

Occupation Coding During the Interview

Appendix D: Instructions for Validation

In occupation coding, respondents describe their job with their own words. The coders task is then to infer the underlying bundle of job activities that is frequently not well described. The next step is to match these activities to one of several categories from some occupational classification, here from the German Classification of Occupations 2010 (KldB 2010). Within this process, errors may happen: Either the occupational activities remain unclear from the job description and/or it is not possible to find a single category that matches the described activities exactly. Thus, coders should take into account these ambiguities for the following task.

In our study, a small set of possible job categories was suggested to the respondent and respondents were asked during the interview to select the most adequate one. The aim is now to assess the quality from this process.

In a first step, two independent coders assigned answers to KldB-categories, each according to personal coding instructions. From interview coding and from both human coders we thus have three independent codes. In a second step, all three codes are given to a human coder for validation. The coder's task is now to determine the quality from all three codes. For this, each of the three codes is to be coded to one of the following categories:

- Acceptable
- Uncertain
- Wrong

Category definitions from the KldB, volume 2, are the most important resource for coders to understand the content of KldB-categories. When the category descriptions provided there are not sufficient for a coding decision, coders should resort to the skill level dimension as described in volume 1. Coders should always take into account all verbatim answers about job tasks and duties. Additional job related answers and the job titles as selected by the respondent during the interview may be looked up when considered helpful.

This research was motivated by the expectation that coding quality improves when the respondent himself codes the answers. Coders are therefore asked to decide if there is evidence that the interview-coded answer is an improvement over manual coding. For detailed coding instructions see below.

We next give definitions and examples to clarify the meaning for the three groups "Acceptable", "Uncertain", and "Wrong". In all examples we provide the relevant answers from the interview process and the 5-digit KldB-codes as they were chosen by the respondents

and by the professional coders respectively. All KldB-codes are further described in parenthesis containing the exact category name from the KldB and also the selected job title for interview-coded answers. The specified job titles for interview-coded categories are always those that the respondent chose during the interview. In addition, we provide arguments for illustrative purposes only why we feel that a specific example should be considered acceptable, uncertain, or wrong:

Acceptable

Definition:

A good argument exists why the category may be considered correct. This is independent from the fact that other plausible arguments may lead to different categories that may be considered correct as well.

Examples:

Interview answers: "Lehrkraft" - "Ich bin Lehrkraft an einer Akademie"

Possible Categories:

Interview-Coded: 84214 (Selected job title: "Lehrer/in - berufliche Schulen", Category title: Lehrkräfte für berufsbildende Fächer - hoch komplexe Tätigkeiten)

Professional Code 1: 84304 (Berufe in der Hochschullehre und -forschung - hoch komplexe Tätigkeiten)

Professional Code 2: 84124 (Lehrkräfte in der Sekundarstufe)

Argument: 84214 and 84304 are both acceptable: Many vocational schools call themselves academy. Also, there are academies of fine arts that are at university level.

Interview answers: "Elektriker" - "Instandhaltung von der technischen Einrichtung, Beleuchtung, Klima"

Possible Categories:

Interview-Coded: 25132 ("Serviceelektriker/in", Technische Servicekräfte in der Wartung und Instandhaltung - fachlich ausgerichtete Tätigkeiten)

Professional Codes: 26212 (Berufe in der Bauelektrik - fachlich ausgerichtete Tätigkeiten)

Arguments: 25132 is acceptable because 1. A main focus is on maintenance and 2. The KldB assigns "Serviceelektriker" to category 25132". 26212 is also acceptable because that category contains most electrical tasks.

Interview answers: "kaufmännischer Angestellter im Außendienst-ich berate,betreue u. verkaufe"

DBS: Angestellter mit eigenständiger Leistung in verantwortlicher Tätigkeit oder mit Fachverantwortung für Personal

übl. erf. Ausbildung: abgeschlossene berufliche Ausbildung

Possible Categories:

Interview-Coded: 61123 ("Außendienstmitarbeiter/in" - Berufe im Vertrieb (außer IuK-Technologien)

- komplexe Spezialistentätigkeiten)

Professional Code 1: 61122 (Berufe im Vertrieb - fachlich ausgerichtete Tätigkeiten)

Professional Code 2: 61123 (Berufe im Vertrieb (außer IuK-Technologien) - komplexe Spezialistentätigkeiten)

Arguments: 61123 is acceptable while 61122 is uncertain. 1. The skill level remains unclear from the respondent's answer; 2. the description from KldB, vol. 2, for code 61122 is about indoor service while only 61123 extends to field service.

