

I think my father was a project manager: Reliability and validity of parental occupation and schooling measurement in the HILDA survey

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PARENTS' OCCUPATION

Think back to around the time you were 14....

What was your **father's** occupation?

What was your **mother's** occupation?

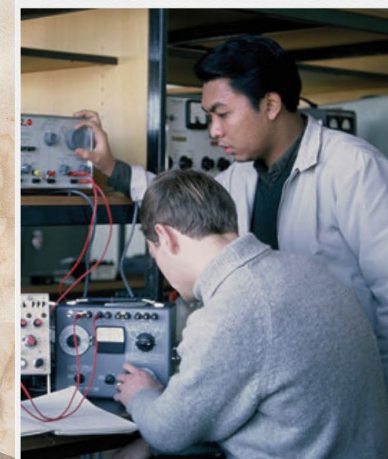


Source: CSIRO CommsHub, Coffs Collection

PARENTS' EDUCATION

What was your **father's** highest education level?

What was your **mother's** highest education level?



Source: Coffs Collection, Swinburne Commons

OWN OCCUPATION AND EDUCATION

What is *your* occupation?

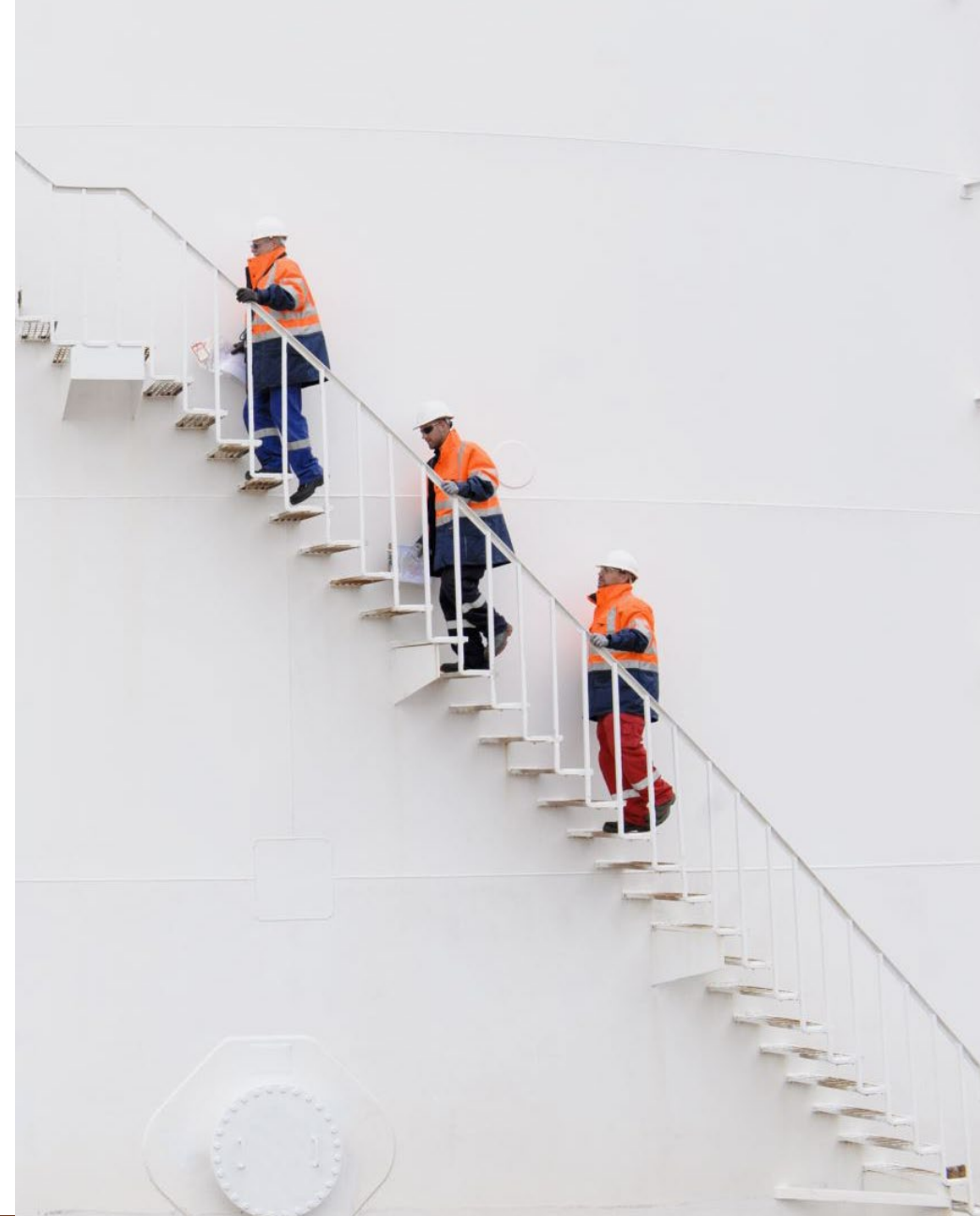
What is *your* highest education level?

