industry or trade certification)      | —               | —               |
| State or professional license                                              | -0.038 (0.052)  | -0.031 (0.052)  |
| No formal certification or licensure required                              | -0.018 (0.058)  | -0.012 (0.058)  |
| Not sure (non-response)                                                    | -0.002 (0.063)  | 0.001 (0.063)   |
| Apprenticeship/internship (ref: yes, through school or college)            | —               | —               |

|                                                                              |                 |                 |
|------------------------------------------------------------------------------|-----------------|-----------------|
| Yes, through an employer or union                                            | 0.141** (0.046) | 0.139** (0.046) |
| No                                                                           | 0.098* (0.045)  | 0.090* (0.046)  |
| Not sure (non-response)                                                      | 0.098 (0.056)   | 0.092 (0.057)   |
| Institution type (ref: community college)                                    | —               | —               |
| Public 4-year university                                                     | —               | 0.013 (0.069)   |
| Private 4-year university                                                    | —               | -0.157 (0.107)  |
| Technical/vocational school                                                  | —               | -0.105 (0.155)  |
| Other                                                                        | —               | 0.008 (0.222)   |
| Credential currently pursuing (ref: community/technical college certificate) | —               | —               |
| Associate degree                                                             | —               | -0.014 (0.099)  |
| Bachelor's degree                                                            | —               | -0.064 (0.102)  |
| Intercept                                                                    | 0.025 (0.097)   | 0.063 (0.111)   |
| Number of observations                                                       | 944             | 944             |
| Model F                                                                      | 2.25            | 1.71            |
| Model F df (numerator)                                                       | 10              | 16              |
| Model F df (denominator)                                                     | 928.1           | 923.4           |
| Model p                                                                      | 0.0137          | 0.0405          |

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

## Section 4: Demographics

### Age, sector, and respondent group

We ran two OLS regressions on the stacked employer–student file (single imputation), predicting the overall Good Work gap score from respondent age, respondent group, and — in the second model — sector, with all two- and three-way interactions.

We found that in the model without sector controls, age significantly predicted the size of the gap score, but only among employers: older employers reported larger gaps ( $B = 0.012$ ), while the age–gap association was effectively nil among students, whose slope is the sum of the age main effect and a significant age-by-group interaction ( $B = -0.015$ ). Students also showed a significantly larger overall gap than employers in that model ( $B = 0.286$ ).

Neither group-related result survived the addition of sector. In the fully interacted model, the group main effect fell to  $B = 0.060$  and the age-by-group interaction to  $B = 0.003$ , both non-significant, while the age main effect remained significant. No sector main effect, sector interaction, or three-way interaction reached significance.

Two features of this comparison warrant caution. The group coefficients attenuate substantially, which is consistent with the apparent employer–student difference being confounded with the sector composition of the two samples. At the same time, the standard errors for these terms increase roughly three- to four-fold — from 0.113 to 0.337 for the group main effect and from 0.003 to 0.013 for the age-by-group interaction — as the saturated three-way specification is fitted on the same 1,329 observations. The fully interacted model therefore cannot cleanly separate genuine confounding from loss of precision, and the age-by-group pattern is best reported as a result of the reduced model rather than as established across both specifications.

**Table 60. Age × Sector × Group models (single imputation, stacked file)**

| Predictor / Category   | Model 1 B (SE)    | Model 2 B (SE)   |
|------------------------|-------------------|------------------|
| Age                    | 0.012*** (0.003)  | 0.017*** (0.005) |
| Respondent group       | —                 | —                |
| Student                | 0.286* (0.113)    | 0.060 (0.337)    |
| Respondent group # Age | —                 | —                |
| Student                | -0.015*** (0.003) | 0.003 (0.013)    |

|                                  |               |                |
|----------------------------------|---------------|----------------|
| Sector                           | —             | —              |
| Information Technology           | —             | 0.353 (0.273)  |
| Healthcare                       | —             | 0.422 (0.265)  |
| Sector # Age                     | —             | —              |
| Information Technology           | —             | -0.007 (0.007) |
| Healthcare                       | —             | -0.005 (0.007) |
| Sector # Respondent group        | —             | —              |
| Information Technology # Student | —             | 0.218 (0.387)  |
| Healthcare # Student             | —             | -0.051 (0.387) |
| Sector # Respondent group # Age  | —             | —              |
| Information Technology # Student | —             | -0.017 (0.014) |
| Healthcare # Student             | —             | -0.013 (0.014) |
| Intercept                        | 0.077 (0.107) | -0.214 (0.199) |
| Number of observations           | 1329          | 1329           |
| Model F                          | 27.49         | 9.56           |
| Model F df (numerator)           | 3             | 11             |
| Model F df (denominator)         | 1325          | 1317           |
| p-value                          | $P < .001$    | $P < .001$     |

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

### Employer demographics and the gap score

We ran multiply-imputed OLS regressions (30 imputations) on the employer file, predicting the overall gap score from gender, age, and a four-category collapsed race variable constructed from the three most frequent race categories in the employer sample plus a combined "all other" category.

We found that the model as a whole significantly predicted the overall gap, driven by two predictors. Age was positively and significantly associated with the gap. Black employers — the

second most common race category in the employer sample — reported a significantly smaller gap than White employers. Neither of the other two race contrasts nor any gender contrast approached significance.

**Table 61. Employer: demographics (collapsed race) → Overall Gap**

| Predictor / Category          | B (SE)           |
|-------------------------------|------------------|
| Gender                        | —                |
| Woman                         | 0.094 (0.066)    |
| Non-binary                    | 0.391 (0.328)    |
| Prefer not to say             | 0.327 (0.270)    |
| Race                          | —                |
| 2nd most common               | -0.198** (0.076) |
| 3rd most common               | 0.000 (0.146)    |
| All other categories combined | -0.127 (0.116)   |
| Age                           | 0.011*** (0.003) |
| Intercept                     | 0.126 (0.135)    |
| Number of observations        | 383              |
| Model F                       | 4.03             |
| Model F df (numerator)        | 7                |
| Model F df (denominator)      | 370.7            |
| p-value                       | $P < .001$       |

*Note.* Race/ethnicity collapsed to the three most frequent categories in the employer sample plus a combined remainder: White (n = 211, reference), Black or African American (n = 117), Asian (n = 22), all other categories combined (n = 53). The combined category includes No response (14), Hispanic or Latino/a/x (17), American Indian or Alaska Native (9), Native Hawaiian or Pacific Islander (4), Prefer not to say (4), Middle Eastern or North African (3), and Other (2). Category ns are from the full employer sample (N = 403); models are estimated on N = 383 after listwise deletion on age and gender.

## Employer demographics by Good Work theme

We ran the same employer demographic model separately for each of the nine theme-level gap scores.

We found that demographics significantly predicted six of the nine theme gaps: Effort, Ethics, Relationship Skills, Expertise, Learning, and Other-Oriented. Purpose, Recognition, and Health and Wellbeing were not significant at the model level. Two predictors accounted for essentially all of this: age was positive and significant for seven of the nine themes (all but Purpose and Wellbeing), and the Black-employer contrast was negative and significant for four themes (Effort, Ethics, Expertise, and Learning). The only gender effect anywhere in the set was a single significant contrast for women on the Purpose gap. The overall density of significant coefficients was well above what chance would produce, and it was concentrated in these two predictors rather than scattered across the table.

**Table 62. Employer: demographics (collapsed race) → each theme gap**

| Theme gap | Predictor / Category                | B (SE)           | Model F (df) |
|-----------|-------------------------------------|------------------|--------------|
| Effort    | Gender: Woman                       | 0.028 (0.103)    | 2.23 (7)*    |
| Effort    | Gender: Non-binary                  | 0.043 (0.502)    |              |
| Effort    | Gender: Prefer not to say           | 0.096 (0.431)    |              |
| Effort    | Race: 2nd most common               | -0.323** (0.113) |              |
| Effort    | Race: 3rd most common               | -0.076 (0.234)   |              |
| Effort    | Race: All other categories combined | -0.186 (0.172)   |              |
| Effort    | Age                                 | 0.012* (0.005)   |              |
| Effort    | Intercept                           | 0.320 (0.214)    |              |
| Effort    | Number of observations              | 383              |              |
| Ethics    | Gender: Woman                       | 0.122 (0.098)    | 2.93 (7)**   |
| Ethics    | Gender: Non-binary                  | 0.604 (0.469)    |              |
| Ethics    | Gender: Prefer not to say           | 0.170 (0.384)    |              |

|                     |                                     |                  |           |
|---------------------|-------------------------------------|------------------|-----------|
| Ethics              | Race: 2nd most common               | -0.255* (0.105)  |           |
| Ethics              | Race: 3rd most common               | -0.021 (0.206)   |           |
| Ethics              | Race: All other categories combined | -0.194 (0.165)   |           |
| Ethics              | Age                                 | 0.012** (0.004)  |           |
| Ethics              | Intercept                           | 0.099 (0.188)    |           |
| Ethics              | Number of observations              | 383              |           |
| Relationship Skills | Gender: Woman                       | 0.089 (0.098)    | 3.00(7)** |
| Relationship Skills | Gender: Non-binary                  | 0.880 (0.494)    |           |
| Relationship Skills | Gender: Prefer not to say           | 0.198 (0.409)    |           |
| Relationship Skills | Race: 2nd most common               | -0.159 (0.115)   |           |
| Relationship Skills | Race: 3rd most common               | -0.181 (0.214)   |           |
| Relationship Skills | Race: All other categories combined | -0.101 (0.173)   |           |
| Relationship Skills | Age                                 | 0.015*** (0.005) |           |
| Relationship Skills | Intercept                           | -0.087 (0.204)   |           |
| Relationship Skills | Number of observations              | 383              |           |
| Expertise           | Gender: Woman                       | 0.085 (0.100)    | 2.53(7)*  |
| Expertise           | Gender: Non-binary                  | 0.248 (0.485)    |           |
| Expertise           | Gender: Prefer not to say           | 0.254 (0.402)    |           |
| Expertise           | Race: 2nd most common               | -0.256* (0.113)  |           |
| Expertise           | Race: 3rd most common               | 0.080 (0.218)    |           |
| Expertise           | Race: All other categories combined | -0.124 (0.175)   |           |
| Expertise           | Age                                 | 0.014** (0.005)  |           |
| Expertise           | Intercept                           | 0.250 (0.201)    |           |
| Expertise           | Number of observations              | 383              |           |
| Purpose             | Gender: Woman                       | 0.215* (0.105)   | 1.18(7)   |

|          |                                     |                  |           |
|----------|-------------------------------------|------------------|-----------|
| Purpose  | Gender: Non-binary                  | -0.232 (0.526)   |           |
| Purpose  | Gender: Prefer not to say           | 0.514 (0.411)    |           |
| Purpose  | Race: 2nd most common               | 0.053 (0.117)    |           |
| Purpose  | Race: 3rd most common               | 0.121 (0.221)    |           |
| Purpose  | Race: All other categories combined | 0.126 (0.184)    |           |
| Purpose  | Age                                 | 0.007 (0.005)    |           |
| Purpose  | Intercept                           | -0.120 (0.216)   |           |
| Purpose  | Number of observations              | 383              |           |
| Learning | Gender: Woman                       | 0.030 (0.108)    | 3.52(7)** |
| Learning | Gender: Non-binary                  | 0.630 (0.509)    |           |
| Learning | Gender: Prefer not to say           | 0.078 (0.417)    |           |
| Learning | Race: 2nd most common               | -0.355** (0.123) |           |
| Learning | Race: 3rd most common               | 0.062 (0.239)    |           |
| Learning | Race: All other categories combined | -0.267 (0.184)   |           |
| Learning | Age                                 | 0.015** (0.005)  |           |
| Learning | Intercept                           | 0.279 (0.206)    |           |
| Learning | Number of observations              | 383              |           |
| Other    | Gender: Woman                       | 0.092 (0.098)    | 2.38(7)*  |
| Other    | Gender: Non-binary                  | 0.893 (0.487)    |           |
| Other    | Gender: Prefer not to say           | 0.452 (0.383)    |           |
| Other    | Race: 2nd most common               | -0.156 (0.110)   |           |
| Other    | Race: 3rd most common               | -0.097 (0.208)   |           |
| Other    | Race: All other categories combined | -0.108 (0.169)   |           |
| Other    | Age                                 | 0.012** (0.005)  |           |
| Other    | Intercept                           | -0.047 (0.198)   |           |

|             |                                     |                |         |
|-------------|-------------------------------------|----------------|---------|
| Other       | Number of observations              | 383            |         |
| Recognition | Gender: Woman                       | 0.026 (0.094)  | 1.75(7) |
| Recognition | Gender: Non-binary                  | 0.702 (0.456)  |         |
| Recognition | Gender: Prefer not to say           | 0.696 (0.370)  |         |
| Recognition | Race: 2nd most common               | -0.135 (0.111) |         |
| Recognition | Race: 3rd most common               | -0.065 (0.206) |         |
| Recognition | Race: All other categories combined | -0.190 (0.161) |         |
| Recognition | Age                                 | 0.009* (0.004) |         |
| Recognition | Intercept                           | 0.099 (0.194)  |         |
| Recognition | Number of observations              | 383            |         |
| Wellbeing   | Gender: Woman                       | 0.159 (0.100)  | 1.32(7) |
| Wellbeing   | Gender: Non-binary                  | -0.251 (0.524) |         |
| Wellbeing   | Gender: Prefer not to say           | 0.486 (0.422)  |         |
| Wellbeing   | Race: 2nd most common               | -0.193 (0.113) |         |
| Wellbeing   | Race: 3rd most common               | 0.177 (0.218)  |         |
| Wellbeing   | Race: All other categories combined | -0.105 (0.178) |         |
| Wellbeing   | Age                                 | 0.005 (0.005)  |         |
| Wellbeing   | Intercept                           | 0.336 (0.213)  |         |
| Wellbeing   | Number of observations              | 383            |         |

*Note.* Race/ethnicity collapsed to the three most frequent categories in the employer sample plus a combined remainder: White (n = 211, reference), Black or African American (n = 117), Asian (n = 22), all other categories combined (n = 53). The combined category includes No response (14), Hispanic or Latino/a/x (17), American Indian or Alaska Native (9), Native Hawaiian or Pacific Islander (4), Prefer not to say (4), Middle Eastern or North African (3), and Other (2). Category ns are from the full employer sample (N = 403); models are estimated on N = 383 after listwise deletion on age and gender. \*\*\*p < .001, \*\* p < .01, \* p < .05

## Employer demographics by sector

We ran a multiply-imputed OLS regression on the employer file predicting the overall gap from gender, age, and collapsed race, with each demographic characteristic interacted with sector.

We found a significant race-by-sector interaction. In Architecture/Construction, the reference sector, Black employers reported a significantly smaller overall gap than White employers ( $B = -0.473$ ,  $p < .001$ ). However, this Black–White difference varied significantly by sector. The difference was 0.514 points more positive in Information Technology ( $p < .01$ ) and 0.394 points more positive in Healthcare ( $p < .05$ ) than in Architecture/Construction. Thus, the negative Black–White difference observed in Architecture/Construction was not evident to the same degree in either Information Technology or Healthcare. The results suggest that the Black–White difference in the overall gap was concentrated primarily in Architecture/Construction rather than being consistent across sectors. Age was no longer significant once sector interactions were included, and no gender main effect or gender-by-sector interaction reached significance.