Interview answers: "Fachinformatiker für Systemintegration"

Possible Categories:

Interview-Coded: 43102 ("Fachinformatiker/in - Systemintegration", Berufe in der Informatik - fachlich ausgerichtete Tätigkeiten)

Professional Code 1: 43104 (Berufe in der Informatik - hoch komplexe Tätigkeiten)

Professional Code 2: 43102 (Berufe in der Informatik - fachlich ausgerichtete Tätigkeiten)

Argument: The KldB assigns "Fachinformatiker" to the category 43102 and we have no reason to believe that the skill level is sufficient for 43104.

Interview answers: "stellvertretener Direktor und Lehrer"

Possible Categories:

Interview-Coded: 84114 ("Lehrer/in - Grundschulen (Primarstufe)", Lehrkräfte in der Primarstufe - hoch komplexe Tätigkeiten)

Professional Codes: 84194 (Führungskräfte an allgemeinbildenden Schulen - hoch komplexe Tätigkeiten)

Argument: 84114 and 84194 are both acceptable: Possible are both situations: Predominant parts of this persons' work may be in teaching at a primary school or in leading the school.

Wrong

Definition:

It is obvious that the category is erroneous and other codes are clearly more adequate. See the examples below for possible arguments when this is the case.

Examples:

Interview answers: "Sachbearbeiterin in einer Zahnarztpraxis, im Verwaltungsbereich tätig"

Interview-Coded: 71402 ("Bürokräft/Kaufmännische Fachkraft", Büro- und Sekretariatskräfte (ohne Spezialisierung) - fachlich ausgerichtete Tätigkeiten)

Professional Codes: 73222 ("Zahnarztsekretärin")

Argument: 71402 is wrong because a more specialized code is available.

Interview answers: "Psychologin" - "im psychologischen Dienst einer Lebenshilfeeinrich-

tung berate und betreue Menschen mit seelischer und geistiger Behinderung"

Interview-Coded: 81614 ("Psychologin Wirtschaftspsychologie", Nicht klinische Psychologie)

Professional Codes: 81624 (Klinische Psychologie)

Argument: 81614 is wrong because the KldB, vol. 2, clearly states that counseling to mentally handicapped persons belongs to clinical psychology.

Interview answers: "Bauleiter" - "Bauleitung der Elektromontage auf dem Bau mit Verantwortung für Personal", ohne Meistertitel, beaufsichtigt 2 Arbeitskräfte

Interview-Coded: 33393 ("Bauleiter Ausbau", Aufsichtskräfte - Aus- und Trockenbau, Isolierung, Zimmerei, Glaserei, Rollladen- und Jalousiebau)

Professional Code 1: 26212 ("Bauelektriker")

Professional Code 2: 31194 ("Bauleiter"/"Baustellenleiter")

Argument: Although this respondent claims to be a "Bauleiter", he does not have the required training and supervises not enough workers. 33393 and 31194 are clearly wrong.

Interview answers: "Kundenbetreuer Softwareintegration" - "Beratung, Vertrieb, Support"

Interview-Coded: 62183 ("Kundendienstberater", Berufe im Verkauf (ohne Produktspezialisierung) (sonstige spezifische Tätigkeitsangabe) - komplexe Spezialistentätigkeiten)

Professional Code 1: 43224 ("Softwareberater", Berufe in der IT-Anwendungsberatung - hoch komplexe Tätigkeiten)

Professional Code 2: 43223 ("IT-Kundenbetreuer", Berufe in der IT-Anwendungsberatung - komplexe Spezialistentätigkeiten)

Argument: 62183 is wrong because this person has a specialization in the product offered.

Uncertain

Definition:

This is the residual category to be assigned when a code is not obviously erroneous and at the same time there exist no good argument why this code should be correct. Three reasons are most common why a category is classified as uncertain:

1. The job title selected during the interview appears correct at a first glance, but a different category definition from the KldB, volume 2, describes the job activities more precisely.
2. The interview-coded job category requires a skill level that is contradictory to answers from the interview (i.e., to the questions on the vocational training usually required or the differentiated occupational status)
3. The answers from the interview suggest a different thematic focus, but at the same time the code is not entirely wrong.