How well would your children/close members of your family be able to describe *your* occupation or highest education level?



Socio-economic status (SES)

- SES shapes almost all aspects of our lives.
- Complex construct to define and measure.
- Objective measures such as the ‘big 3’: income, occupation, and education level (Long and Renbarger 2023).
- Usually measured as individual SES
- But many contexts where parental SES is of interest
 - Instead of individual SES
 - In addition to individual SES



Why measure parental socio-economic status (SES)?

1

Child & adolescent outcomes

Children and adolescents don't yet have their own occupation or education.

2

Intergenerational mobility

Comparing parents' and children's own occupation or education is central to research on intergenerational mobility.

3

Instrumental variables

Parental education is often used to instrument for a person's own schooling.

4

Life-course & health research

Studies on how childhood circumstances shape adult health and behaviour.

BACKGROUND

Measuring SES

Occupation

Occupation is “one of the most challenging variables social scientists regularly encounter.”

— Martin-Caughey (2026)

HILDA (like many surveys) collects occupation information in the form of an open text question which is then coded into occupation classification system: e.g. ANZSCO

Two people in the same job can describe it very differently.
Some occupations are easier to code than others.

Education

Education is generally easier to measure but there can be difficulties if schooling or education qualifications was experienced overseas, as may not easily map on to Australian categories.

361211 SHEARER

Removes wool and hair from sheep, goats, alpacas and other animals.
Skill Level: 3



Major group= 3
Technicians and Trades Workers

Sub-Major group= 36
Skilled Animal and Horticultural Workers

Minor Group= 361
Animal Attendants and Trainers, and Shearers

Unit group =3612
Shearers

Source: CSIRO Comms Hub
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Proxy reports of occupation and education

Most surveys (including HILDA) measure parental SES via proxy reporting: Respondents report on behalf of their mother and father.

How good is that information?

Gaps

- Most evidence on proxy-reporting quality comes from European and North American contexts
- Studies typically focus on children or young adolescents
- Validation studies usually compare contemporaneous reports, not retrospective recall (e.g. “when you were 14”)

Research questions

Missingness

How often can't respondents answer at all when asked about parental occupation/education?

Validity

Does a child's report on parental occupation/education match what the parent says about themselves?

Reliability

Do different children of the same parent agree with each other about their parent's occupation/education?

DATA

HILDA Waves 1–23: two SES measures & two agreement variables

Parental SES measures

1) Parental occupation (ANZSCO 2006 Major groups)

- | | |
|---------------------------------|--------------------------|
| 1. Managers | 5. Clerical & Admin |
| 2. Professionals | 6. Sales |
| 3. Technicians & Trades | 7. Machinery Operators & |
| 4. Community & Personal Service | Drivers |
| | 8. Labourers |

2) Parental education (4 categories):

1. University degree
2. Other post-school qualification
3. Year 12
4. Year 11 or below

Agreement measures

1) Parent-child agreement

Comparing child's proxy report against the parent's own self-report (validity analysis)

