



The Reliability of Survey Measures

RESULTS Series

SOURCE OF INFORMATION— SELF- VS. PROXY-REPORTS

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Source of Information—Self- vs. Proxy-Reports

One complaint often lodged against survey data is that they are based on *self-reports* that are intrinsically unreliable (Smith, 1985). But while self-reports have limitations, respondents *are* generally better at reporting information on themselves than they are with respect to information about others, referred to here as *proxy-reports*. Some have argued that proxy reports are as good as self-reports. For example, Sudman, Bradburn and Schwarz (1996) concluded, “for many behaviors and even for some attitudes, proxy reports are not significantly less accurate than self-reports” (page 243). If true, this is an encouraging result because it is often not possible to obtain self-reports in all cases and the proxy is frequently the only source of information for the person in question, e.g., the head of the household. However, we should note three things: first, the disparity between the two clearly depends on content; facts may be less vulnerable to “proxy errors,” compared to non-facts, i.e. reports of subjective states. Second, there is too little research available on these matters, and finally, the research literature that does exist on this topic presents inconsistent results regarding the quality of reporting by proxies (see, e.g., Moore, 1988).

Gathering data by proxy in survey research is commonplace. Respondents to surveys are often asked questions about other people, including their spouse and children, and sometimes, their friends and co-workers. Because of differences in the process of reporting about the characteristics of others and the more common self-report method, one would expect that the nature of measurement errors might be different for proxy vs. self-reports (see Blair, Menon and Bickart, 1991). Recent evidence, however, suggests that self-reports tend to be more reliable than second-hand reports by proxy informants (see Alwin, 2007, pp. 152-153). This prior research, for example, reported a controlled comparison of a small set of variables involving the same or similar content in which *the same respondents* reported for self and others (see Alwin, 2007, pp. 152-153). These results are reproduced in Table 1.

Table 1. Comparison of reliability estimates of self- and proxy-report measures of similar content

Content of Question	Study	Reliability Estimates ¹					
		Listwise			Allison		
		Self	Spouse	N	Self	Spouse	N
Years of schooling	NES 70s	0.971	0.930	815	0.966	0.916	3,216
Years of schooling	SAF Mothers	0.954	0.910	799	0.944	0.908	1,111
Occupational status	NES 70s	0.887	0.806	299	0.812	0.802	2,017
Occupational status	NES 90s	0.859	0.717	197	0.896	0.711	1,197
Hours works/worked per week	NES 70s	0.835	0.710	212	0.728	0.735	1,501
Hours works/worked per week	NES 90s	0.881	0.612	141	0.835	0.580	959
Total		0.898	0.781	6	0.864	0.775	6
		t	p-value		t	p-value	
		3.365	0.020		2.033	0.098	

¹Wiley-Wiley Pearson-based reliability estimates.

Source: adapted from Alwin (2007).

In that study, we compared six measures involving self-reports with six measures involving proxy reports (in this case reports on spouses) *where the content of the questions was identical*, e.g. respondent's education vs. spouse's education, and *the same person is reporting in each case*, usually at a different place in the questionnaire. These results are shown in Table 1. In virtually every case the self-report measure is higher in reliability than the proxy-report measures (see Table 1). On average across the six variables, the difference is approximately .9 versus .8 using the listwise-present results, which, if based on a larger sample of measures would certainly be considered a substantively meaningful difference. The statistical test of this difference (based on 6 cases) is nonetheless marginally significant ($p < .02$), which is remarkable given the small number of cases. The difference obtained is slightly smaller using the Allison model, and the systematic nature of the difference is less apparent, but overall, the two sets of results are largely consistent. This leads us to conclude that proxy reports may be significantly less reliable than are self-report measures, which is consistent with both theory and experience. Further research is necessary, however, to create a broader inferential basis for this conclusion.

Results from the GSS

Using data from three GSS panels, we reported some comparisons between self- and proxy reports (see Alwin, 2021). In Table 2, we present information on the measurement of factual information on education and occupation in the GSS panel studies employed here. These results are based on the GSS results, using the FIML approach to incomplete data across waves. This is an example of how well survey measures can capture facts, although there is variation within the category (see Alwin, 2007, pages 156-158). These results illustrate these considerations, as the measure of education, either years of schooling, or degrees attained, is generally more reliable than the GSS measure of occupational standing (in this case occupational prestige) — .9 versus .8. These differences are comparable to those observed in previous research. For example, in the *Margins of Error (MoE)* study, the average estimate of reliability for years of schooling was .912 (over seven studies); in the GSS panels (as shown in Table 2) the average reliability is .914. Comparable estimates of reliability for occupational standing are .808 in *MoE*, averaged over seven studies; while in the GSS panels the estimate is .774. This is not a big difference.

It can be seen in Table 2 that in the GSS panels most proxy reports are as reliable, if not slightly more so, compared to self-reports. The differences are trivial in the case of the GSS panels, although in previous research, proxy reports were seen to be systematically less reliable (see Alwin, 2007, pages 152-153).

Table 2. Estimates of reliability for reporting of social status variables— FIML estimates.

	GSS06	GSS08	GSS10	Average
Years of schooling completed				
Self-report	0.901	0.918	0.921	0.914
Proxy report on mother	0.893	0.893	0.846	0.877
Proxy report on father	0.931	0.938	0.922	0.931
Proxy report on spouse	0.923	0.933	0.911	0.922
Degree level (highest degree attained)				
Self report	0.867	0.879	0.916	0.887
Proxy report on mother	0.926	0.895	0.945	0.922
Proxy report on father	0.942	0.952	0.927	0.940
Proxy report on spouse	0.884	0.944	0.977	0.935
Occupational prestige				
Self-report	0.774	-	-	0.774
Proxy report on mother	0.770	-	-	0.770
Proxy report on father	0.794	-	-	0.794
Proxy report on spouse	0.782	-	-	0.782

Source: Alwin (2021).

Conclusions

These results we have obtained so far have reinforced the conclusion that self-reports tend to be more reliable than proxy-reports. Nonetheless, for the types of factual information included, the proxy reports were not all that unreliable. These results are consistent whether we use FIML or listwise estimates. Venturing beyond factual content in the use of proxy reports is not recommended, as too little research exists to justify the quality of proxy-reports in such cases.

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