**Table 63. Employer: demographics (collapsed race) × Sector → Overall Gap**

| Predictor / Category          | B (SE)            |
|-------------------------------|-------------------|
| Gender                        | —                 |
| Woman                         | −0.099 (0.123)    |
| Non-binary                    | −0.025 (0.639)    |
| Prefer not to say             | 0.621 (0.641)     |
| Race (Collapsed)              | —                 |
| 2nd most common               | −0.473*** (0.127) |
| 3rd most common               | −0.214 (0.301)    |
| All other categories combined | −0.333 (0.208)    |
| Age                           | 0.012 (0.006)     |
| Sector                        | —                 |
| Information Technology        | −0.127 (0.357)    |
| Healthcare                    | −0.096 (0.340)    |

|                                                        |                 |
|--------------------------------------------------------|-----------------|
| Gender × Sector                                        | —               |
| Woman × Information Technology                         | 0.160 (0.181)   |
| Woman × Healthcare                                     | 0.274 (0.176)   |
| Non-binary × Information Technology                    | 0.839 (0.796)   |
| Non-binary × Healthcare                                | −0.076 (0.929)  |
| Prefer not to say × Information Technology             | −0.250 (0.932)  |
| Prefer not to say × Healthcare                         | −0.424 (0.732)  |
| Race (Collapsed) × Sector                              | —               |
| 2nd most common × Information Technology               | 0.514** (0.192) |
| 2nd most common × Healthcare                           | 0.394* (0.181)  |
| 3rd most common × Information Technology               | 0.288 (0.376)   |
| 3rd most common × Healthcare                           | 0.359 (0.394)   |
| All other categories combined × Information Technology | 0.385 (0.308)   |
| All other categories combined × Healthcare             | 0.246 (0.272)   |
| Sector × Age                                           | —               |
| Information Technology                                 | −0.002 (0.008)  |
| Healthcare                                             | −0.000 (0.008)  |
| Intercept                                              | 0.212 (0.258)   |
| Number of observations                                 | 383             |
| Model F                                                | 2.06            |
| Model F df (numerator)                                 | 23              |
| Model F df (denominator)                               | 356.3           |
| Model p                                                | 0.0032          |

*Note.* Race/ethnicity collapsed to the three most frequent categories in the employer sample plus a combined remainder: White (n = 211, reference), Black or African American (n = 117), Asian (n = 22), all other categories combined (n = 53). The combined category includes No response

(14), Hispanic or Latino/a/x (17), American Indian or Alaska Native (9), Native Hawaiian or Pacific Islander (4), Prefer not to say (4), Middle Eastern or North African (3), and Other (2). Category ns are from the full employer sample (N = 403); models are estimated on N = 383 after listwise deletion on age and gender. \*\*\*p < .001, \*\* p < .01, \* p < .05

### Student demographics, income, and the gap score

We ran a multiply-imputed OLS regression (30 imputations) on the student file predicting the overall gap score from gender, age, household income, and a four-category collapsed race variable built the same way as the employer variable — from the three most frequent race categories in the *student* sample plus an "all other" category. Because the ranks are computed within group, the numeric codes carry different meanings across the employer and student models.

We found that the model as a whole did not significantly predict the overall gap. One income contrast was individually significant, but in the context of a non-significant omnibus test it should not be treated as a finding. Age, gender, and all race contrasts were non-significant.

**Table 64. Student: demographics (collapsed race) → Overall Gap**

| Predictor / Category       | B (SE)         |
|----------------------------|----------------|
| Gender                     | —              |
| Female                     | 0.026 (0.038)  |
| Non-binary                 | -0.007 (0.182) |
| Agender                    | -0.011 (0.309) |
| Genderqueer or genderfluid | 0.028 (0.306)  |
| Unsure                     | -0.241 (0.538) |
| Prefer not to say          | 0.081 (0.151)  |
| Race/Ethnicity             | —              |
| Asian                      | 0.038 (0.048)  |

|                                   |                  |
|-----------------------------------|------------------|
| Hispanic/Latino                   | 0.006 (0.053)    |
| All other categories combined     | -0.034 (0.046)   |
| Age                               | -0.002 (0.001)   |
| Household income is \$25k or less | —                |
| \$25,000 to \$49,999              | 0.038 (0.055)    |
| \$50,000 to \$74,999              | 0.150* (0.065)   |
| \$75,000 to \$99,999              | -0.005 (0.063)   |
| \$100,000 to \$149,999            | -0.038 (0.064)   |
| \$150,000 to \$199,999            | 0.043 (0.084)    |
| \$200,000 or more                 | 0.097 (0.085)    |
| Prefer not to say                 | 0.037 (0.063)    |
| Intercept                         | 0.307*** (0.064) |
| Number of observations            | 944              |
| Model F                           | 0.89             |
| Model F df (numerator)            | 17               |
| Model F df (denominator)          | 922.0            |
| Model p                           | 0.5834           |

*Note.* Race/ethnicity collapsed to the three most frequent categories in the student sample plus a combined remainder: White (n = 301, reference), Asian (n = 234), Hispanic/Latino (n = 157), all other categories combined (n = 252). The combined category includes Black or African-American (n = 139), Two or More Races (n = 51), Prefer not to say (n = 27), Middle Eastern (n = 17), American Indian (n = 9), Another race (n = 4), Other (n = 4), and Native Hawaiian (n = 1). Categories were ranked within the student sample; the corresponding employer tables use employer-specific ranks, so the same numeric codes denote different groups across the two sets of tables. For gender, reference category is Male. For household income, the reference category is "Less than \$25,000." The overall model was not statistically significant,  $F(17, 922.0) = 0.89$ ,  $p = .583$ .



## Student demographics and income by Good Work theme

We ran the same student model separately for each of the nine theme-level gap scores.

We found that eight of the nine models were non-significant overall; only Purpose reached significance, and only marginally. Across the full set of predictor-by-outcome tests, the number of individually significant coefficients was *lower* than the number expected by chance alone. We therefore treat this analysis as a null result: student demographics, age, and household income do not meaningfully predict theme-level Good Work gaps.

**Table 65. Student: demographics + income (collapsed race) → each theme gap**

|                | Coefficient                | Effort Gap | Ethics Gap | Relation Gap | Expertise Gap | Purpose Gap | Learning Gap | Other Gap | Recognition Gap | Wellbeing Gap |
|----------------|----------------------------|------------|------------|--------------|---------------|-------------|--------------|-----------|-----------------|---------------|
| Gender         |                            |            |            |              |               |             |              |           |                 |               |
|                | Female                     | -0.053     | 0.071      | 0.055        | -0.002        | 0.074       | -0.003       | 0.023     | 0.003           | 0.065         |
|                |                            | (0.055)    | (0.049)    | (0.056)      | (0.049)       | (0.060)     | (0.058)      | (0.057)   | (0.050)         | (0.070)       |
|                | Non-binary                 | -0.191     | 0.045      | -0.058       | 0.174         | -0.040      | -0.010       | -0.163    | -0.172          | 0.351         |
|                |                            | (0.259)    | (0.239)    | (0.267)      | (0.243)       | (0.301)     | (0.279)      | (0.277)   | (0.245)         | (0.337)       |
|                | Agender                    | -0.777     | 0.391      | -0.867       | 0.178         | 1.132*      | -0.035       | 0.226     | 0.054           | -0.398        |
|                |                            | (0.453)    | (0.425)    | (0.479)      | (0.410)       | (0.475)     | (0.488)      | (0.461)   | (0.428)         | (0.588)       |
|                | Genderqueer or genderfluid | -0.114     | 0.263      | 0.140        | 0.296         | -0.381      | 0.017        | 0.094     | -0.446          | 0.381         |
|                |                            | (0.440)    | (0.393)    | (0.457)      | (0.401)       | (0.477)     | (0.474)      | (0.465)   | (0.405)         | (0.554)       |
|                | Unsure                     | -0.340     | 0.133      | -0.083       | 0.656         | -0.933      | 0.413        | -1.428    | -0.786          | 0.201         |
|                |                            | (0.773)    | (0.720)    | (0.782)      | (0.728)       | (0.846)     | (0.903)      | (0.799)   | (0.714)         | (1.024)       |
|                | Prefer not to say          | -0.086     | 0.170      | 0.150        | 0.057         | 0.281       | -0.068       | 0.244     | 0.040           | -0.062        |
|                |                            | (0.222)    | (0.201)    | (0.226)      | (0.205)       | (0.243)     | (0.226)      | (0.231)   | (0.199)         | (0.273)       |
| Race/ethnicity |                            |            |            |              |               |             |              |           |                 |               |
|                | Asian                      | 0.071      | -0.049     | -0.002       | 0.019         | -0.025      | 0.059        | 0.098     | 0.141*          | 0.031         |
|                |                            | (0.070)    | (0.063)    | (0.070)      | (0.064)       | (0.076)     | (0.073)      | (0.071)   | (0.063)         | (0.088)       |

|                                       |                               |         |         |         |         |         |         |         |         |         |
|---------------------------------------|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                                       | Hispanic/Latino               | 0.061   | 0.015   | -0.052  | -0.035  | -0.063  | -0.043  | 0.078   | 0.100   | -0.006  |
|                                       |                               | (0.078) | (0.069) | (0.080) | (0.070) | (0.083) | (0.081) | (0.081) | (0.071) | (0.097) |
|                                       | All other categories combined | 0.095   | -0.098  | -0.082  | -0.021  | -0.121  | 0.000   | -0.010  | 0.018   | -0.088  |
|                                       |                               | (0.068) | (0.059) | (0.067) | (0.062) | (0.072) | (0.070) | (0.069) | (0.060) | (0.082) |
| Age                                   |                               | -0.003  | -0.003  | -0.000  | -0.002  | -0.003  | -0.002  | 0.001   | -0.003  | -0.004  |
|                                       |                               | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) | (0.002) |
| Household income (ref: \$25k or less) |                               |         |         |         |         |         |         |         |         |         |
|                                       | \$25,000 to \$49,999          | 0.066   | 0.059   | -0.007  | -0.035  | 0.063   | 0.055   | 0.034   | 0.023   | 0.085   |
|                                       |                               | (0.080) | (0.074) | (0.080) | (0.072) | (0.089) | (0.083) | (0.083) | (0.072) | (0.099) |
|                                       | \$50,000 to \$74,999          | 0.020   | 0.033   | 0.110   | 0.140   | 0.285** | 0.216*  | 0.155   | 0.108   | 0.287*  |
|                                       |                               | (0.095) | (0.087) | (0.093) | (0.084) | (0.105) | (0.098) | (0.097) | (0.085) | (0.118) |
|                                       | \$75,000 to \$99,999          | -0.017  | -0.019  | 0.003   | 0.026   | 0.008   | 0.063   | -0.021  | -0.067  | -0.019  |
|                                       |                               | (0.091) | (0.084) | (0.092) | (0.086) | (0.101) | (0.099) | (0.094) | (0.083) | (0.115) |
|                                       | \$100,000 to \$149,999        | -0.003  | -0.042  | -0.088  | -0.120  | -0.090  | 0.122   | -0.097  | 0.004   | -0.029  |
|                                       |                               | (0.092) | (0.088) | (0.095) | (0.083) | (0.102) | (0.096) | (0.096) | (0.084) | (0.119) |
|                                       | \$150,000 to \$199,999        | -0.151  | 0.049   | 0.037   | -0.044  | 0.133   | 0.128   | 0.010   | 0.046   | 0.181   |
|                                       |                               | (0.120) | (0.111) | (0.126) | (0.111) | (0.136) | (0.130) | (0.127) | (0.114) | (0.155) |
|                                       | \$200,000 or more             | 0.068   | 0.096   | 0.040   | 0.030   | 0.152   | 0.138   | 0.086   | 0.039   | 0.225   |
|                                       |                               | (0.124) | (0.112) | (0.124) | (0.109) | (0.135) | (0.131) | (0.130) | (0.111) | (0.154) |

|                          |                   |          |          |          |          |         |         |         |         |          |
|--------------------------|-------------------|----------|----------|----------|----------|---------|---------|---------|---------|----------|
|                          | Prefer not to say | 0.018    | 0.054    | 0.012    | -0.050   | 0.021   | 0.107   | 0.030   | -0.002  | 0.144    |
|                          |                   | (0.088)  | (0.084)  | (0.093)  | (0.084)  | (0.099) | (0.095) | (0.095) | (0.083) | (0.113)  |
| Intercept                |                   | 0.359*** | 0.314*** | 0.323*** | 0.345*** | 0.325** | 0.294** | 0.154   | 0.189*  | 0.462*** |
|                          |                   | (0.095)  | (0.087)  | (0.094)  | (0.083)  | (0.101) | (0.098) | (0.100) | (0.086) | (0.118)  |
| Number of observations   |                   | 944      | 944      | 944      | 944      | 944     | 944     | 944     | 944     | 944      |
| Model F                  |                   | 0.86     | 0.77     | 0.64     | 0.75     | 1.65    | 0.53    | 0.85    | 0.98    | 1.06     |
| Model F df (numerator)   |                   | 17       | 17       | 17       | 17       | 17      | 17      | 17      | 17      | 17       |
| Model F df (denominator) |                   | 900.5    | 886.7    | 898.4    | 890.4    | 900.9   | 896.7   | 905.4   | 892.6   | 910.3    |
| Model p                  |                   | 0.6194   | 0.7276   | 0.8621   | 0.7544   | 0.0471  | 0.9403  | 0.6368  | 0.4828  | 0.3912   |

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

Race/ethnicity collapsed to the three most frequent categories in the student sample plus a combined remainder: White ( $n = 301$ , reference), Asian ( $n = 234$ ), Hispanic/Latino ( $n = 157$ ), all other categories combined ( $n = 252$ ). The combined category includes Black or African-American ( $n = 139$ ), Two or More Races ( $n = 51$ ), Prefer not to say ( $n = 27$ ), Middle Eastern ( $n = 17$ ), American Indian ( $n = 9$ ), Another race ( $n = 4$ ), Other ( $n = 4$ ), and Native Hawaiian ( $n = 1$ ). Categories were ranked within the student sample; the corresponding employer tables use employer-specific ranks, so the same numeric codes denote different groups across the two sets of tables. For gender, reference category is Male. The Agender coefficient on Purpose is estimated from a very small cell ( $SE = 0.475$  on a gap-score metric) and should not be reported as a substantive finding. For household income, the reference category is "Less than \$25,000."

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

## Student demographics and income by sector

We ran a multiply-imputed OLS regression on the student file predicting the overall gap from gender, age, income, and collapsed race, each fully interacted with sector.

We found no significant effects. The omnibus test was non-significant and not a single coefficient in the model reached conventional significance. Several gender-by-sector cells were inestimable because no students occupied them, which is noted in the table.