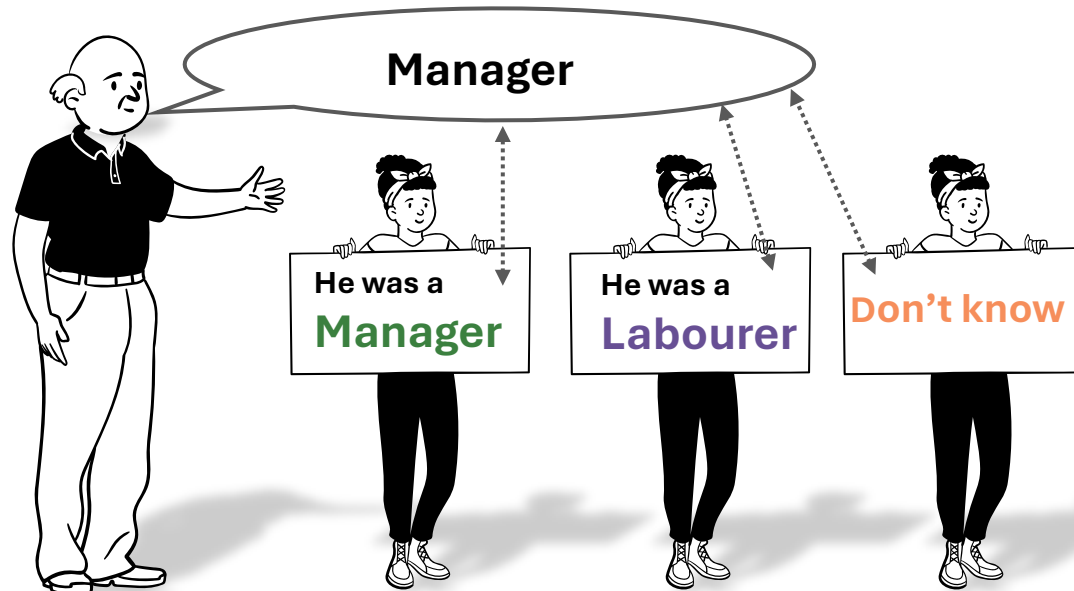
2) Sibling-pair agreement

Comparing two siblings' reports of the same parent (reliability analysis)

DATA: PARENT OCCUPATION / EDUCATION

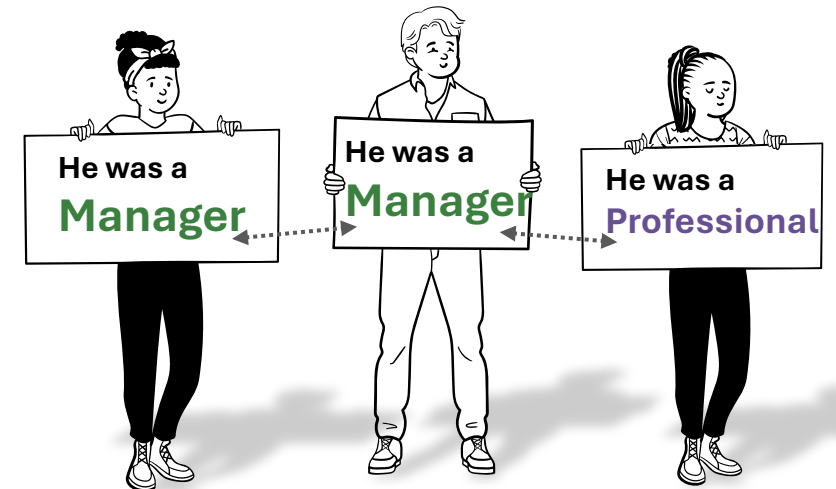
Parent-child agreement (Validity)

- 1) Parent and child reports **matched**
- 2) Parent and child reported **differed**
- 3) Child **did not know** parent's occupation/education



Sibling-pair agreement (Reliability)

- 1) Sibling-pairs reports **matched**
- 2) Sibling-pairs reports **differed** or one of siblings **did not know**.



Sample details and method

	Parent- child agreement		Sibling-pair agreement	
	Father	Mother	Father	Mother
Parental Occupation	N=1,901	N=3,201	N=1,453	N=1,485
Parental Education	N=2,593	N=3,778	N=1,314	N=1,385
Sample exclusion	Children who grew up with mother and <i>stepfather</i>	Children who grew up with father and <i>stepmother</i>	Children who grew up with mother and <i>stepfather</i>	Children who grew up with father and <i>stepmother</i>
Respondents who were living at home with both parents in Wave 1 (for Parental occupation)				
Dependent variable	1) Match, 2) Differ, 3) child does not know		1) Match, 2) differ or one does not know	
Independent variables	Child gender, lived with parent at 14, currently living at home, child age, parent country of birth, flag (occupation), father unemployment history (occupation) ,child mode of interview, presence of others in interview.		Age difference between siblings, Number of siblings in family, Gender of siblings, one or both living at home at time of interview, one or both lived with parent at age 14, parent country of birth	
Model	Multinomial logistic regression		Logistic regression	
	Standard errors clustered to take into account that some parents had multiple children.		Standard errors clustered to take into account that some families had multiple pairs of siblings.	