Examples:

Interview answers: "Verkäuferin für Lebensmittel" - "beim Discounter Kassentätigkeit ausgeführt"

Possible Categories:

Interview-Coded: 62302 ("Fachverkäufer/in - Nahrungsmittel", Berufe im Verkauf von Lebensmitteln (ohne Spezialisierung) - fachlich ausgerichtete Tätigkeiten)

Professional Code 1: 62112 (Kassierer/innen und Kartenverkäufer/innen - fachlich ausgerichtete Tätigkeiten)

Professional Code 2: 62102 (Verkauf (ohne Produktspezialisierung) - fachlich ausgerichtete Tätigkeiten)

Argument: 62112 is the most precise description (acceptable) although 62302 is still possible (uncertain). On the contrary, 62102 is wrong because a product specialization exists.

Interview answers: "Verkäuferin in einer Metzgerei an Heißen Theke" - "Verkauf von selbsthergestellten Gerichten"

Berufsausbildung als Fotolaborantin, angestellt seit 2013, angeleitete Arbeiterin, beaufsichtigt 2 Arbeitskräfte

Interview-Coded: 62322 ("Fachverkäufer/in Lebensmittelhandwerk (Fleischerei)", Berufe im Verkauf von Fleischwaren - fachlich ausgerichtete Tätigkeiten)

Professional Code 1: 62301 (Berufe im Verkauf von Lebensmitteln (ohne Spezialisierung) - Helfer- und Anlern-tätigkeiten)

Professional Code 2: 62101 (Verkauf (ohne Produktspezialisierung) - Helfer- und Anlern-tätigkeiten)

Argument: All categories are uncertain because 1.) the skill level is questionable for category 62322, 2.) presumably the person is not a standard butcher salesperson although 3.) some specialization still exists.

Interview answers: "Projektleiter"- "Softwareentwicklung Betreuung eines Softwareprojekts"

Interview-Coded: 43394 ("IT-Projektleiter", Führungskräfte - IT-Netzwerktechnik, IT-Koordination, IT-Administration und IT-Organisation)

Professional Code 1: 43494 ("Führungskräfte - Softwareentwicklung und Programmierung")

Professional Code 2: 71393 ("Projektleiter", Aufsichts- und Führungskräfte - Unternehmensorganisation und Strategie - Komplexe Spezialistentätigkeiten)

Argument: The verbatim answer favors the code 43494 (acceptable), but at first glance the category 43394 is quite reasonable (uncertain). 71393 is obviously wrong because the person leads a computer project.

Interview-Coded is better than manual coding

Definition:

Select yes if the following three conditions are fulfilled:

- the interview-coded job title is plausible,
- it contains additional job details we would otherwise not know about,
- and it leads to a different (hopefully better) code.

If any condition is not fulfilled, select no.

Examples (see the last three examples from the uncertain category for details):

The two interview-coded job titles "Beschichtungsmaschinenführer Kunststoff und Kautschuk" and "Auslieferungsfahrer" fulfill all the required conditions.

Interview answers: "Maschinenführer" - "Einstellen von Maschinen, Tourarbeiten"

Interview-Coded: 22102 ("Beschichtungsmaschinenführer Kunststoff und Kautschuk", Berufe in der Kunststoff- und Kautschukherstellung (ohne Spezialisierung) - fachlich ausgerichtete Tätigkeiten)

Professional Code 1: 24202 (Berufe in der Metallbearbeitung (ohne Spezialisierung) - fachlich ausgerichtete Tätigkeiten)

Professional Code 2: 25122 (Maschinen- und Anlagenführer/innen - fachlich ausgerichtete Tätigkeiten)

Interview answers: Kraftfahrer für die Deutsche Post" - "Transport von Paketen"

Interview-Coded: 52182 ("Auslieferungsfahrer", Fahrzeugführer/innen im Straßenverkehr (sonstige spezifische Tätigkeitsangabe) - fachlich ausgerichtete Tätigkeiten)

Professional Codes: 52122 (Berufskraftfahrer/innen (Güterverkehr/LKW) - fachlich ausgerichtete Tätigkeiten)

Conversely, this is not the case for the "IT-Projektleiter". This job title is not plausible because this person appears to be a project leader in software development and not in computer technology. Nor does this title contain additional job details because we know already that this person is a project leader in the computer industry.

Because the student assistants frequently do not agree if interview coding is better than manual coding, we do not analyze the results in the main article. For reasons of completeness we provide the contingency table here:

Table D 1: Contingency table how the two student assistants evaluate the statement “Interview coding is better than manual coding”, cross-tabled over rows and columns.

	No	Yes	Σ
No	290	17	307
Yes	37	24	61
Σ	327	41	368