**Table 66. Student: demographics + income (collapsed race) × Sector → Overall Gap**

| Predictor / Category              | B (SE)         |
|-----------------------------------|----------------|
| Gender                            | —              |
| Female                            | 0.125 (0.097)  |
| Non-binary                        | −0.366 (0.385) |
| Agender                           | −0.047 (0.404) |
| Genderqueer or genderfluid        | −0.106 (0.532) |
| Unsure                            | −0.150 (0.547) |
| Prefer not to say                 | −0.097 (0.241) |
| Race/ethnicity                    | —              |
| Asian                             | −0.153 (0.157) |
| Hispanic/Latino                   | 0.219 (0.137)  |
| All other categories combined     | −0.110 (0.116) |
| Age                               | 0.019 (0.011)  |
| Household income is \$25k or less | —              |
| \$25,000 to \$49,999              | −0.049 (0.168) |
| \$50,000 to \$74,999              | 0.072 (0.175)  |
| \$75,000 to \$99,999              | −0.224 (0.183) |
| \$100,000 to \$149,999            | −0.199 (0.162) |
| \$150,000 to \$199,999            | 0.031 (0.218)  |

|                                                        |                |
|--------------------------------------------------------|----------------|
| \$200,000 or more                                      | 0.154 (0.236)  |
| Prefer not to say                                      | 0.127 (0.166)  |
| Sector                                                 | —              |
| Information Technology                                 | 0.540 (0.313)  |
| Healthcare                                             | 0.299 (0.325)  |
| Gender × Sector                                        | —              |
| Female × Information Technology                        | −0.090 (0.112) |
| Female × Healthcare                                    | −0.076 (0.130) |
| Non-binary × Information Technology                    | 0.441 (0.457)  |
| Non-binary × Healthcare                                | 0.476 (0.544)  |
| Agender × Information Technology                       | 0.524 (0.668)  |
| Genderqueer or genderfluid × Information Technology    | 0.230 (0.652)  |
| Prefer not to say × Information Technology             | 0.427 (0.319)  |
| Race/ethnicity × Sector                                | —              |
| Asian × Information Technology                         | 0.158 (0.172)  |
| Asian × Healthcare                                     | 0.314 (0.179)  |
| Hispanic/Latino × Information Technology               | −0.259 (0.165) |
| Hispanic/Latino × Healthcare                           | −0.223 (0.157) |
| All other categories combined × Information Technology | 0.107 (0.143)  |
| All other categories combined × Healthcare             | 0.092 (0.133)  |
| Sector × Age                                           | —              |
| Information Technology                                 | −0.023 (0.012) |
| Healthcare                                             | −0.017 (0.012) |
| Household income × Sector                              | —              |
| \$25,000 to \$49,999 × Information Technology          | 0.087 (0.194)  |

|                                                 |                |
|-------------------------------------------------|----------------|
| \$25,000 to \$49,999 × Healthcare               | 0.083 (0.183)  |
| \$50,000 to \$74,999 × Information Technology   | 0.153 (0.212)  |
| \$50,000 to \$74,999 × Healthcare               | 0.059 (0.195)  |
| \$75,000 to \$99,999 × Information Technology   | 0.141 (0.211)  |
| \$75,000 to \$99,999 × Healthcare               | 0.326 (0.205)  |
| \$100,000 to \$149,999 × Information Technology | 0.177 (0.193)  |
| \$100,000 to \$149,999 × Healthcare             | 0.159 (0.192)  |
| \$150,000 to \$199,999 × Information Technology | −0.012 (0.255) |
| \$150,000 to \$199,999 × Healthcare             | 0.015 (0.253)  |
| \$200,000 or more × Information Technology      | −0.097 (0.265) |
| \$200,000 or more × Healthcare                  | −0.014 (0.290) |
| Prefer not to say × Information Technology      | −0.090 (0.194) |
| Prefer not to say × Healthcare                  | −0.171 (0.196) |
| Intercept                                       | −0.172 (0.298) |
| Number of observations                          | 944            |
| Model F                                         | 1.05           |
| Model F df (numerator)                          | 48             |
| Model F df (denominator)                        | 892.3          |
| Model p                                         | 0.3795         |

*Note.* Race/ethnicity collapsed to the three most frequent categories in the student sample plus a combined remainder: White ( $n = 301$ , reference), Asian ( $n = 234$ ), Hispanic/Latino ( $n = 157$ ), all other categories combined ( $n = 252$ ). The combined category includes Black or African-American ( $n = 139$ ), Two or More Races ( $n = 51$ ), Prefer not to say ( $n = 27$ ), Middle Eastern ( $n = 17$ ), American Indian ( $n = 9$ ), Another race ( $n = 4$ ), Other ( $n = 4$ ), and Native Hawaiian ( $n = 1$ ). Categories were ranked within the student sample; the corresponding employer tables use employer-specific ranks, so the same numeric codes denote different groups across the two sets of tables. For gender, reference category is Male. Eight gender × sector interaction terms

were inestimable (no students in the cell) and are omitted from the table. For household income, the reference category is "Less than \$25,000." The overall model was not statistically significant,  $F(48, 892.3) = 1.05, p = .380$ .

## Combined employer–student models

We ran two OLS regressions on the stacked file (single imputation) predicting the overall gap from unified gender, age, and a collapsed race variable whose categories were ranked by frequency *within* each respondent group, interacted with group and — in the second model — with sector as well.

We found that both models significantly predicted the gap. We found that age was positively associated with the gap in both models. In Model 1, a significant age-by-group interaction ( $B = -0.013$ ) reproduced the pattern from the age models above: the positive age effect holds for employers and is offset for students. In Model 2, which adds sector and its interactions, this interaction is no longer significant ( $B = 0.006$ ,  $SE = 0.013$  against  $0.003$  in Model 1), so the age-by-group pattern should be treated as a Model 1 result.

The second-most-common race category was significantly associated with a smaller gap in both models ( $B = -0.152$  in Model 1,  $B = -0.422$  in Model 2). Its interaction with respondent group was significant in Model 1 ( $B = 0.201$ ), indicating an employer-specific effect with an essentially null student contrast. That interaction is not significant in Model 2, but the point estimate is if anything larger ( $B = 0.251$ ) while its standard error more than doubles ( $0.082$  to  $0.193$ ); the change therefore reflects the reduced precision of the fully interacted specification rather than the effect disappearing.

Adding sector reproduced the employer race-by-sector pattern found in the employer-only models almost exactly ( $B = 0.503$  for Information Technology and  $B = 0.382$  for Healthcare, against  $0.514$  and  $0.394$  in Table 63), confirming that it survives the inclusion of students in the file. No three-way interaction reached significance, and no gender contrast was significant in either model.

**Table 67. Combined models, group-specific race collapse (single imputation)**

| Predictor                      | Model 1 | Model 2 |
|--------------------------------|---------|---------|
| Gender (unified across groups) |         |         |
| Woman/Female                   | 0.112   | -0.102  |
|                                | (0.058) | (0.106) |
| Non-binary                     | 0.461   | -0.051  |
|                                | (0.283) | (0.555) |

|                                                   |          |           |
|---------------------------------------------------|----------|-----------|
| Prefer not to say/Declined                        | 0.164    | 0.527     |
|                                                   | (0.234)  | (0.557)   |
| Other                                             | -0.074   | -0.231    |
|                                                   | (0.212)  | (0.401)   |
| Race (Collapsed)                                  |          |           |
| 2nd most common                                   | -0.152*  | -0.422*** |
|                                                   | (0.066)  | (0.110)   |
| 3rd most common                                   | -0.059   | -0.230    |
|                                                   | (0.126)  | (0.258)   |
| All other categories combined                     | -0.125   | -0.348    |
|                                                   | (0.099)  | (0.179)   |
| Age                                               | 0.011*** | 0.012*    |
|                                                   | (0.003)  | (0.005)   |
| Respondent group                                  |          |           |
| Student                                           | 0.209    | -0.318    |
|                                                   | (0.130)  | (0.363)   |
| Gender (unified across groups) # Respondent group |          |           |
| Woman/Female # Student                            | -0.084   | 0.168     |
|                                                   | (0.070)  | (0.145)   |
| Non-binary # Student                              | -0.529   | -0.433    |
|                                                   | (0.340)  | (0.684)   |
| Prefer not to say/Declined # Student              | -0.087   | -0.132    |
|                                                   | (0.282)  | (0.388)   |
| Race (Collapsed) # Respondent group               |          |           |
| 2nd most common # Student                         | 0.201*   | 0.251     |

|                                                     |           |         |
|-----------------------------------------------------|-----------|---------|
|                                                     | (0.082)   | (0.193) |
| 3rd most common # Student                           | 0.067     | 0.369   |
|                                                     | (0.137)   | (0.290) |
| All other categories combined # Student             | 0.095     | 0.266   |
|                                                     | (0.110)   | (0.215) |
| Respondent group # Age                              |           |         |
| Student                                             | -0.013*** | 0.006   |
|                                                     | (0.003)   | (0.013) |
| Sector                                              |           |         |
| Information Technology                              |           | -0.082  |
|                                                     |           | (0.311) |
| Healthcare                                          |           | -0.084  |
|                                                     |           | (0.297) |
| Gender (unified across groups) # Sector             |           |         |
| Woman/Female # Information Technology               |           | 0.180   |
|                                                     |           | (0.156) |
| Woman/Female # Healthcare                           |           | 0.285   |
|                                                     |           | (0.152) |
| Non-binary # Information Technology                 |           | 0.899   |
|                                                     |           | (0.689) |
| Non-binary # Healthcare                             |           | 0.174   |
|                                                     |           | (0.798) |
| Prefer not to say/Declined # Information Technology |           | -0.318  |
|                                                     |           | (0.805) |
| Prefer not to say/Declined # Healthcare             |           | -0.525  |

|                                                        |  |         |
|--------------------------------------------------------|--|---------|
|                                                        |  | (0.631) |
| Other # Information Technology                         |  | 0.433   |
|                                                        |  | (0.514) |
| Other # Healthcare                                     |  | 0.094   |
|                                                        |  | (0.565) |
| Race (Collapsed) # Sector                              |  |         |
| 2nd most common # Information Technology               |  | 0.503** |
|                                                        |  | (0.165) |
| 2nd most common # Healthcare                           |  | 0.382*  |
|                                                        |  | (0.158) |
| 3rd most common # Information Technology               |  | 0.220   |
|                                                        |  | (0.324) |
| 3rd most common # Healthcare                           |  | 0.309   |
|                                                        |  | (0.338) |
| All other categories combined # Information Technology |  | 0.392   |
|                                                        |  | (0.270) |
| All other categories combined # Healthcare             |  | 0.269   |
|                                                        |  | (0.235) |
| Sector # Age                                           |  |         |
| Information Technology                                 |  | -0.002  |
|                                                        |  | (0.007) |
| Healthcare                                             |  | 0.000   |
|                                                        |  | (0.007) |
| Sector # Respondent group                              |  |         |
| Information Technology # Student                       |  | 0.566   |

|                                                                  |  |         |
|------------------------------------------------------------------|--|---------|
|                                                                  |  | (0.427) |
| Healthcare # Student                                             |  | 0.368   |
|                                                                  |  | (0.429) |
| Gender (unified across groups) # Sector # Respondent group       |  |         |
| Woman/Female # Information Technology # Student                  |  | -0.207  |
|                                                                  |  | (0.193) |
| Woman/Female # Healthcare # Student                              |  | -0.280  |
|                                                                  |  | (0.201) |
| Non-binary # Information Technology # Student                    |  | -0.408  |
|                                                                  |  | (0.835) |
| Non-binary # Healthcare # Student                                |  | 0.400   |
|                                                                  |  | (0.977) |
| Prefer not to say/Declined # Information Technology # Student    |  | 0.270   |
|                                                                  |  | (0.731) |
| Race (Collapsed) # Sector # Respondent group                     |  |         |
| 2nd most common # Information Technology # Student               |  | -0.299  |
|                                                                  |  | (0.240) |
| 2nd most common # Healthcare # Student                           |  | -0.060  |
|                                                                  |  | (0.241) |
| 3rd most common # Information Technology # Student               |  | -0.355  |
|                                                                  |  | (0.363) |
| 3rd most common # Healthcare # Student                           |  | -0.462  |
|                                                                  |  | (0.371) |
| All other categories combined # Information Technology # Student |  | -0.271  |
|                                                                  |  | (0.307) |

|                                                      |            |            |
|------------------------------------------------------|------------|------------|
| All other categories combined # Healthcare # Student |            | -0.226     |
|                                                      |            | (0.271)    |
| Sector # Respondent group # Age                      |            |            |
| Information Technology # Student                     |            | -0.019     |
|                                                      |            | (0.014)    |
| Healthcare # Student                                 |            | -0.016     |
|                                                      |            | (0.014)    |
| Intercept                                            | 0.128      | 0.198      |
|                                                      | (0.119)    | (0.226)    |
| Number of observations                               | 1327       | 1327       |
| Model F                                              | 6.14       | 3.04       |
| Model F df (numerator)                               | 16         | 49         |
| Model F df (denominator)                             | 1310       | 1277       |
| p-value                                              | $P < .001$ | $P < .001$ |

*Note.* Race/ethnicity was collapsed to a four-category variable by ranking categories on frequency separately within each respondent group, so the numeric levels are not a common scheme across groups. For employers, level 1 = White ( $n = 211$ , reference), 2 = Black or African American ( $n = 117$ ), 3 = Asian ( $n = 22$ ), 4 = all remaining categories combined ( $n = 53$ ; No response 14, Hispanic or Latino/a/x 17, American Indian or Alaska Native 9, Native Hawaiian or Pacific Islander 4, Prefer not to say 4, Middle Eastern or North African 3, Other 2). For students, level 1 = White ( $n = 301$ , reference), 2 = Asian ( $n = 234$ ), 3 = Hispanic/Latino ( $n = 157$ ), 4 = all remaining categories combined ( $n = 252$ ; Black or African-American 139, Two or More Races 51, Prefer not to say 27, Middle Eastern 17, American Indian 9, Another race 4, Other 4, Native Hawaiian 1). Because ranks differ by group, the race  $\times$  group interaction terms compare *differently constituted* contrasts: "2nd most common  $\times$  Student" contrasts the Black-White difference among employers against the Asian-White difference among students. Category ns are from the collapsed pooled sample ( $N = 1,347$ ); the estimation samples are  $N = 1,327$  after listwise deletion on age and gender. Gender uses the unified cross-group coding. However, no employer

is coded Other for gender. The Other main effect (and its sector interactions) are estimated entirely from students and cannot be read as an employer contrast.

## Part V. Synthesis of Findings and Recommendations Across the Research Questions

The Good Work Value Alignment Study was designed around a broad question: what does it mean to prepare people not simply to enter the workforce, but to do good work once they are there? The findings suggest that this question cannot be answered through technical preparation, employment outcomes, or credential attainment alone. Across the study, good work emerged as a multidimensional construct encompassing effort, ethics, relationships, expertise, purpose, continued learning and self-awareness, impact on others, achievement, and wellbeing. Credential value was similarly treated as multidimensional, encompassing preparation and readiness, employability, labor-market value, satisfaction, diversity, civic and public value, and related dimensions of what higher education contributes beyond earnings alone.

At the same time, the study identified a recurring tension between aspiration and preparation. Across both rounds, employers and students generally perceived the qualities represented in the Good Work framework as more important than students were prepared to demonstrate them. The consistency of this directional pattern across independent administrations—including the revised administration used in the pilot—makes this one of the clearest substantive findings of the study. Yet the analyses also show that employers and students do not always understand or use the measures in precisely equivalent ways, and that perceptions of preparedness are related to educational experience, credential value, organizational conditions, career domain, age, race, and other contextual characteristics in ways that resist a single universal account.

The sections below return to the study's overarching research questions and consider what the findings collectively suggest for higher education, workforce preparation, and future research.

### **RQ1. How do students and professionals define “good work” and credential value beyond economic metrics?**

The study supports a conception of good work that extends well beyond technical competence or successful task completion. The survey framework operationalized good work through interrelated dimensions of Excellence, Ethics, and Engagement. Within that framework, doing

good work involves applying expertise and effort, but also acting ethically, working effectively with others, continuing to learn, considering one's impact on other people and communities, finding purpose and engagement in work, achieving meaningful results, and sustaining health and wellbeing. The factor analyses indicate that these themes do not necessarily function as wholly distinct latent dimensions, but the broader empirical findings support their usefulness as substantive domains through which students and professionals evaluate work.

The results are especially important because perceived preparation gaps were not confined to conventionally defined "career skills." Employers identified substantial gaps in areas related to expertise and skills, effort, and learning and growth, but gaps also appeared in ethical, relational, purpose-related, other-oriented, achievement, and wellbeing dimensions. Students likewise perceived preparation gaps across the entire Good Work framework. The persistence of these gaps across both rounds suggests that respondents understand preparation for work as involving more than acquisition of occupational knowledge. They are also evaluating whether people are prepared to participate responsibly, adapt and develop, relate to others, find meaning in their work, and sustain themselves while doing it.