RESULTS — VALIDITY

Do parent and children's reports agree for parent's occupation?

63%

Father-child agreement

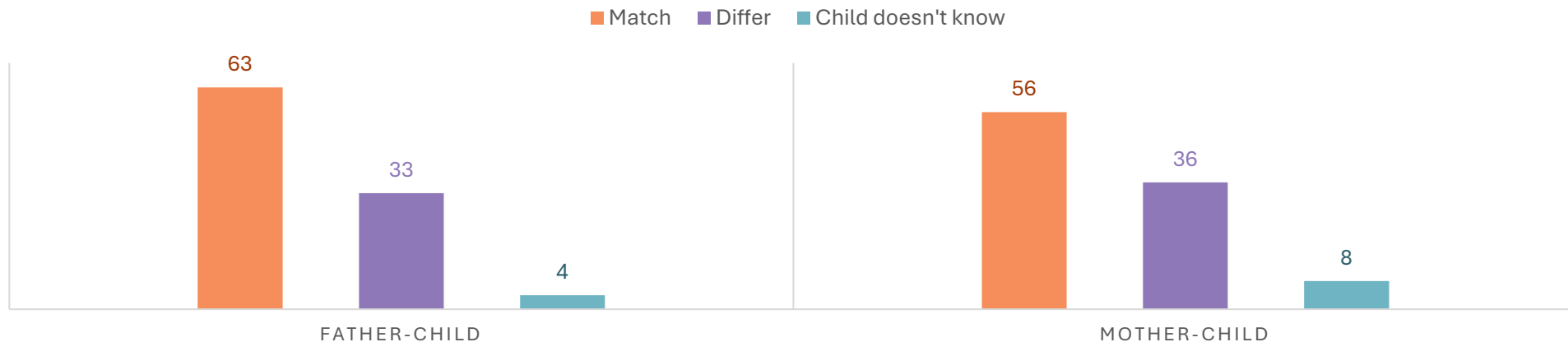
$\kappa = 0.56$ • rises to 66% excluding “don't know”

56%

Mother-child agreement

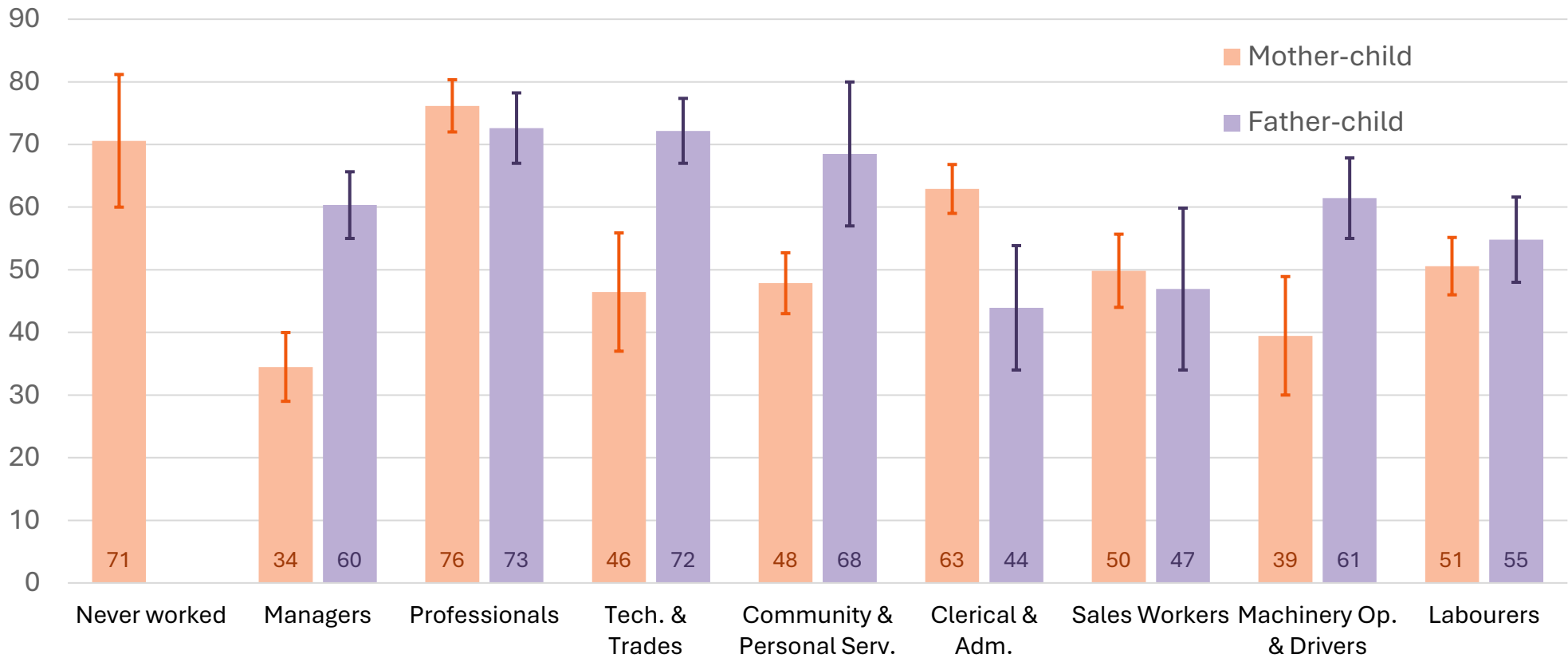
$\kappa = 0.49$ • rises to 61% excluding “don't know”