Credential value is similarly broader than economic return. The study's Credential Value measures encompass perceptions of whether college provides useful preparation, supports employment and career entry, responds to labor-market conditions, produces a satisfying educational investment, contributes to diversity and broader perspectives, and creates civic or public value. The revised pilot instrument further placed employers and students on common, neutrally worded dimensions, reinforcing the conceptualization of credential value as a judgment about what college contributes to life and work rather than simply whether a credential produces a financial return.

The relationship between Credential Value and the Good Work gap strengthens this interpretation. Across the Round One analyses, more positive perceptions of Credential Value were associated with greater perceived alignment between what good work requires and how well students are prepared. This relationship appeared for both employers and students, although some of its contextual patterning differed across career domains. Credential value, in other words, appears to be connected not only to whether college is seen as economically worthwhile but also to whether it is perceived as preparing people for the broader demands of good work.

## **Implications for RQ1**

Higher education and workforce initiatives should therefore resist defining career readiness solely in terms of technical skills, employment placement, or earnings. The findings support a broader conception of preparation that includes ethical judgment, relationships, adaptability and continued learning, purpose, responsibility to others, achievement, and wellbeing alongside expertise.

The nine-theme framework can continue to serve as a useful organizing structure for this work, but it should not yet be treated as a definitively established set of independent psychological factors. The measurement analyses show substantial overlap among dimensions and continued uncertainty about the optimal item structure. Future work should therefore distinguish between the conceptual usefulness of the Good Work domains and the psychometric question of how those domains are best measured.

## **RQ2. How are these definitions informed by their educational experiences?**

The study provides evidence that perceptions of good work and preparation are related to how respondents experience and evaluate education, but it does not support a simple conclusion that more education or more educational experience automatically produces greater perceived preparedness.

Most directly, students' Importance–Preparedness gaps differed according to their internship or apprenticeship experience. Students who participated in an internship or apprenticeship through an employer or union reported larger overall gaps than students whose internship or apprenticeship was facilitated through their school or college, which served as the reference group. Students who reported no internship or apprenticeship also showed larger gaps relative to the school- or college-facilitated group. These associations should not be interpreted causally: the analyses do not establish that particular internship experiences increase perceived gaps or change students' assessments of their own preparedness. They do, however, suggest that students' work-based learning context is associated with how they perceive the relationship between what good work demands and how prepared they are to meet those demands.

The broader Credential Value results reinforce the connection between educational experience and perceived preparation. Students who viewed their college credential more positively tended to perceive smaller gaps between Importance and Preparedness. The same general relationship was present among employers: employers who viewed college credentials more positively also tended to perceive greater alignment between the demands of good work and graduates' preparedness. In the combined analysis, the Credential Value relationship did not differ significantly between employers and students overall.

Among employers, institutional and occupational expectations also mattered. Employers' perceptions of preparation differed according to characteristics of the positions and organizations in which graduates would work. Entry-level educational requirements were particularly relevant: employers assessing positions that required postsecondary credentials perceived smaller gaps than those assessing roles without formal credential requirements. Certification or licensure requirements, hiring responsibility, and some organizational characteristics were also related to perceived gaps. These findings suggest that judgments about whether college prepares people adequately are partly conditioned by what a particular workplace expects college to prepare people for.

Round Two adds an important methodological finding to this research question. When respondents completed the entire Good Work battery rather than receiving a matrix-sampled subset, the central pattern of positive Importance–Preparedness gaps remained. The revised administration therefore provides evidence that the broad perception of a preparation gap was not simply produced by the original survey design. At the same time, the pilot was not sufficiently large to establish which specific item structure should ultimately be retained.

### **Implications for RQ2**

The findings suggest that educational preparation should be examined in relation to the environments in which students are expected to use what they learn. Work-based learning deserves particular continued study, not because the present findings establish whether internships improve or worsen preparedness, but because students with different experiential-learning backgrounds perceive preparation differently.

Future research should therefore follow students across educational and workplace transitions rather than relying exclusively on cross-sectional self-report. A longitudinal design could examine whether exposure to internships, apprenticeships, clinical placements, or early employment changes what students consider important, changes their assessments of their own preparedness, changes both, or selects students who already differ in these perceptions.

The findings also support strengthening connections between academic programs and workplace expectations. Because perceptions of credential value and preparation are linked, colleges should consider whether students can see how coursework, experiential learning, and broader educational experiences connect to the multidimensional demands of good work—not merely to obtaining a first job.

### **RQ3. Where do learners' and employers' perspectives align or diverge?**

The strongest area of alignment is the existence and direction of the preparation gap itself. Employers and students consistently perceived Importance as exceeding Preparedness across the Good Work domains, and the same broad pattern reappeared in the Round 2 pilot. Thus, the study does not depict employers as believing that graduates are unprepared while students believe that they are fully prepared. Both groups recognize a distance between what good work demands and current preparation.

Where the groups diverge is in the magnitude and structure of those perceptions. Employers generally perceived larger gaps than students across the Good Work domains, with particularly prominent employer concerns around expertise and skills, effort, and continued learning and growth. Students also perceived gaps, but their pattern was comparatively more even across domains and included substantial concern about wellbeing. The findings therefore suggest shared recognition of a college-to-work preparation challenge alongside different vantage points on where that challenge is most pronounced.

The measurement analyses add an important qualification. Employer and student responses did not demonstrate uniform measurement invariance. Some constructs showed evidence of comparable factor loadings, while others did not, and equality of item intercepts was generally less well supported. Sector-specific analyses showed further heterogeneity. Consequently, differences between employer and student raw ratings should not automatically be interpreted

as pure differences in the underlying construct. Some observed differences may also reflect differences in how the groups interpret particular items, use response scales, or organize the underlying concepts.

Other findings nevertheless reveal meaningful commonalities. Credential Value was associated with smaller gaps in both populations, and the overall relationship between Credential Value and the gap did not differ significantly by respondent group in the combined model. Organizational Culture behaved differently as it was associated with the gap in opposite directions: higher ratings predicted smaller gaps among employers but larger gaps among students. This distinction is substantively plausible within the study design because employers are evaluating graduates from within active workplace organizations, whereas students' organizational-culture ratings represent a different vantage point. The analysis establishes the difference in association, however, rather than its cause.

Round Two further complicates a simple alignment-versus-divergence narrative. The pilot reproduced the broad gap pattern in both groups but did not provide sufficient power to establish most employer-student differences. It therefore strengthens confidence in the shared directional finding while leaving the precise magnitude of cohort differences as an issue requiring further validation.

### **Implications for RQ3**

Employers and students should be treated as complementary rather than competing sources of information. Employers contribute judgments grounded in workplace expectations; students contribute judgments grounded in their educational experiences and anticipated transition into work. Neither perspective should automatically be treated as the objective benchmark against which the other is judged.

For research, this means continuing to collect parallel data while avoiding unqualified comparisons of raw means when measurement equivalence is uncertain. Within-group patterns and within-respondent Importance-Preparedness discrepancies provide useful information, but they do not erase the underlying measurement differences identified in the invariance analyses.

For practice, the areas of agreement may provide particularly useful starting points for employer-education partnerships. The shared recognition that preparation falls short of importance across a broad range of Good Work capacities suggests room for common

agenda-setting even where employers and students disagree about the magnitude or relative priority of particular gaps.

#### **RQ4. How do identity and institutional context—particularly race, gender, and career domain—shape these views?**

The study provides evidence that context matters, but it also cautions against treating demographic differences as simple or universal.

Career domain shaped some relationships but not others. Among employers, the relationship between Credential Value and the overall Good Work gap varied by sector, with a different pattern emerging in Healthcare relative to Architecture/Construction, while the corresponding Information Technology interaction was not significant. Among students, the Credential Value relationship did not significantly vary across sectors. When sector and respondent group were considered together, the Credential Value pattern differed between employers and students specifically in Healthcare. Organizational Culture, by contrast, did not show the same pattern of group-by-sector moderation.

These results argue against a single account of “credential utility” that applies uniformly across fields. At the same time, they do not establish why the Healthcare pattern differs, nor do they show that credentials are inherently more or less valuable in any particular sector. The findings instead indicate that the relationship between perceived credential value and perceived preparation is context-dependent and deserves sector-specific investigation.

Institutional context was also evident within the employer sample. Perceived gaps differed according to educational requirements for entry-level roles, certification or licensure expectations, hiring responsibility, and some organizational characteristics. Organizational Culture itself was associated with the Good Work gap among employers and students, but the association differed in direction between groups. Together, these results suggest that evaluations of graduate preparedness are partly situated within the organizational environments and occupational structures from which employers make those judgments.

Identity-related findings were more selective. Age showed different relationships with the overall gap for employers and students in models without sector controls, indicating that life stage or age is associated with perceptions of preparation differently depending on respondent group. Race also showed evidence of group-specific patterning: in the combined race analysis,

the Black–White difference in perceived gaps differed between employers and students. Both of these group–by–characteristic interactions were significant in the reduced models but not in the fully interacted models that add sector. They should therefore be treated as provisional rather than as established across specifications.

Gender findings were less consistent. In the student demographic–by–sector analysis, neither gender nor its interactions with sector emerged as significant predictors of the overall gap, and the findings should be interpreted with caution given the estimates are based on very small gender–category cells. More broadly, the student demographic and income model interacted with sector did not identify significant effects.

The overall implication is therefore not that identity is irrelevant, nor that every demographic category produces systematic differences. Rather, some identity and contextual characteristics are associated with how the college–to–work preparation gap is perceived, and those associations themselves depend on whether the respondent is a student or employer and on the context in which the judgment is made.

#### **Implications for RQ4**

Future research should be designed specifically to examine intersectional and contextual differences. Larger samples are needed to support stable estimates for racial and gender groups that were sparsely represented in the present study and to test whether the observed group–specific patterns replicate.

Sector should likewise remain central to future validation. The present results show that some relationships differ across occupational domains while others are relatively stable.

Sector–specific work should therefore investigate not merely whether gaps are larger or smaller, but how educational expectations, credential requirements, professional regulation, organizational structures, and pathways into employment shape what “preparedness” means within a field.

Finally, demographic differences should not be converted prematurely into explanations about why particular groups perceive preparation differently. The present analyses identify associations and interactions. Understanding the mechanisms behind them will require research capable of examining educational opportunity, workplace exposure, institutional conditions, and lived experience directly.

## Overall Synthesis: From Career Readiness to Preparation for Good Work

In all, the findings suggest a shift in how college-to-career preparation might be conceptualized. The central challenge identified by this study is not simply whether students possess enough technical skill to obtain employment. Employers and students both recognize a broader discrepancy between the qualities they associate with doing good work and the preparation students have to demonstrate those qualities.

That discrepancy spans competence and effort, but also ethics, relationships, learning, purpose, impact, achievement, and wellbeing. It is connected to how respondents evaluate the value of higher education, to students' educational and work-based experiences, to the requirements and cultures of workplaces, and in some analyses to career domain and identity. At the same time, the measurement findings show why these relationships should not be reduced to a single readiness score or interpreted as though students and employers necessarily approach every construct from the same frame of reference.

The study therefore points toward a model of college-to-career preparation built around alignment rather than simple attainment: alignment between what educational programs cultivate and workplaces require; between technical competence and the ethical, relational, developmental, and wellbeing dimensions of work; and between how students understand their preparation and how employers understand the demands they will encounter.

For higher education, this means making the broader dimensions of good work visible within curricula and connecting them explicitly to learning experiences and career preparation. For employers, it means articulating expectations in ways that extend beyond credentials and technical competencies and considering how organizational conditions contribute to graduates' ability to enact good work. For researchers, it means continuing to refine the measurement framework, testing it in larger independent samples, preserving student and employer perspectives as distinct sources of evidence, and examining more directly how educational experiences, occupational structures, and identity shape the transition from college into work.

Round Two provides an important foundation for that next stage. The revised administration demonstrated that the central gap pattern persists when the survey is administered in a substantially different way, while also showing that the measurement structure and

item–reduction decisions require further independent validation. The appropriate next step is therefore neither to discard the Good Work framework nor to declare the current instrument final. It is to build on the robust substantive pattern identified across the study while continuing to improve the precision with which good work, preparedness, and credential value are measured.

In that sense, the study's broadest finding is also its most actionable: preparing people for work and preparing people for good work are related but not identical goals. The evidence in this report suggests that closing the distance between them will require educational institutions and employers to attend not only to what graduates know, but also to how they work, learn, relate to others, exercise responsibility, find purpose, and sustain themselves across their working lives.

# Appendix A: Complete-Case vs. Imputed Correlation Analysis

This analysis evaluates the impact of multiple imputation (MI) on the within-theme correlation structure of the nine Good Work Importance subscales (Effort, Ethics, Relationship Skills, Expertise, Purpose, Learning, Other-Oriented, Recognition, and Wellbeing). In survey research, item responses within a theme often demonstrate high correlation due to a general response tendency (the "halo effect"). This analysis determines whether this correlation structure is an inherent characteristic of the observed raw data or if it is an artifact inflated or deflated by the imputation process.

Our analytical framework draws from Stata's Multiple Imputation (MI) environment, evaluating the average pairwise within-theme correlation coefficients across cohorts under two contrasting administration regimes:

- Employer Complete-Case (CC): Raw, unimputed data (slice  $m = 0$ ) evaluated using complete-case pairwise deletion.
- Employer Imputed: The first completed dataset from the multiple imputation procedure (imputation slice  $m = 1$ ), based on the combined-sector employer dataset.
- Student Complete-Case (CC): Raw, unimputed student data (slice  $m = 0$ ) evaluated using complete-case pairwise deletion.
- Student Imputed: The first completed dataset from the multiple imputation procedure (imputation slice  $m = 1$ ), based on the combined-sector student dataset.

For this diagnostic comparison, the first completed imputation was used as a representative imputed dataset rather than pooling correlation coefficients across imputations.

The comparative analysis was executed on both the full 45-item provisional scale pool and the shortened 37-item optimized scoring model. Within-theme correlations were calculated as the average of all unique pairwise bivariate correlations among a theme's constituent items.

Differences were formally evaluated as  $r_{CC} - r_{Imputed}$ . This formulation indicates whether multiple imputation inflated (where complete-case correlations are smaller than imputed, yielding a negative difference) or deflated (where complete-case correlations exceed imputed, yielding a positive difference) the apparent within-theme response coherence.

**Table A1. Summary of Average Within-Theme Correlations for REDUCED (37-Item) Set**

| Theme       | Employer<br>CC r | Employer<br>Imp r | Employer<br>Diff | Student<br>CC r | Student<br>Imp r | Student<br>Diff | Employer<br>N Range | Student<br>N Range |
|-------------|------------------|-------------------|------------------|-----------------|------------------|-----------------|---------------------|--------------------|
| EFFORT      | .52938346        | .39998864         | +.12939482       | .62962253       | .56766261        | +.06195992      | 111–121             | 271–310            |
| ETHICS      | .49516964        | .38497282         | +.11019682       | .66352370       | .58723706        | +.07628664      | 102–121             | 263–301            |
| REL. SKILLS | .59620988        | .47920800         | +.11700188       | .66619824       | .59602522        | +.07017302      | 107–134             | 266–298            |
| EXPERTISE   | .56759161        | .45826712         | +.10932449       | .68991252       | .64031019        | +.04960233      | 94–137              | 274–299            |
| PURPOSE     | .69941839        | .57499570         | +.12442269       | .71569010       | .65026629        | +.06542381      | 94–133              | 269–296            |
| LEARNING    | .42300255        | .35200482         | +.07099773       | .64001012       | .54381132        | +.09619880      | 106–126             | 279–301            |
| OTHER       | .60294859        | .46156271         | +.14138588       | .70583603       | .62234276        | +.08349327      | 108–130             | 262–292            |
| RECOGNITION | .41926125        | .23696185         | +.18229940       | .50184891       | .47222531        | +.02962360      | 100–130             | 274–300            |
| WELLBEING   | .50000211        | .37014489         | +.12985722       | .56560662       | .49680715        | +.06879947      | 105–131             | 268–294            |

Note. The unweighted Employer Imputed sample size is N = 403 (constant across subscales). The unweighted Student Imputed sample size is N = 944 (constant across subscales). Complete-case (CC) sample sizes vary pairwise due to matrix-sampling; the exact observed pairwise sample range is reported.

**Table A2. Summary of Average Within-Theme Correlations for FULL (45-Item) Set**

| Theme       | Employer<br>CC r | Employer<br>Imp r | Employer<br>Diff | Student<br>CC r | Student<br>Imp r | Student<br>Diff | Employer<br>N Range | Student<br>N Range |
|-------------|------------------|-------------------|------------------|-----------------|------------------|-----------------|---------------------|--------------------|
| EFFORT      | .51172434        | .38659839         | +.12512595       | .64743109       | .58296213        | +.06446896      | 111–132             | 257–310            |
| ETHICS      | .43414518        | .33016328         | +.10398190       | .64547263       | .58135798        | +.06411465      | 102–137             | 263–301            |
| REL. SKILLS | .56040088        | .41142557         | +.14897531       | .65664636       | .59147826        | +.06516810      | 107–134             | 266–298            |
| EXPERTISE   | .54026064        | .42639148         | +.11386916       | .70383692       | .64692473        | +.05691219      | 94–138              | 270–299            |
| PURPOSE     | .58611124        | .46318684         | +.12292440       | .68361428       | .61531365        | +.06830063      | 94–134              | 269–296            |
| LEARNING    | .38788101        | .32824858         | +.05963243       | .58322078       | .52066246        | +.06255832      | 106–126             | 258–301            |
| OTHER       | .57670837        | .43591907         | +.14078930       | .69354367       | .62597759        | +.06756608      | 104–130             | 262–294            |

|             |           |           |           |           |           |            |         |         |
|-------------|-----------|-----------|-----------|-----------|-----------|------------|---------|---------|
| RECOGNITION | .40220615 | .22107005 | +18113610 | .53952412 | .48237844 | +.05714568 | 99–130  | 261–300 |
| WELLBEING   | .50000211 | .37014489 | +12985722 | .56560662 | .49680715 | +.06879947 | 105–131 | 268–294 |

Note. The unweighted Employer Imputed sample size is  $N = 403$  (constant across subscales). The unweighted Student Imputed sample size is  $N = 944$  (constant across subscales). Complete-case (CC) sample sizes vary pairwise due to matrix-sampling; the exact observed pairwise sample range is reported.

**Table A3. Side-by-Side Comparison of Complete-Case vs. Imputed Correlation Differences**

| Theme       | Employer<br>REDUCED Diff | Employer<br>FULL Diff | Student<br>REDUCED Diff | Student<br>FULL Diff |
|-------------|--------------------------|-----------------------|-------------------------|----------------------|
| EFFORT      | +12939482                | +12512595             | +.06195992              | +.06446896           |
| ETHICS      | +.11019682               | +.10398190            | +.07628664              | +.06411465           |
| RELSKILLS   | +.11700188               | +.14897531            | +.07017302              | +.06516810           |
| EXPERTISE   | +.10932449               | +.11386920            | +.04960233              | +.05691219           |
| PURPOSE     | +.12442269               | +.12292440            | +.06542381              | +.06830063           |
| LEARNING    | +.07099773               | +.05963243            | +.09619880              | +.06255832           |
| OTHER       | +.14138590               | +.14078930            | +.08349327              | +.06756608           |
| RECOGNITION | +.18229940               | +.18113610            | +.02962360              | +.05714568           |
| WELLBEING   | +12985722                | +12985722             | +.06879947              | +.06879947           |

Note. Differences are calculated as complete-case average correlation minus imputed average correlation ( $r_{CC} - r_{Imputed}$ ). Wellbeing results are mathematically identical across both columns as its item composition is identical.

### Findings and Implications

This complete-case vs. imputed diagnostic yields three critical methodological insights regarding the statistical validity of the multiple imputation (MI) framework utilized in this study:

**1. Imputation is Deflating, Not Fabricating, Within-Theme Correlations:** Across all nine subscales, the complete-case pairwise correlations are systematically larger than the imputed correlations (yielding positive differences across all 18 subscale-by-facet instances). For

employers, complete-case correlations exceed imputed-data correlations by an average of 0.124 for the reduced set and 0.125 for the full set. This demonstrates that the within-theme coherence (the "halo effect") is an inherent characteristic of the observed raw data rather than an imputation artifact. Because imputation dampens these correlations, the final imputed models present conservative estimates of these relationships.

**2. Imputation demonstrates Smaller Differences for the Student Cohort:** For college students, the differences between complete-case and imputed-data average correlations are much smaller. In the reduced set, differences range from .0296 (Recognition) to .0962 (Learning). In the full set, differences range from .0569 (Expertise) to .0688 (Wellbeing). Overall, the imputed correlations were consistently lower than the corresponding complete-case correlations.

**3. Wellbeing Subscale Acts as a Mathematical Control:** The Wellbeing subscale differences are mathematically identical across the reduced and full sets (Employer diff = .12985722; Student diff = .06879947). This occurs because Wellbeing retained its identical 5-item composition across both configurations.

Together, these comparisons provide no evidence that the imputation procedure artificially inflated average within-theme correlations. In the first completed imputation examined here, correlations were consistently lower than their complete-case counterparts. This pattern provides reassurance that the elevated within-theme correlations observed in subsequent analyses are unlikely to be solely an artifact of the imputation process, while recognizing that this diagnostic does not by itself establish the behavior of every parameter estimate across all imputed datasets.

# Appendix B: Original Round 1 Good Work Survey Instruments — Employer and Student Versions Side by Side

## Part 2: Credential Value

Scale and instruction framing differ substantially between surveys — employer items ask about "employees with college credentials" or "recent graduates"; student items ask about "my college credential" or "my college experience." Matrix sampling (3-of-4 items visible per respondent per theme) was applied in Qualtrics.

**Table B1. Perceived Value & ROI**

| Theme                 | Item # | Employer Version (Original)                                                                                  | Student Version (Original)                                                               |
|-----------------------|--------|--------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Perceived Value & ROI | Item 1 | A college credential is a good investment for entering and advancing in this field.                          | My college credential is a good investment in my future career.                          |
|                       | Item 2 | Employees with a college credential are more prepared to take on complex responsibilities.                   | My college experience will improve my quality of life in the long term.                  |
|                       | Item 3 | Employees with college credentials add greater long-term value to our organization and to the field overall. | My college experience has helped me grow as a person, not just as a future professional. |

|  |           |                                                                                                     |                                         |
|--|-----------|-----------------------------------------------------------------------------------------------------|-----------------------------------------|
|  | Item<br>4 | In general, a college credential is worth the investment for those pursuing a career in this field. | My college education is worth the cost. |
|--|-----------|-----------------------------------------------------------------------------------------------------|-----------------------------------------|

**Table B2. Preparation & Readiness**

| Theme                   | Item #    | Employer Version (Original)                                                                                                   | Student Version (Original)                                                                 |
|-------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Preparation & Readiness | Item<br>1 | Employees with college credentials are prepared to handle the challenges of their roles.                                      | My college education is preparing me well for life after college.                          |
|                         | Item<br>2 | College coursework prepares recent graduates with college credentials to perform well in our organization's work environment. | My college education is preparing me well for real-world challenges in my field.           |
|                         | Item<br>3 | A college credential provides employees with practical skills needed for workplace success.                                   | My coursework provides knowledge directly relevant to my future career.                    |
|                         | Item<br>4 | Employees with college credentials require minimal additional training to perform their roles effectively.                    | Because of my college studies, I feel ready to start working in my field after graduation. |

**Table B3. Employability & Confidence**

| Theme                      | Item # | Employer Version (Original)                                                                                | Student Version (Original)                                                                                                 |
|----------------------------|--------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Employability & Confidence | Item 1 | Most recent graduates with college credentials are confident in their ability to succeed in our workforce. | My college experience has helped me acquire skills that employers in my field are seeking.                                 |
|                            | Item 2 | Recent graduates with college credentials present themselves professionally in interviews and onboarding.  | My college experience has made me confident in my ability to succeed in job interviews.                                    |
|                            | Item 3 | Recent graduates with college credentials adapt quickly and show initiative in new roles.                  | My college experience has made me a strong candidate for employment in my chosen field.                                    |
|                            | Item 4 | Recent graduates with college credentials have the self-confidence required for success in our field.      | My college experience has made me aware of the qualifications and experiences employers in my field are currently seeking. |
|                            |        | No equivalent                                                                                              | My college experience has prepared me to navigate challenges in the job market (e.g., competition, economic changes).      |

**Table B4. Job Market Demand**

| Theme             | Item # | Employer Version (Original)                                                                                        | Student Version (Original)                                                                              |
|-------------------|--------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Job Market Demand | Item 1 | There is strong demand for new employees with college credentials in this field.                                   | There is strong demand for graduates with college credentials in my chosen field.                       |
|                   | Item 2 | Our organization regularly seeks to fill positions with candidates who have relevant college credentials.          | I am aware of job opportunities available in my field of study.                                         |
|                   | Item 3 | The job market for people with relevant college credentials is favorable in my field right now.                    | My field offers good employment prospects for graduates with college credentials.                       |
|                   | Item 4 | It is generally easy for recent college graduates with relevant college credentials to find work in this industry. | It is generally easy for recent graduates with relevant college credentials to find work in this field. |

**Table B5. Overall Satisfaction**

| Theme | Item # | Employer Version (Original) | Student Version (Original) |
|-------|--------|-----------------------------|----------------------------|
|-------|--------|-----------------------------|----------------------------|

|                      |        |                                                                                                   |                                                                                 |
|----------------------|--------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Overall Satisfaction | Item 1 | I am satisfied with the overall job performance of recent graduates with college credentials.     | I am satisfied with my educational experience at my school.                     |
|                      | Item 2 | If given the choice, I would continue to hire recent graduates with relevant college credentials. | If I had to do it again, I would choose the same program or college/university. |
|                      | Item 3 | Recent graduates with relevant college credentials integrate well into our workplace culture.     | I feel proud to be a student at my college/university.                          |
|                      | Item 4 | I would recommend hiring employees with relevant college credentials to peer organizations.       | I would recommend my program or school to others interested in my field.        |

**Table B6. Diversity**

| Theme     | Item # | Employer Version (Original)                                       | Student Version (Original)                                                                              |
|-----------|--------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Diversity | Item 1 | Our field welcomes and supports workers from diverse backgrounds. | My college/university prepares me to work effectively in my field with people from diverse backgrounds. |
|           | Item 2 | We value the unique perspectives that employees'                  | My college/university has helped me learn to value and integrate the unique                             |

|  |        |                                                                                                          |                                                                                                                                       |
|--|--------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
|  |        | personal experiences bring to their work.                                                                | perspectives that others bring to their work.                                                                                         |
|  | Item 3 | Our field helps employees navigate challenges they might encounter in our field because of who they are. | My college/university helps me think about challenges I might encounter in my field because of who I am.                              |
|  | Item 4 | Our field offers equitable pathways for professional advancement to workers from diverse backgrounds.    | My college/university prepares students from diverse backgrounds for professional advancement and economic opportunity in this field. |

**Table B7. Civic/Public Value**

| Theme              | Item # | Employer Version (Original)                                                                                                          | Student Version (Original)                                                                                                     |
|--------------------|--------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Civic/Public Value | Item 1 | Hiring graduates with relevant college credentials strengthens our organization's ability to contribute positively to the community. | My college experience has made me confident in my ability to make a positive difference in my community or society.            |
|                    | Item 2 | Employees with college credentials are more likely to engage in our organization's civic or community activities.                    | My college experience has encouraged me to participate in civic or community activities (e.g., volunteering, service, voting). |

|  |        |                                                                                                               |                                                                                                        |
|--|--------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
|  |        |                                                                                                               |                                                                                                        |
|  | Item 3 | Employees with college credentials bring greater awareness of social and public issues that affect our field. | My college experience has increased my knowledge of social and public issues that affect my community. |
|  | Item 4 | College-educated employees help advance our organization's contribution to the common good.                   | My college experience has helped me see the importance of contributing to the common good.             |

**Table B8. Identity**

| Theme    | Item # | Employer Version (Original) | Student Version (Original)                                                        |
|----------|--------|-----------------------------|-----------------------------------------------------------------------------------|
| Identity | Item 1 | No employer equivalent      | My college experience has helped me better understand who I am.                   |
|          | Item 2 | No employer equivalent      | My college experience has helped me develop a clearer sense of direction in life. |
|          | Item 3 | No employer equivalent      | My college experience has supported my wellbeing.                                 |
|          | Item 4 | No employer equivalent      | My college experience has encouraged me to reflect on my personal beliefs.        |

## Part 4: Importance & Preparedness for Good Work

All 45 items are shown for both employer and student versions. Items that differ between employer and student versions are shown in italics. The employer version used a third-person referent frame (rating graduates); the student version used a first-person frame (rating themselves/their preparation). The Importance rating scale was 1 (Not at all important) to 5 (Extremely important). The Preparedness rating scale was 1 (Not at all prepared) to 5 (Extremely well prepared). Matrix sampling (3-of-5 items visible per respondent per theme) was applied in Qualtrics; all 45 items appear here for reference.