% Agreement between parent and child reports of parental occupation



Agreement varies sharply by parental occupation

Predicted probability of parent-child agreement (%), by occupation reported by parent



Marginal predicted probability from multinomial model, controlling for all other independent variables

What predicts a matching parent-child occupation report?

- Younger child respondents (aged 15–18) closer in time to the recalled age, higher match rates than older reporters.
- Living with the parent at 14 was strongly associated with higher agreement; not living with the parent means more “*don't know*”.
- Parent’s job being a current job versus a historical job.
- Father's unemployment history associated with higher “*don't know*” from 3% to 8%; job instability disrupts the child's memory.
- Pre-2009 interviews show higher agreement than later CAPI/telephone interviews.

RESULTS — VALIDITY

Do parent and children's reports agree for parent's education?

68%

Father-child agreement

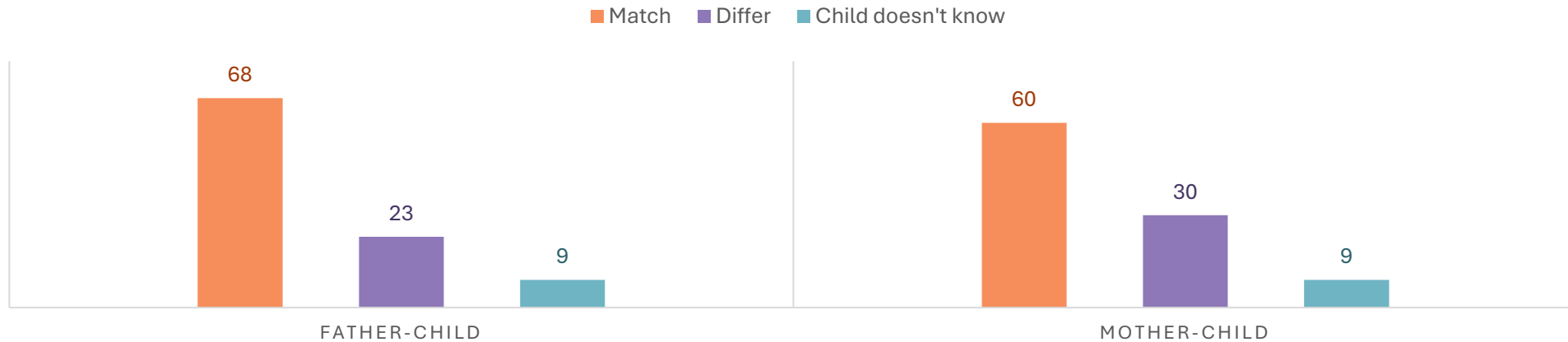
$\kappa = 0.56$

60%

Mother-child agreement

$\kappa = 0.46$

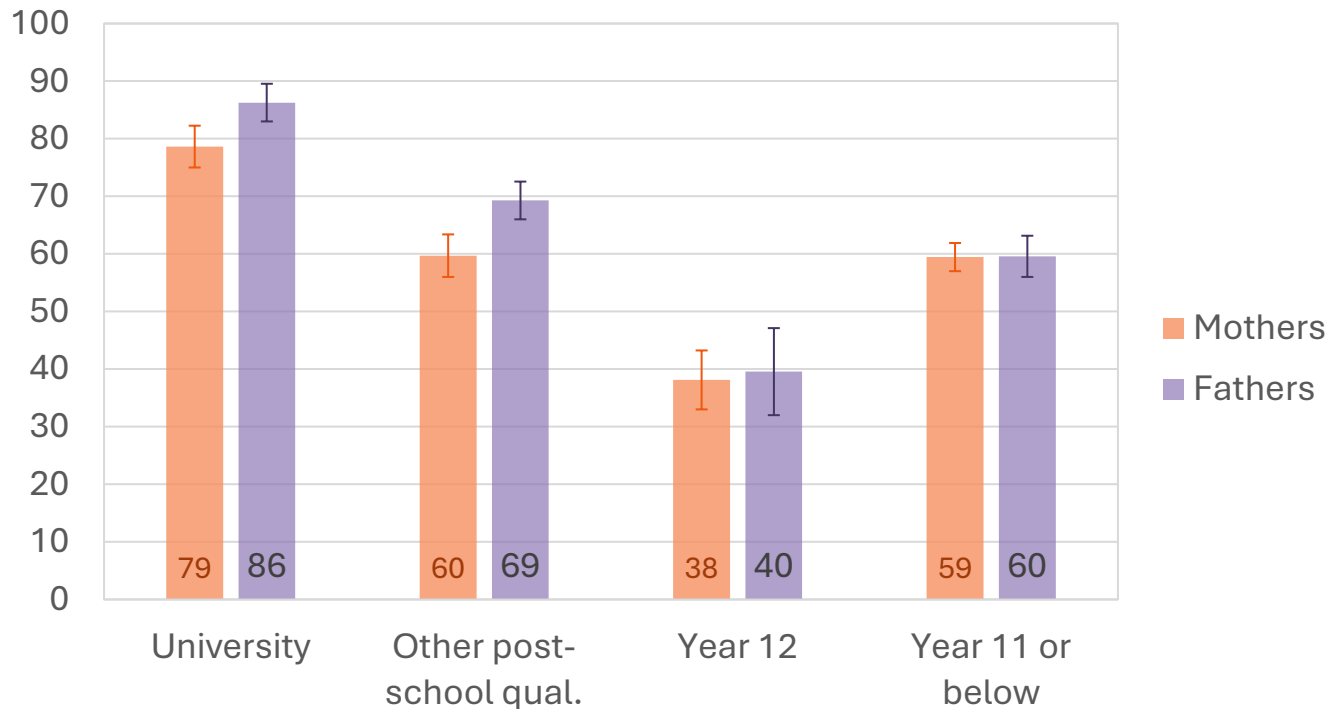
% Agreement between parent and child reports of parental education



RESULTS — VALIDITY

Education agreement: strongest at the extremes

Predicted probability of parent-child agreement (%), by education reported by parent



University degree & Year 11 or below had highest agreement.

Fathers born in a non-English-speaking country: significantly higher chance of a child-parent mismatch.

Overseas qualifications harder to translate into Australian categories?