**Table B9. Good Work Importance & Preparedness**

| Theme     | Item # | Employer Version (Original)                              | Student Version (Original)                               |
|-----------|--------|----------------------------------------------------------|----------------------------------------------------------|
| 1. Effort | Item 1 | Put their best effort into completing their work.        | Put their best effort into completing their work.        |
|           | Item 2 | Take initiative to get work done without being prompted. | Take initiative to get work done without being prompted. |
|           | Item 3 | Follow instructions and workplace rules.                 | Follow instructions and workplace rules.                 |
|           | Item 4 | Follow through on all commitments.                       | Follow through on all commitments.                       |
|           | Item 5 | Stay focused on tasks after challenges or interruptions. | Stay focused on tasks after challenges or interruptions. |
| 2. Ethics | Item 1 | Act with honesty in their work.                          | Act with honesty in their work.                          |

|                                 |           |                                                          |                                                          |
|---------------------------------|-----------|----------------------------------------------------------|----------------------------------------------------------|
|                                 | Item<br>2 | Treat others fairly in their work.                       | Treat others fairly in their work.                       |
|                                 | Item<br>3 | Do what they say they will do.                           | Do what they say they will do.                           |
|                                 | Item<br>4 | Speak up when they notice someone doing something wrong. | Speak up when they notice someone doing something wrong. |
|                                 | Item<br>5 | Give credit to others for their contributions.           | Give credit to others for their contributions.           |
| 3. Relationship-Oriented Skills | Item<br>1 | Work well with others to complete tasks.                 | Work well with others to complete tasks.                 |
|                                 | Item<br>2 | Resolve disagreements with others in a respectful way.   | Resolve disagreements with others in a respectful way.   |
|                                 | Item<br>3 | Build trusting relationships with coworkers.             | Build trusting relationships with coworkers.             |
|                                 | Item<br>4 | Welcome and include people from different backgrounds.   | Welcome and include people from different backgrounds.   |
|                                 | Item<br>5 | Encourage and support coworkers when needed.             | Encourage and support coworkers when needed.             |
| 4. Expertise and Skills         | Item<br>1 | Make good decisions in their work.                       | Make good decisions in their work.                       |
|                                 | Item<br>2 | Apply knowledge and skills from their field effectively. | Apply knowledge and skills from their field effectively. |
|                                 | Item<br>3 | Notice and check details in their work.                  | Notice and check details in their work.                  |

|                                         |        |                                                        |                                                        |
|-----------------------------------------|--------|--------------------------------------------------------|--------------------------------------------------------|
|                                         | Item 4 | Use critical thinking to solve problems.               | Use critical thinking to solve problems.               |
|                                         | Item 5 | Learn and use new information or tools for their work. | Learn and use new information or tools for their work. |
| 5. Purpose and Engagement               | Item 1 | Choose work that aligns with what they care about.     | Choose work that aligns with what they care about.     |
|                                         | Item 2 | Take on work that feels meaningful to them.            | Take on work that feels meaningful to them.            |
|                                         | Item 3 | Connect their tasks to their organization's goals.     | Connect their tasks to their organization's goals.     |
|                                         | Item 4 | Find the tasks they do interesting.                    | Find the tasks they do interesting.                    |
|                                         | Item 5 | Choose work that feels purposeful to them.             | Choose work that feels purposeful to them.             |
| 6. Learning, Growth, and Self-Awareness | Item 1 | Stay open to feedback and new ideas.                   | Stay open to feedback and new ideas.                   |
|                                         | Item 2 | Take risks to try new approaches when appropriate.     | Take risks to try new approaches when appropriate.     |
|                                         | Item 3 | Admit when they make mistakes.                         | Admit when they make mistakes.                         |
|                                         | Item 4 | Plan ahead and consider long-term goals.               | Plan ahead and consider long-term goals.               |

|                                |           |                                                      |                                                      |
|--------------------------------|-----------|------------------------------------------------------|------------------------------------------------------|
|                                | Item<br>5 | Stay on task when plans change.                      | Stay on task when plans change.                      |
| 7. Other-Oriented              | Item<br>1 | Think about the goals of the people they serve.      | Think about the goals of the people they serve.      |
|                                | Item<br>2 | Think about the wellbeing of the people they serve.  | Think about the wellbeing of the people they serve.  |
|                                | Item<br>3 | Support others in their growth through their work.   | Support others in their growth through their work.   |
|                                | Item<br>4 | Contribute to the community through their workplace. | Contribute to the community through their workplace. |
|                                | Item<br>5 | Encourage others to help their community.            | Encourage others to help their community.            |
| 8. Recognition and Achievement | Item<br>1 | Set goals and meet them.                             | Set goals and meet them.                             |
|                                | Item<br>2 | Follow through on commitments to stakeholders.       | Follow through on commitments to stakeholders.       |
|                                | Item<br>3 | Take pride in completing their work.                 | Take pride in completing their work.                 |
|                                | Item<br>4 | Produce work that meets high quality standards.      | Produce work that meets high quality standards.      |
|                                | Item<br>5 | Achieve results that others notice.                  | Achieve results that others notice.                  |
| 9. Health and Wellbeing        | Item<br>1 | Balance work and personal life.                      | Balance work and personal life.                      |

|  |           |                                               |                                               |
|--|-----------|-----------------------------------------------|-----------------------------------------------|
|  | Item<br>2 | Receive fair pay for their work.              | Receive fair pay for their work.              |
|  | Item<br>3 | Have chances to move up in their career.      | Have chances to move up in their career.      |
|  | Item<br>4 | Stay mentally and physically healthy at work. | Stay mentally and physically healthy at work. |
|  | Item<br>5 | Be themselves at work.                        | Be themselves at work.                        |

## Part 5: Organizational Culture

Employer items describe current organizational practices. Student items describe what they want in a future workplace.

**Table B10. Organizational Culture**

| Theme      | Item # | Employer Version (Original)                                        | Student Version (Original)                                           |
|------------|--------|--------------------------------------------------------------------|----------------------------------------------------------------------|
| Leadership | Item 1 | Senior leaders explain the reasons behind organizational changes.  | I want leaders to explain the reasons behind organizational changes. |
|            | Item 2 | Senior leaders seek and respond to employee feedback.              | I want leaders to seek and respond to employee feedback.             |
|            | Item 3 | Senior leaders demonstrate sincere interest in employee wellbeing. | I want leaders to show genuine interest in employee wellbeing.       |

|                      |        |                                                                   |                                                                                         |
|----------------------|--------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Mission & Purpose    | Item 1 | Employees understand our organization's values.                   | It is important to me to understand my company's values.                                |
|                      | Item 2 | Employees understand how their roles contribute to our mission.   | It is important to me to understand my company's broader mission and purpose.           |
|                      | Item 3 | Our organization's broader purpose is clear to employees.         | I want to clearly see how my work connects to the company's mission and values.         |
| Growth & Development | Item 1 | Supervisors/managers invest in employee growth and development.   | I want my supervisor or manager to invest in my growth and development.                 |
|                      | Item 2 | Employees have opportunities to develop skills for the future.    | I want opportunities to develop new skills I will need in the future.                   |
|                      | Item 3 | Employees have opportunities for career advancement.              | I want opportunities for career advancement or increased responsibility.                |
| Fairness & Wellbeing | Item 1 | Our organization pays employees fairly for their work.            | It is important to me to be paid fairly for my work.                                    |
|                      | Item 2 | Employees have a physically safe and healthy work environment.    | It is important to me to have a physically safe and healthy work environment.           |
|                      | Item 3 | Our organization enables employees to maintain work-life balance. | I want a job that enables me to balance my work responsibilities with my personal life. |

|                       |        |                                                                                               |                                                                                                      |
|-----------------------|--------|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Diversity & Inclusion | Item 1 | Our organization welcomes and supports workers from diverse backgrounds.                      | I want to work on teams that include people from diverse backgrounds.                                |
|                       | Item 2 | We value the unique perspectives that employees' experiences bring to their work.             | I want a workplace that values and integrates the unique perspectives employees bring.               |
|                       | Item 3 | Our organization helps employees navigate challenges they might face because of who they are. | I want a workplace that helps employees navigate challenges they might face because of who they are. |

## Appendix C: Round 1 Item Decisions — Evidence and Rationale for the 37-Item Scoring Model

The original Good Work Importance and Preparedness instruments each contained 45 items: five items for each of nine Good Work facets. Item-level diagnostics were used to identify the weakest-performing item within each facet and evaluate the consequences of removing that item. The primary diagnostic identified the employer item with the lowest average correlation with the other four items in its five-item facet. The analysis then recalculated employer Cronbach's alpha and the employer–student inter-item coherence gap after removal of that item. The coherence gap was defined as the employer average inter-item correlation minus the student average inter-item correlation; positive change in this gap after removal indicates that employer–student coherence became more similar, whereas negative change indicates that the coherence gap widened.

For Importance, removing the weakest item narrowed the employer–student coherence gap for eight of the nine facets. The sole exception was Health/Wellbeing: removing `e_imp_self` changed the coherence gap from  $-0.127$  to  $-0.166$ , a change of  $-0.039$ , indicating worse cross-group coherence. Accordingly, the full five-item Health/Wellbeing facet was retained. The other eight facets were represented by four items each, producing the final 37-item Importance scoring model.

For Preparedness, the corresponding reduction process also produced a 37-item model, but the exception was Recognition/Achievement, which retained all five original items. The remaining eight Preparedness facets contain four items each. Thus, although both instruments contain 37 scored items, the retained item sets are not identical: Health/Wellbeing is the five-item facet for Importance, whereas Recognition/Achievement is the five-item facet for Preparedness.

Importantly, item removal did not uniformly increase internal consistency. In the Importance diagnostics, employer alpha increased after removal for Ethics, Relationship Skills, and Purpose/Engagement, but decreased for Effort, Expertise/Skills, Learning/Growth/Self-Awareness, Other-Oriented Impact, Recognition/Achievement, and Health/Wellbeing. The reduction therefore reflects a balance between item-level coherence, internal consistency, and employer–student comparability rather than a rule that every retained four-item facet necessarily had a higher alpha than its original five-item version.

**Table C1. Good Work Importance — 45-Item Decision Table**

| Theme               | Variable Name      | Item Text                                             | Decision | Statistical Evidence & Rationale                                                                                                                                                                                                       |
|---------------------|--------------------|-------------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effort              | e_imp_best_effort  | Put best effort into completing work.                 | RETAIN   | Retained in final 37-item Importance scoring model.                                                                                                                                                                                    |
| Effort              | e_imp_initiative   | Take initiative to get work done without prompting.   | RETAIN   | Retained in final 37-item Importance scoring model.                                                                                                                                                                                    |
| Effort              | e_imp_instructions | Follow instructions and workplace rules.              | RETAIN   | Retained in final 37-item Importance scoring model.                                                                                                                                                                                    |
| Effort              | e_imp_commitments  | Follow through on all commitments.                    | RETAIN   | Retained in final 37-item Importance scoring model.                                                                                                                                                                                    |
| Effort              | e_imp_focused      | Stay focused on tasks after challenges/interruptions. | EXCLUDE  | Weakest employer item within facet. Employer $\alpha$ : .758 $\rightarrow$ .725 ( $\Delta$ = -.033). Employer-student coherence gap: -.196 $\rightarrow$ -.168 ( $\Delta$ = +.029), indicating a narrower coherence gap after removal. |
| Ethics              | e_imp_honesty      | Act with honesty in their work.                       | RETAIN   | Retained in final 37-item Importance scoring model.                                                                                                                                                                                    |
| Ethics              | e_imp_fairness     | Treat others fairly in their work.                    | RETAIN   | Retained in final 37-item Importance scoring model.                                                                                                                                                                                    |
| Ethics              | e_imp_say_do       | Do what they say they will do.                        | RETAIN   | Retained in final 37-item Importance scoring model.                                                                                                                                                                                    |
| Ethics              | e_imp_speak        | Speak up when they notice misconduct.                 | RETAIN   | Retained in final 37-item Importance scoring model.                                                                                                                                                                                    |
| Ethics              | e_imp_credit       | Give credit to others for contributions.              | EXCLUDE  | Weakest employer item within facet. Employer $\alpha$ : .704 $\rightarrow$ .713 ( $\Delta$ = +.009). Coherence gap: -.251 $\rightarrow$ -.202 ( $\Delta$ = +.049).                                                                     |
| Relationship Skills | e_imp_others       | Work well with others to complete tasks.              | RETAIN   | Retained in final 37-item Importance scoring model.                                                                                                                                                                                    |
| Relationship Skills | e_imp_resolve      | Resolve disagreements respectfully.                   | EXCLUDE  | Weakest employer item; average $r$ with other four items = .310. Employer $\alpha$ : .775 $\rightarrow$ .783 ( $\Delta$ = +.008). Coherence gap: -.180 $\rightarrow$ -.117 ( $\Delta$ = +.063).                                        |

|                                |                      |                                               |         |                                                                                                                                                                                                                                                              |
|--------------------------------|----------------------|-----------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Relationship Skills            | e_imp_relationships  | Build trusting relationships with coworkers.  | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Relationship Skills            | e_imp_backgrounds    | Welcome and include diverse viewpoints.       | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Relationship Skills            | e_imp_support        | Encourage and support coworkers.              | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Expertise/Skills               | e_imp_decisions      | Make good decisions in their work.            | EXCLUDE | Weakest employer item; average $r = .379$ . Employer $\alpha: .788 \rightarrow .771$ ( $\Delta = -.017$ ). Coherence gap: $-.221 \rightarrow -.182$ ( $\Delta = +.038$ ).                                                                                    |
| Expertise/Skills               | e_imp_knowledge      | Apply knowledge and field skills effectively. | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Expertise/Skills               | e_imp_details        | Notice and check details in work.             | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Expertise/Skills               | e_imp_thinking       | Use critical thinking to solve problems.      | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Expertise/Skills               | e_imp_new_info       | Learn and use new tools/information.          | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Purpose/Engagement             | e_imp_aligns         | Choose work that aligns with values.          | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Purpose/Engagement             | e_imp_meaningful     | Take on work that feels meaningful.           | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Purpose/Engagement             | e_imp_connects_goals | Connect tasks to organization's goals.        | EXCLUDE | Weakest employer item; average $r = .295$ . Employer $\alpha: .815 \rightarrow .843$ ( $\Delta = +.028$ ). Coherence gap: $-.152 \rightarrow -.075$ ( $\Delta = +.077$ ), the largest improvement in cross-group coherence among the nine Importance facets. |
| Purpose/Engagement             | e_imp_interesting    | Find the tasks they do interesting.           | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Purpose/Engagement             | e_imp_purposeful     | Choose work that feels purposeful.            | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |
| Learning/Growth/Self-Awareness | e_imp_open           | Stay open to feedback and new ideas.          | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                                                          |

|                                |                        |                                            |         |                                                                                                                                                                                                                               |
|--------------------------------|------------------------|--------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Learning/Growth/Self-Awareness | e_imp_risks            | Take risks to try new approaches.          | EXCLUDE | Weakest employer item; average $r = .293$ . Employer $\alpha: .701 \rightarrow .683$ ( $\Delta = -.018$ ). Coherence gap: $-.192 \rightarrow -.192$ ; unrounded $\Delta = +.0006074$ , reported as $+.001$ at three decimals. |
| Learning/Growth/Self-Awareness | e_imp_mistakes         | Admit when they make mistakes.             | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Learning/Growth/Self-Awareness | e_imp_plan             | Plan ahead and consider long-term goals.   | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Learning/Growth/Self-Awareness | e_imp_on_task          | Stay on task when plans change.            | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Other-Oriented Impact          | e_imp_goals_others     | Think about goals of people served.        | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Other-Oriented Impact          | e_imp_wellbeing_others | Think about wellbeing of people served.    | EXCLUDE | Weakest employer item; average $r = .397$ . Employer $\alpha: .793 \rightarrow .773$ ( $\Delta = -.020$ ). Coherence gap: $-.190 \rightarrow -.161$ ( $\Delta = +.029$ ).                                                     |
| Other-Oriented Impact          | e_imp_growth_others    | Support others in their growth.            | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Other-Oriented Impact          | e_imp_community        | Contribute to community through workplace. | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Other-Oriented Impact          | e_imp_community_others | Encourage others to help community.        | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Recognition/Achievement        | e_imp_meets_goals      | Set goals and meet them.                   | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Recognition/Achievement        | e_imp_follow_through   | Follow through on stakeholder commitments. | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Recognition/Achievement        | e_imp_complete         | Take pride in completing work.             | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |
| Recognition/Achievement        | e_imp_high_quality     | Produce work meeting high quality.         | EXCLUDE | Weakest employer item; average $r = .197$ . Employer $\alpha: .579 \rightarrow .548$ ( $\Delta = -.031$ ). Coherence gap: $-.261 \rightarrow -.235$ ( $\Delta = +.026$ ).                                                     |
| Recognition/Achievement        | e_imp_results          | Achieve results that others notice.        | RETAIN  | Retained in final 37-item Importance scoring model.                                                                                                                                                                           |

|                  |                 |                                    |                    |                                                                                                                                                                                                                                                                                                                            |
|------------------|-----------------|------------------------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Health/Wellbeing | e_imp_work_life | Balance work and personal life.    | RETAIN             | Retained as part of the full five-item Health/Wellbeing facet because removing the identified weakest item worsened employer–student coherence.                                                                                                                                                                            |
| Health/Wellbeing | e_imp_fair_pay  | Receive fair pay for their work.   | RETAIN             | Retained as part of the full five-item Health/Wellbeing facet.                                                                                                                                                                                                                                                             |
| Health/Wellbeing | e_imp_mobility  | Have chances to move up in career. | RETAIN             | Retained as part of the full five-item Health/Wellbeing facet.                                                                                                                                                                                                                                                             |
| Health/Wellbeing | e_imp_health    | Stay mentally/physically healthy.  | RETAIN             | Retained as part of the full five-item Health/Wellbeing facet.                                                                                                                                                                                                                                                             |
| Health/Wellbeing | e_imp_self      | Be themselves at work.             | RETAIN – EXCEPTION | Weakest employer item; average $r = .351$ . Employer $\alpha$ would decrease from .738 to .704 ( $\Delta = -.034$ ) if removed. More importantly, coherence gap would widen from $-.127$ to $-.166$ ( $\Delta = -.039$ ). Because removal worsened cross-group coherence, the item and full five-item facet were retained. |

The final Importance scoring model therefore excludes exactly eight items: e\_imp\_focused, e\_imp\_credit, e\_imp\_resolve, e\_imp\_decisions, e\_imp\_connects\_goals, e\_imp\_risks, e\_imp\_wellbeing\_others, and e\_imp\_high\_quality. All five Health/Wellbeing items are retained, yielding 37 total Importance items. This exact item set is the one subsequently specified in the reduced-instrument Importance CFA.