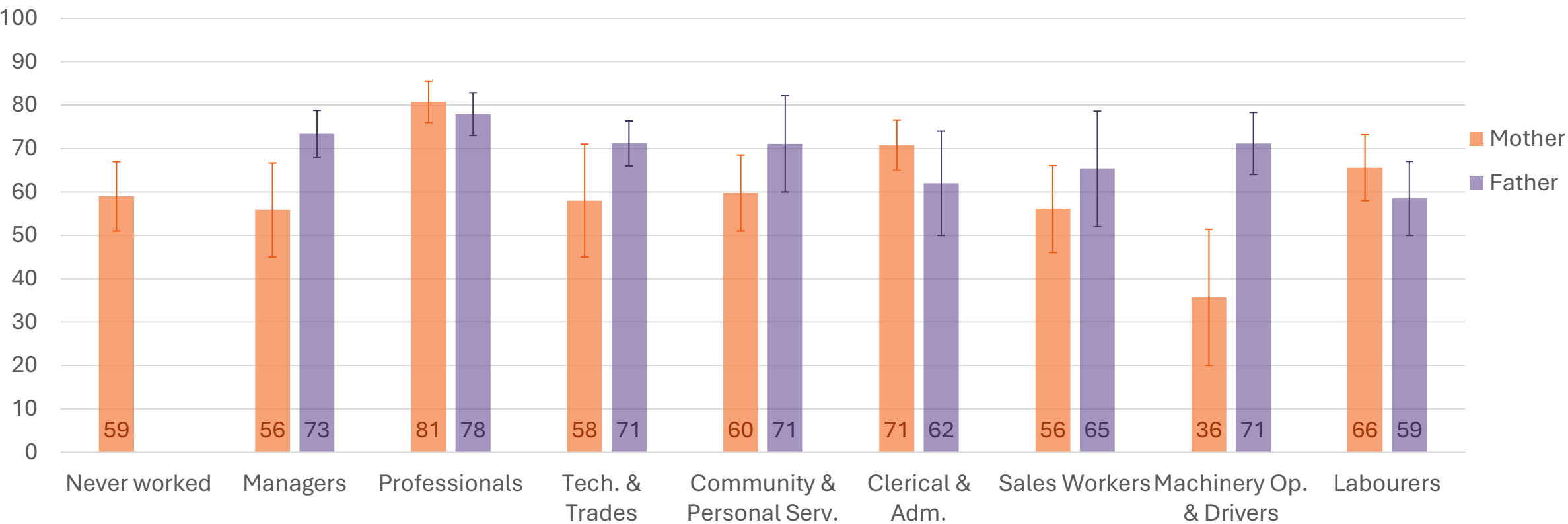
Marginal predicted probability from multinomial model, controlling for all other independent variables

Sibling-pair agreement: Occupation

69% Occupation — Father

62% Occupation — Mother

Predicted probability of sibling-pair agreement (%), by occupation reported by younger sibling



Marginal predicted probability from logistic model, controlling for all other independent variables

Sibling-pair agreement: Education

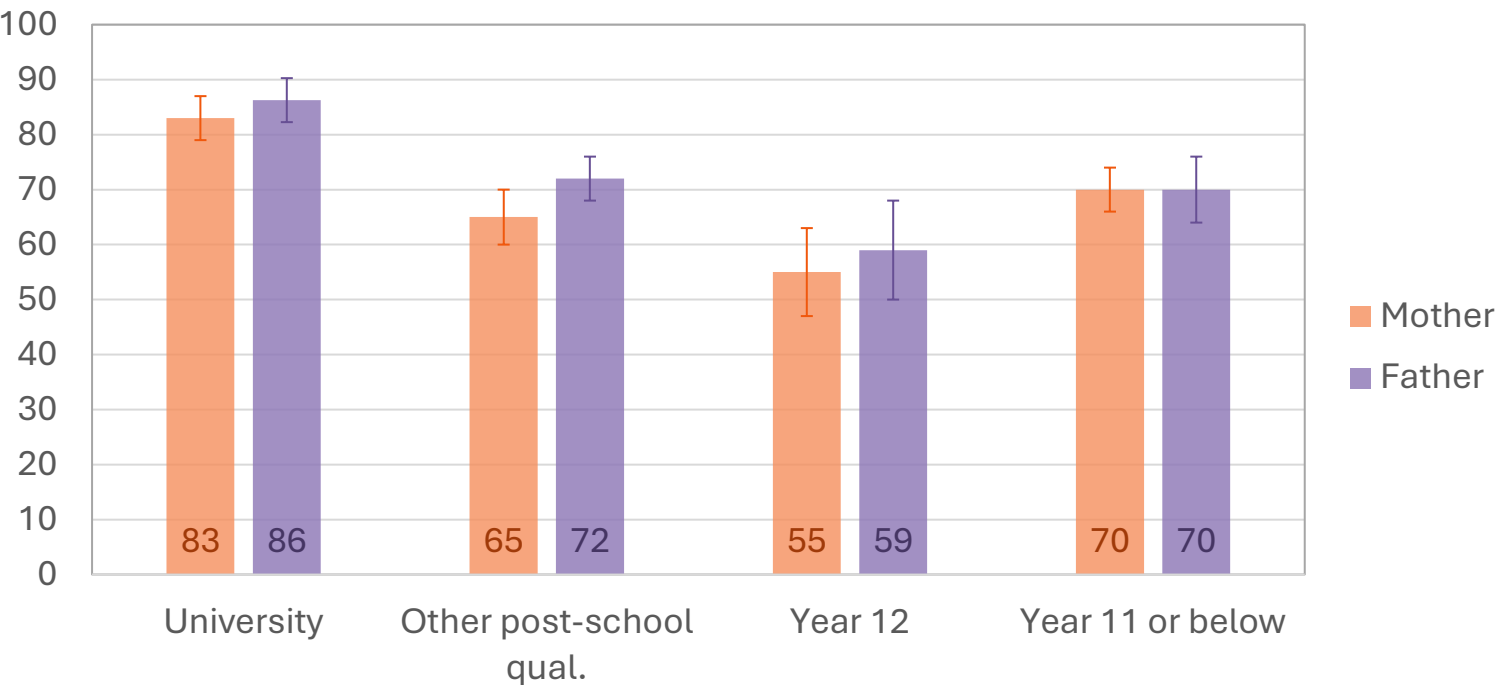
Sibling-pair concordance

72% Education — Father

67% Education — Mother

Strongest predictor: both siblings living with the target parent at age 14.

Predicted probability of sibling-pair agreement (%), by education reported by younger sibling



Marginal predicted probability from logistic model, controlling for all other independent variables

Discussion

1

Occupation specific errors

Professional occupations, had highest level of agreement in both validity and reliability analysis.
Higher disagreement for managerial, mid-range categories and 'gendered occupations'.

2

Gendered reporting biases

Manager mothers get "downgraded" to clerical/professional roles by children far more than manager fathers do.

3

Instability linked to missing data

A father's unemployment history roughly doubles the child's "don't know" rate, so disadvantage may be under-represented.

4

High education has highest agreement

University degree and no education/lowest education had the highest level of agreement in both validity and reliability analysis.

5

Translation of overseas education qualification

Higher disagreement in parental education when parent was born in NES country. Difficulty of translating foreign levels of schooling/qualification?

6

Shared family narratives

High sibling concordance suggests siblings have a shared account or knowledge of a parent's work and schooling.

LIMITATIONS

Considerations

Disagreement in parent-child reports for occupation, not necessarily due to a child's error. May be overestimating disagreement.

Parent report of own occupation		Child proxy report of parent occupation		Result
Description	Coding	Description	Coding	
Correct	Accurate	Incorrect	Accurate	Mismatch*
Incorrect	Accurate	Correct	Accurate	Mismatch
Correct	Inaccurate	Correct	Inaccurate	Mismatch
Correct	Inaccurate	Correct	Inaccurate	Mismatch

**Study assumption*

Selective sample may limit generalisability.