**Table C2. Good Work Preparedness — 45-Item Decision Table**

| Theme  | Variable Name       | Item Text                                           | Decision | Statistical Evidence & Rationale                                                                                                                    |
|--------|---------------------|-----------------------------------------------------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Effort | e_prep_best_effort  | Put best effort into completing work.               | RETAIN   | Retained in final 37-item Preparedness scoring model.                                                                                               |
| Effort | e_prep_initiative   | Take initiative to get work done without prompting. | RETAIN   | Retained in final 37-item Preparedness scoring model.                                                                                               |
| Effort | e_prep_instructions | Follow instructions and workplace rules.            | EXCLUDE  | Weakest employer item; average $r$ with other four items = .424. Employer $\alpha$ : .835 $\rightarrow$ .833 ( $\Delta = -.003$ ). Employer–student |

|                     |                      |                                                       |         |                                                                                                                                                                              |
|---------------------|----------------------|-------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     |                      |                                                       |         | coherence gap: $-.111 \rightarrow -.077$ ( $\Delta = +.034$ ), indicating a narrower coherence gap after removal.                                                            |
| Effort              | e_prep_commitments   | Follow through on all commitments.                    | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Effort              | e_prep_focused       | Stay focused on tasks after challenges/interruptions. | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Ethics              | e_prep_honesty       | Act with honesty in their work.                       | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Ethics              | e_prep_fairness      | Treat others fairly in their work.                    | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Ethics              | e_prep_say_do        | Do what they say they will do.                        | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Ethics              | e_prep_speak         | Speak up when they notice misconduct.                 | EXCLUDE | Weakest employer item; average $r = .325$ . Employer $\alpha$ : $.770 \rightarrow .777$ ( $\Delta = +.007$ ). Coherence gap: $-.194 \rightarrow -.138$ ( $\Delta = +.056$ ). |
| Ethics              | e_prep_credit        | Give credit to others for contributions.              | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Relationship Skills | e_prep_others        | Work well with others to complete tasks.              | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Relationship Skills | e_prep_resolve       | Resolve disagreements respectfully.                   | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Relationship Skills | e_prep_relationships | Build trusting relationships with coworkers.          | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Relationship Skills | e_prep_backgrounds   | Welcome and include diverse viewpoints.               | EXCLUDE | Weakest employer item; average $r = .331$ . Employer $\alpha$ : $.780 \rightarrow .780$ ( $\Delta = +.000$ ). Coherence gap: $-.242 \rightarrow -.203$ ( $\Delta = +.039$ ). |
| Relationship Skills | e_prep_support       | Encourage and support coworkers.                      | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |
| Expertise/Skills    | e_prep_decisions     | Make good decisions in their work.                    | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                        |

|                                |                        |                                               |         |                                                                                                                                                                           |
|--------------------------------|------------------------|-----------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Expertise/Skills               | e_prep_knowledge       | Apply knowledge and field skills effectively. | EXCLUDE | Weakest employer item; average $r = .446$ . Employer $\alpha: .815 \rightarrow .789$ ( $\Delta = -.026$ ). Coherence gap: $-.156 \rightarrow -.134$ ( $\Delta = +.022$ ). |
| Expertise/Skills               | e_prep_details         | Notice and check details in work.             | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Expertise/Skills               | e_prep_thinking        | Use critical thinking to solve problems.      | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Expertise/Skills               | e_prep_new_information | Learn and use new tools/information.          | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Purpose/Engagement             | e_prep_aligns          | Choose work that aligns with values.          | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Purpose/Engagement             | e_prep_meaningful      | Take on work that feels meaningful.           | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Purpose/Engagement             | e_prep_connects_goals  | Connect tasks to organization's goals.        | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Purpose/Engagement             | e_prep_interesting     | Find the tasks they do interesting.           | EXCLUDE | Weakest employer item; average $r = .429$ . Employer $\alpha: .817 \rightarrow .799$ ( $\Delta = -.018$ ). Coherence gap: $-.266 \rightarrow -.232$ ( $\Delta = +.034$ ). |
| Purpose/Engagement             | e_prep_purposeful      | Choose work that feels purposeful.            | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Learning/Growth/Self-Awareness | e_prep_open            | Stay open to feedback and new ideas.          | EXCLUDE | Weakest employer item; average $r = .406$ . Employer $\alpha: .806 \rightarrow .791$ ( $\Delta = -.016$ ). Coherence gap: $-.169 \rightarrow -.126$ ( $\Delta = +.043$ ). |
| Learning/Growth/Self-Awareness | e_prep_risks           | Take risks to try new approaches.             | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Learning/Growth/Self-Awareness | e_prep_mistakes        | Admit when they make mistakes.                | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Learning/Growth/Self-Awareness | e_prep_plan            | Plan ahead and consider long-term goals.      | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |
| Learning/Growth/Self-Awareness | e_prep_on_task         | Stay on task when plans change.               | RETAIN  | Retained in final 37-item Preparedness scoring model.                                                                                                                     |

|                         |                         |                                            |                    |                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|-------------------------|--------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Other-Oriented Impact   | e_prep_goals_others     | Think about goals of people served.        | EXCLUDE            | Weakest employer item; average $r = .454$ . Employer $\alpha$ : $.842 \rightarrow .835$ ( $\Delta = -.007$ ). Coherence gap: $-.162 \rightarrow -.122$ ( $\Delta = +.040$ ).                                                                                                                                                       |
| Other-Oriented Impact   | e_prep_wellbeing_others | Think about wellbeing of people served.    | RETAIN             | Retained in final 37-item Preparedness scoring model.                                                                                                                                                                                                                                                                              |
| Other-Oriented Impact   | e_prep_growth_others    | Support others in their growth.            | RETAIN             | Retained in final 37-item Preparedness scoring model.                                                                                                                                                                                                                                                                              |
| Other-Oriented Impact   | e_prep_community        | Contribute to community through workplace. | RETAIN             | Retained in final 37-item Preparedness scoring model.                                                                                                                                                                                                                                                                              |
| Other-Oriented Impact   | e_prep_community_others | Encourage others to help community.        | RETAIN             | Retained in final 37-item Preparedness scoring model.                                                                                                                                                                                                                                                                              |
| Recognition/Achievement | e_prep_meets_goals      | Set goals and meet them.                   | RETAIN — EXCEPTION | Weakest employer item; average $r = .448$ . Employer $\alpha$ would decrease from $.821$ to $.800$ ( $\Delta = -.022$ ) if removed. More importantly, the coherence gap would widen from $-.102$ to $-.106$ ( $\Delta = -.004$ ). Because removal worsened cross-group coherence, the item and full five-item facet were retained. |
| Recognition/Achievement | e_prep_follow_through   | Follow through on stakeholder commitments. | RETAIN             | Retained as part of the full five-item Recognition/Achievement facet because removing the identified weakest item worsened employer–student coherence.                                                                                                                                                                             |
| Recognition/Achievement | e_prep_complete         | Take pride in completing work.             | RETAIN             | Retained as part of the full five-item Recognition/Achievement facet.                                                                                                                                                                                                                                                              |
| Recognition/Achievement | e_prep_high_quality     | Produce work meeting high quality.         | RETAIN             | Retained as part of the full five-item Recognition/Achievement facet.                                                                                                                                                                                                                                                              |
| Recognition/Achievement | e_prep_results          | Achieve results that others notice.        | RETAIN             | Retained as part of the full five-item Recognition/Achievement facet.                                                                                                                                                                                                                                                              |
| Health/Wellbeing        | e_prep_work_life        | Balance work and personal life.            | EXCLUDE            | Weakest employer item; average $r = .466$ . Employer $\alpha$ : $.832 \rightarrow .811$ ( $\Delta = -.020$ ). Coherence gap: $-.177 \rightarrow -.147$ ( $\Delta = +.030$ ).                                                                                                                                                       |

|                  |                 |                                    |        |                                                       |
|------------------|-----------------|------------------------------------|--------|-------------------------------------------------------|
| Health/Wellbeing | e_prep_fair_pay | Receive fair pay for their work.   | RETAIN | Retained in final 37-item Preparedness scoring model. |
| Health/Wellbeing | e_prep_mobility | Have chances to move up in career. | RETAIN | Retained in final 37-item Preparedness scoring model. |
| Health/Wellbeing | e_prep_health   | Stay mentally/physically healthy.  | RETAIN | Retained in final 37-item Preparedness scoring model. |
| Health/Wellbeing | e_prep_self     | Be themselves at work.             | RETAIN | Retained in final 37-item Preparedness scoring model. |

The final Preparedness scoring model excludes exactly eight items: e\_prep\_instructions, e\_prep\_speak, e\_prep\_backgrounds, e\_prep\_knowledge, e\_prep\_interesting, e\_prep\_open, e\_prep\_goals\_others, and e\_prep\_work\_life. Recognition/Achievement is the exception: although e\_prep\_meets\_goals was identified as its weakest employer item, dropping it changed the coherence gap from  $-.1020632$  to  $-.1056916$ , with an unrounded gap change of  $-.0036283$ . It was therefore retained along with the other four Recognition items. The resulting set contains 37 Preparedness items, and the subsequent CFA explicitly specifies exactly this retained set.

## Appendix D: Round 1 to Round 2 Credential Value Scale — Item Comparison and Neutral Wording

This table shows every original item from both the employer and student credential value scales alongside the proposed revised neutral wording. Revised items use neutral field-level framing identical across both groups, enabling direct measurement-invariance testing. Where one survey had no equivalent item, the cell is marked —; the revised item is new for that group. Scale for all items (original and revised): 1 = Strongly Disagree, 2 = Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree.

Note on Preparation & Readiness item 5: employer Q35 ('Employees with a college credential are more prepared to take on complex responsibilities') was originally listed under Perceived Value & ROI in the Qualtrics block structure but conceptually belongs with Preparation & Readiness; it is placed there in this table.

Note on Identity subscale: in the original surveys this subscale existed only in the student version (Q10.1–10.4). In the revised neutral design both groups complete these items, rating beliefs about what college education does for people in general rather than self-reporting personal experience.

### Instructions

For this survey, "college credential" means any postsecondary program leading to a 2-year associate's degree, 4-year bachelor's degree, or certificate/diploma in nursing/healthcare, information technology, or construction/architecture. Please rate your agreement with each statement about the value of college credentials for people entering your field.

**Table D1. Original and Revised Credential Value Scale**

| #                     | Subscale | Employer original (as administered) | Student original (as administered) | Revised neutral wording (both groups) |
|-----------------------|----------|-------------------------------------|------------------------------------|---------------------------------------|
| Perceived Value & ROI |          |                                     |                                    |                                       |

|                         |                         |                                                                                                                    |                                                                                                 |                                                                                          |
|-------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| 1                       | Perceived Value & ROI   | A college credential is a good investment for entering and advancing in this field. (Q34)                          | My college credential is a good investment in my future career. (Q3.2)                          | A college credential is a good investment for someone entering this field.               |
| 2                       |                         | Employees with college credentials add greater long-term value to our organization and to the field overall. (Q36) | My college experience will improve my quality of life in the long term. (Q3.3)                  | College education improves quality of life in the long term for people in this field.    |
| 3                       |                         | — (no employer equivalent)                                                                                         | My college experience has helped me grow as a person, not just as a future professional. (Q3.4) | Pursuing a college credential helps people grow not just professionally but as a person. |
| 4                       |                         | In general, a college credential is worth the investment for those pursuing a career in this field. (Q37)          | My college education is worth the cost. (Q3.5)                                                  | A college credential in this field is worth the cost.                                    |
| Preparation & Readiness |                         |                                                                                                                    |                                                                                                 |                                                                                          |
| 1                       | Preparation & Readiness | Employees with college credentials are prepared to handle the challenges of their roles. (Q38)                     | My college education is preparing me well for life after college. (Q4.1)                        | College prepares people well for life and work after graduation in this field.           |

|                            |                            |                                                                                                                                     |                                                                                                   |                                                                                              |
|----------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| 2                          |                            | College coursework prepares recent graduates with college credentials to perform well in our organization's work environment. (Q39) | My college education is preparing me well for real-world challenges in my field. (Q4.2)           | College prepares people well for the real-world challenges of this field.                    |
| 3                          |                            | A college credential provides employees with practical skills needed for workplace success. (Q40)                                   | My coursework provides knowledge directly relevant to my future career. (Q4.3)                    | College coursework provides knowledge and skills directly relevant to careers in this field. |
| 4                          |                            | Employees with college credentials require minimal additional training to perform their roles effectively. (Q41)                    | Because of my college studies, I feel ready to start working in my field after graduation. (Q4.4) | College graduates are ready to start working effectively in this field after graduation.     |
| 5                          |                            | Employees with a college credential are more prepared to take on complex responsibilities. (Q35)                                    | — (no direct student equivalent)                                                                  | College prepares people to take on complex responsibilities in this field.                   |
| Employability & Confidence |                            |                                                                                                                                     |                                                                                                   |                                                                                              |
| 1                          | Employability & Confidence | Most recent graduates with college credentials are confident in their                                                               | My college experience has helped me acquire skills that employers in my field are seeking. (Q5.1) | College helps people acquire the skills employers in this field are seeking.                 |

|                   |                   |                                                                                                                 |                                                                                                                                   |                                                                                                  |
|-------------------|-------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|                   |                   | ability to succeed in our workforce. (Q42)                                                                      |                                                                                                                                   |                                                                                                  |
| 2                 |                   | Recent graduates with college credentials present themselves professionally in interviews and onboarding. (Q43) | My college experience has made me confident in my ability to succeed in job interviews. (Q5.2)                                    | College prepares people to present themselves confidently in job interviews in this field.       |
| 3                 |                   | Recent graduates with college credentials adapt quickly and show initiative in new roles. (Q44)                 | My college experience has made me a strong candidate for employment in my chosen field. (Q5.3)                                    | A college credential makes someone a strong candidate for employment in this field.              |
| 4                 |                   | Recent graduates with college credentials have the self-confidence required for success in our field. (Q45)     | My college experience has made me aware of the qualifications and experiences employers in my field are currently seeking. (Q5.4) | College makes people aware of the qualifications and experiences employers in this field expect. |
| 5                 |                   | — (no employer equivalent)                                                                                      | My college experience has prepared me to navigate challenges in the job market (e.g., competition, economic changes). (Q5.5)      | College prepares people to navigate challenges in the job market for this field.                 |
| Job Market Demand |                   |                                                                                                                 |                                                                                                                                   |                                                                                                  |
| 1                 | Job Market Demand | There is strong demand for new employees with                                                                   | There is strong demand for graduates with                                                                                         | There is strong demand for college                                                               |