Australia-specific classification. Findings reflect ANZSCO's category structure; confusions like Machinery Operators vs. Labourers may not replicate under other national or international classification structures.

Conclusion

Parental SES measures are important and widely used in social research.

Own occupation can be difficult to report accurately, however difficult of occupation reporting and coding compounded by proxy reporting.

Own occupation data in HILDA is high quality and consistent with other data sources such as the Census and GSS (Watson 2026). HILDA presents a unique opportunity to study different dimensions of data quality in relation to parental SES.

Parent-child and sibling agreement is moderate overall. Studies using parental occupation/education measures should keep in mind possible sources of bias.

Analysis of HILDA data from 2001-2017 has shown that occupational distribution is changing over time (Hathorne & Breunig 2022).

In the US errors in occupation coding have increased in recent decades as job duties grow more complex so challenge is evolving (Kim et al 2020) .

Bridging how people describe their own work and how institutions classify it (Domarchi et al., 2026) is central as automated coding tools expand.

Occupations and unit groups proposed to be added to OSCA 2027

Code	Title
112134	E-Commerce Manager
121133	Non-executive Board Member
141337	Disability Services Manager
149934	Program or Project Manager (General)
221232	Fundraising Manager
223936	Epidemiologist
231234	Script Writer
231534	Event Producer
243535	Reliability Engineer
263533	Cardiac Sonographer
273334	Artificial Intelligence Engineer
281241	Mediator
321133	Pastry Chef
372135	Formwork Carpenter
391235	Audiovisual Technician
461135	Cosmetic Tattooist
461942	Health and Wellness Coach
461943	Life Coach
599943	Event Coordinator
619936	E-Commerce Coordinator
821435	Security Door and Screen Installer
899942	Rope Access Technician

Source: ABS

<https://www.abs.gov.au/statistics/classifications/consultation-draft-occupation-standard-classification-australia-osca/aug-2026>

Thank you!

Questions and
feedback welcome