|                      |                      |                                                                                                                          |                                                                                                                |                                                                                |
|----------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
|                      |                      | college credentials in this field. (Q46)                                                                                 | college credentials in my chosen field. (Q6.1)                                                                 | graduates in this field.                                                       |
| 2                    |                      | Our organization regularly seeks to fill positions with candidates who have relevant college credentials. (Q47)          | I am aware of job opportunities available in my field of study. (Q6.2)                                         | Organizations in this field actively seek candidates with college credentials. |
| 3                    |                      | The job market for people with relevant college credentials is favorable in my field right now. (Q48)                    | My field offers good employment prospects for graduates with college credentials. (Q6.3)                       | The job market for college graduates is favorable in this field right now.     |
| 4                    |                      | It is generally easy for recent college graduates with relevant college credentials to find work in this industry. (Q49) | It is generally easy for recent graduates with relevant college credentials to find work in this field. (Q6.4) | It is generally easy for college graduates to find work in this field.         |
| Overall Satisfaction |                      |                                                                                                                          |                                                                                                                |                                                                                |
| 1                    | Overall Satisfaction | I am satisfied with the overall job performance of recent graduates with college credentials. (Q50)                      | I am satisfied with my educational experience at my school. (Q7.1)                                             | College graduates with credentials in this field perform well on the job.      |
| 2                    |                      | If given the choice, I would continue to hire recent graduates with                                                      | If I had to do it again, I would choose the same                                                               | A college credential in this field is worth pursuing.                          |

|           |           |                                                                                                     |                                                                                                                                  |                                                                                                               |
|-----------|-----------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|           |           | relevant college credentials. (Q51)                                                                 | program or college/university. (Q7.2)                                                                                            |                                                                                                               |
| 3         |           | Recent graduates with relevant college credentials integrate well into our workplace culture. (Q52) | I feel proud to be a student at my college/university. (Q7.3)                                                                    | College graduates integrate well into workplace culture in this field.                                        |
| 4         |           | I would recommend hiring employees with relevant college credentials to peer organizations. (Q53)   | I would recommend my program or school to others interested in my field. (Q7.4)                                                  | A college credential in this field is worth recommending to others.                                           |
| Diversity |           |                                                                                                     |                                                                                                                                  |                                                                                                               |
| 1         | Diversity | Our field welcomes and supports workers from diverse backgrounds. (Q54)                             | My college/university prepares me to work effectively in my field with people from diverse backgrounds. (Q8.1)                   | College education in this field prepares people to work effectively with colleagues from diverse backgrounds. |
| 2         |           | We value the unique perspectives that employees' personal experiences bring to their work. (Q55)    | My college/university has helped me learn to value and integrate the unique perspectives that others bring to their work. (Q8.2) | College education helps people learn to value the unique perspectives others bring to their work.             |
| 3         |           | Our field helps employees navigate challenges they might                                            | My college/university helps me think about challenges I might                                                                    | College education helps people navigate challenges                                                            |

|                      |                      |                                                                                                                                                                      |                                                                                                                                              |                                                                                                                                 |
|----------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
|                      |                      | encounter in our field because of who they are. (Q56)                                                                                                                | encounter in my field because of who I am. (Q8.3)                                                                                            | they might face in this field because of who they are.                                                                          |
| 4                    |                      | Our field offers equitable pathways for professional advancement to workers from diverse backgrounds. (Q57)                                                          | My college/university prepares students from diverse backgrounds for professional advancement and economic opportunity in this field. (Q8.4) | College education supports professional advancement and economic opportunity for people from diverse backgrounds in this field. |
| Civic / Public Value |                      |                                                                                                                                                                      |                                                                                                                                              |                                                                                                                                 |
| 1                    | Civic / Public Value | Hiring graduates with relevant college credentials strengthens our organization's ability to contribute positively to the community. (Q58)                           | My college experience has made me confident in my ability to make a positive difference in my community or society. (Q9.1)                   | College graduates in this field are better positioned to contribute positively to their community or society.                   |
| 2                    |                      | Employees with college credentials are more likely to engage in our organization's civic or community activities (e.g., volunteering, service, public issues). (Q59) | My college experience has encouraged me to participate in civic or community activities (e.g., volunteering, service, voting). (Q9.2)        | College education encourages people to participate in civic or community activities.                                            |

|                                                             |          |                                                                                                                     |                                                                                                               |                                                                                                     |
|-------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| 3                                                           |          | Employees with college credentials bring greater awareness of social and public issues that affect our field. (Q60) | My college experience has increased my knowledge of social and public issues that affect my community. (Q9.3) | College education increases people's awareness of social and public issues that affect their field. |
| 4                                                           |          | College-educated employees help advance our organization's contribution to the common good. (Q61)                   | My college experience has helped me see the importance of contributing to the common good. (Q9.4)             | College education helps people understand the importance of contributing to the common good.        |
| Identity (student-only in original; both groups in revised) |          |                                                                                                                     |                                                                                                               |                                                                                                     |
| 1                                                           | Identity | — (no employer equivalent in original)                                                                              | My college experience has helped me better understand who I am. (Q10.1)                                       | College education helps people better understand who they are.                                      |
| 2                                                           |          | — (no employer equivalent in original)                                                                              | My college experience has helped me develop a clearer sense of direction in life. (Q10.2)                     | College education helps people develop a clearer sense of direction in life.                        |
| 3                                                           |          | — (no employer equivalent in original)                                                                              | My college experience has supported my wellbeing. (Q10.3)                                                     | College education supports people's overall wellbeing.                                              |
| 4                                                           |          | — (no employer equivalent in original)                                                                              | My college experience has encouraged me to reflect on my personal beliefs. (Q10.4)                            | College education encourages people to reflect on their                                             |

|  |  |  |  |                              |
|--|--|--|--|------------------------------|
|  |  |  |  | personal beliefs and values. |
|--|--|--|--|------------------------------|

# Appendix E: Round 2 Pilot Version (Good Work Importance and Preparedness)

This appendix documents the Good Work Part 4 section of both the employer and student Round 2 pilot surveys. All 45 items are fielded for both groups with no matrix sampling; respondents complete all items.

Format changes from the original administered survey:

- Opening rank task added (identical across groups) — respondents rank all 9 themes before any Likert ratings.
- All 45 items shown to all respondents — no 3-of-5 matrix sampling.
- Two sequential grid blocks — Block 1: all 45 Importance items; Block 2: all 45 Preparedness items.
- Behavioral anchoring instruction added to both blocks.
- All features identical across employer and student versions except referent frame.
- No per-theme optional comparison prompts (replaced by opening rank task).

## ROUND 2 PILOT VERSION SURVEY

### Employer Directions

Opening Rank Task — Complete Before Rating

Before rating any items, please rank the nine Good Work themes below from most important (1) to least important (9) for someone entering your field. Every theme must receive a unique rank.

### Student Directions

Opening Rank Task — Complete Before Rating

Before rating any items, please rank the nine Good Work themes below from most important (1) to least important (9) for someone entering your field.

In Qualtrics, drag the themes into your preferred order, or type a number (1–9) next to each. Every theme must receive a unique rank.

**Table E1. Good Work Theme Ranking Task**

| Rank | Good Work Theme                                                         |
|------|-------------------------------------------------------------------------|
| 1    | Effort — motivation, persistence, follow-through                        |
| 2    | Ethics — honesty, fairness, integrity                                   |
| 3    | Relationship Skills — teamwork, communication, inclusion                |
| 4    | Expertise — technical knowledge, critical thinking, attention to detail |
| 5    | Purpose — meaning, values alignment, engagement                         |
| 6    | Learning & Growth — openness to feedback, adaptability, self-awareness  |
| 7    | Other-Oriented — community contribution, service, supporting others     |
| 8    | Recognition & Achievement — quality, accountability, results            |
| 9    | Health & Wellbeing — work-life balance, fair pay, mental health         |

## Employer Directions

### Block 1: Importance Ratings — All 45 Items

For each behavior below, rate how important it is for doing good work in your field. Think about the best workers you've seen — what do they do that matters most? Rate what you believe good work genuinely requires, not just what's typical. Scale: 1 = Not at all important → 5 = Extremely important

**Importance:** *People doing good work in my field should...*

### Block 2: Preparedness Ratings — All 45 Items

For each behavior below, please rate: How well prepared are recent college graduates in your field to do this, in your experience? For each behavior below, think of specific graduates you have observed in your field and rate based on what you have actually seen — not what seems generally true of new workers. Scale: 1 = Not at all prepared → 5 = Extremely well prepared

**Preparedness:** Graduates of college or university are prepared to...

## Student Directions

### Block 1: Importance Ratings — All 45 Items

For each behavior below, rate how **important** it is for doing good work in your future career.

Think about what you believe people in your field should do to truly do their jobs well — not just what's required. Scale: 1 = Not at all important → 5 = Extremely important

**Importance:** People doing good work in my field should...

### Block 2: Preparedness Ratings — All 45 Items

For each behavior below, please rate: How well has your college or university prepared graduates in your field to do this? Think of your own experiences as well as those of others you know in your field, and rate based on what you have actually done or been trained to do — not just what seems generally true. Scale: 1 = Not at all prepared → 5 = Extremely well prepared

**Preparedness:** Graduates of my college or university are prepared to...

**Table E2. Good Work Round 2 Importance/Preparedness Questions**

| How important is this?<br>(Employers)                    | How important is this?<br>(Students)                     | 1<br>Not at all       | 2<br>Slightl<br>y     | 3<br>Moderately       | 4<br>Very             | 5<br>Extremely        |
|----------------------------------------------------------|----------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| How well prepared?<br>(Employers)                        | How well prepared?<br>(Students)                         | 1<br>Not at all       | 2<br>Slightl<br>y     | 3<br>Moderately       | 4<br>Very             | 5<br>Extremely        |
| Theme 1: Effort                                          |                                                          |                       |                       |                       |                       |                       |
| Put their best effort into completing their work.        | Put their best effort into completing their work.        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Take initiative to get work done without being prompted. | Take initiative to get work done without being prompted. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Follow instructions and workplace rules.                 | Follow instructions and workplace rules.                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|                                                          |                                                          |   |   |   |   |   |
|----------------------------------------------------------|----------------------------------------------------------|---|---|---|---|---|
| Follow through on all commitments.                       | Follow through on all commitments.                       | ○ | ○ | ○ | ○ | ○ |
| Stay focused on tasks after challenges or interruptions. | Stay focused on tasks after challenges or interruptions. | ○ | ○ | ○ | ○ | ○ |
| Theme 2: Ethics                                          |                                                          |   |   |   |   |   |
| Act with honesty in their work.                          | Act with honesty in their work.                          | ○ | ○ | ○ | ○ | ○ |
| Treat others fairly in their work.                       | Treat others fairly in their work.                       | ○ | ○ | ○ | ○ | ○ |
| Do what they say they will do.                           | Do what they say they will do.                           | ○ | ○ | ○ | ○ | ○ |
| Speak up when they notice someone doing something wrong. | Speak up when they notice someone doing something wrong. | ○ | ○ | ○ | ○ | ○ |
| Give credit to others for their contributions.           | Give credit to others for their contributions.           | ○ | ○ | ○ | ○ | ○ |
| Theme 3: Relationship Skills                             |                                                          |   |   |   |   |   |
| Work well with others to complete tasks.                 | Work well with others to complete tasks.                 | ○ | ○ | ○ | ○ | ○ |
| Resolve disagreements with others in a respectful way.   | Resolve disagreements with others in a respectful way.   | ○ | ○ | ○ | ○ | ○ |
| Build trusting relationships with coworkers.             | Build trusting relationships with coworkers.             | ○ | ○ | ○ | ○ | ○ |
| Welcome and include people from different backgrounds.   | Welcome and include people from different backgrounds.   | ○ | ○ | ○ | ○ | ○ |
| Encourage and support coworkers when needed.             | Encourage and support coworkers when needed.             | ○ | ○ | ○ | ○ | ○ |
| Theme 4: Expertise and Skills                            |                                                          |   |   |   |   |   |
| Make good decisions in their work.                       | Make good decisions in their work.                       | ○ | ○ | ○ | ○ | ○ |
| Apply knowledge and skills from their field effectively. | Apply knowledge and skills from their field effectively. | ○ | ○ | ○ | ○ | ○ |
| Notice and check details in their work.                  | Notice and check details in their work.                  | ○ | ○ | ○ | ○ | ○ |

|                                                                                                 |                                                        |                       |                       |                       |                       |                       |
|-------------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Use critical thinking to solve problems.                                                        | Use critical thinking to solve problems.               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Learn and use new information or tools for their work.                                          | Learn and use new information or tools for their work. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Theme 5: Purpose and Engagement                                                                 |                                                        |                       |                       |                       |                       |                       |
| Choose work that aligns with what they care about.                                              | Choose work that aligns with what they care about.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Take on work that feels meaningful to them.                                                     | Take on work that feels meaningful to them.            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Demonstrate through their work that they understand and contribute to the organization's goals. | Connect their tasks to their organization's goals.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Find the tasks they do interesting.                                                             | Find the tasks they do interesting.                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Choose work that feels purposeful to them.                                                      | Choose work that feels purposeful to them.             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Theme 6: Learning, Growth, and Self-Awareness                                                   |                                                        |                       |                       |                       |                       |                       |
| Stay open to feedback and new ideas.                                                            | Stay open to feedback and new ideas.                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Take risks to try new approaches when appropriate.                                              | Take risks to try new approaches when appropriate.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Admit when they make mistakes.                                                                  | Admit when they make mistakes.                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Plan ahead and consider long-term goals.                                                        | Plan ahead and consider long-term goals.               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Stay on task when plans change.                                                                 | Stay on task when plans change.                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Theme 7: Other-Oriented                                                                         |                                                        |                       |                       |                       |                       |                       |
| Think about the goals of the people they serve.                                                 | Think about the goals of the people they serve.        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

|                                                      |                                                      |   |   |   |   |   |
|------------------------------------------------------|------------------------------------------------------|---|---|---|---|---|
| Think about the wellbeing of the people they serve.  | Think about the wellbeing of the people they serve.  | ○ | ○ | ○ | ○ | ○ |
| Support others in their growth through their work.   | Support others in their growth through their work.   | ○ | ○ | ○ | ○ | ○ |
| Contribute to the community through their workplace. | Contribute to the community through their workplace. | ○ | ○ | ○ | ○ | ○ |
| Encourage others to help their community.            | Encourage others to help their community.            | ○ | ○ | ○ | ○ | ○ |
| Theme 8: Recognition and Achievement                 |                                                      |   |   |   |   |   |
| Set goals and meet them.                             | Set goals and meet them.                             | ○ | ○ | ○ | ○ | ○ |
| Follow through on commitments to stakeholders.       | Follow through on commitments to stakeholders.       | ○ | ○ | ○ | ○ | ○ |
| Take pride in completing their work.                 | Take pride in completing their work.                 | ○ | ○ | ○ | ○ | ○ |
| Produce work that meets high quality standards.      | Produce work that meets high quality standards.      | ○ | ○ | ○ | ○ | ○ |
| Achieve results that others notice.                  | Achieve results that others notice.                  | ○ | ○ | ○ | ○ | ○ |
| Theme 9: Health and Wellbeing                        |                                                      |   |   |   |   |   |
| Balance work and personal life.                      | Balance work and personal life.                      | ○ | ○ | ○ | ○ | ○ |
| Receive fair pay for their work.                     | Receive fair pay for their work.                     | ○ | ○ | ○ | ○ | ○ |
| Have chances to move up in their career.             | Have chances to move up in their career.             | ○ | ○ | ○ | ○ | ○ |
| Stay mentally and physically healthy at work.        | Stay mentally and physically healthy at work.        | ○ | ○ | ○ | ○ | ○ |
| Be themselves at work.                               | Be themselves at work.                               | ○ | ○ | ○ | ○ | ○ |