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Effective Use of Venn Charts

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| Purpose | This tool provides guidelines and tips on how to effectively use Venn charts to communicate research findings. |
| Format | This tool provides guidance on Venn charts and their purposes, and shows examples of preferred practices and practical tips for Venn charts. |
| Audience | This tool is designed primarily for researchers from the Model Systems that are funded by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR). The tool can be adapted by other NIDILRR-funded grantees and the general public. |

The contents of this tool were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90DP0012-01-00). The contents of this fact sheet do not necessarily represent the policy of Department of Health and Human Services, and you should not assume endorsement by the Federal Government.

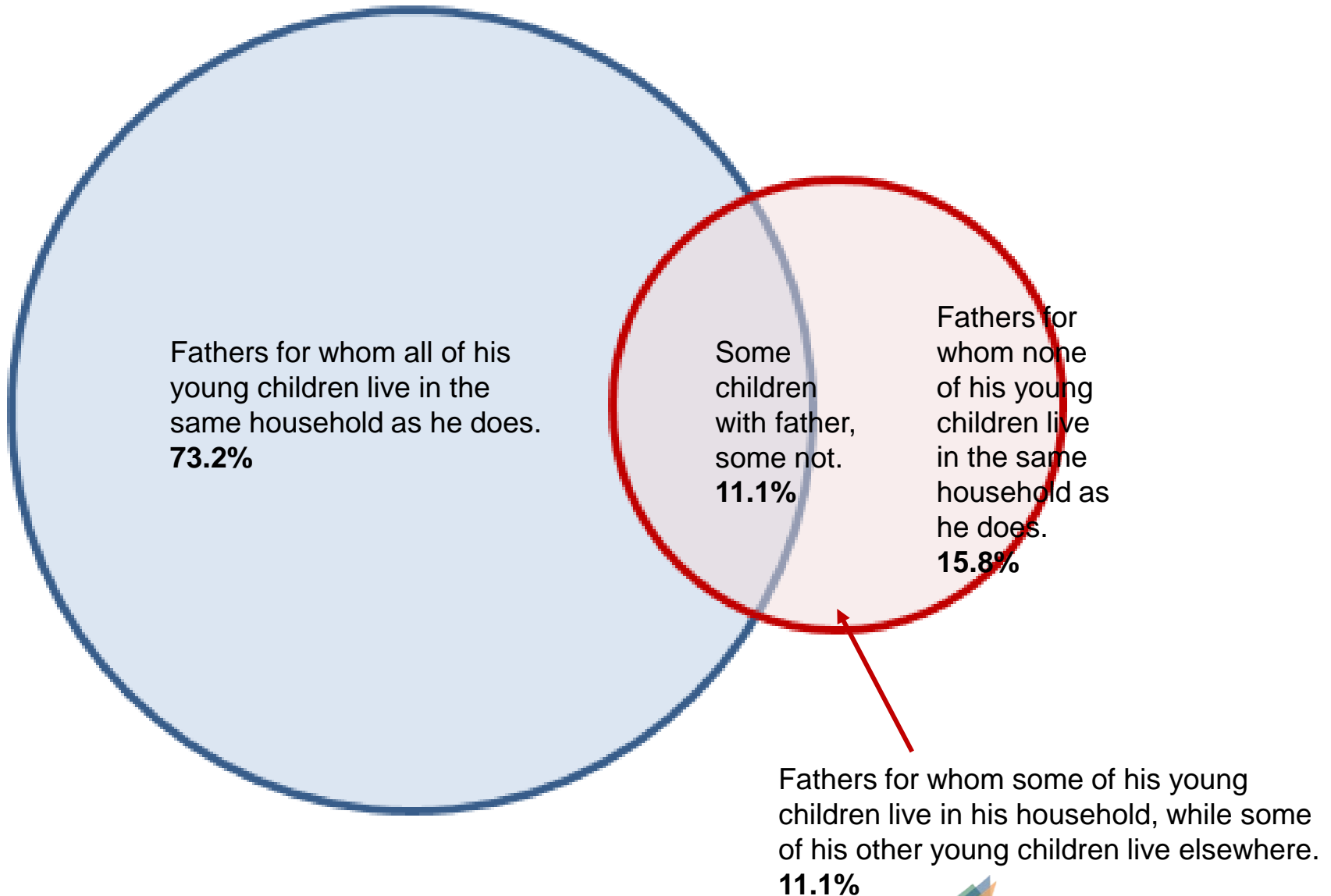
Venn Charts

- ▶ The primary use of a Venn Chart is to display the proportional relationship of various components to a whole, but for data with non-mutually-exclusive, overlapping categories.
- ▶ For example, in describing a population of fathers and their young children, we might note that, for the majority of fathers, all their children live in the same house that he lives in.
- ▶ However, because of separation, divorce, and other circumstances, a portion of fathers, have young children who live in a different house (often with their mothers or other relatives).
- ▶ However the above does not exhaust all possibilities, since some fathers may live in the same house with some of their children, but other of their children may live elsewhere.
- ▶ Thus, to describe this population of fathers and their young children graphically, we might use a Venn chart of overlapping circles to illustrate these three possibilities.

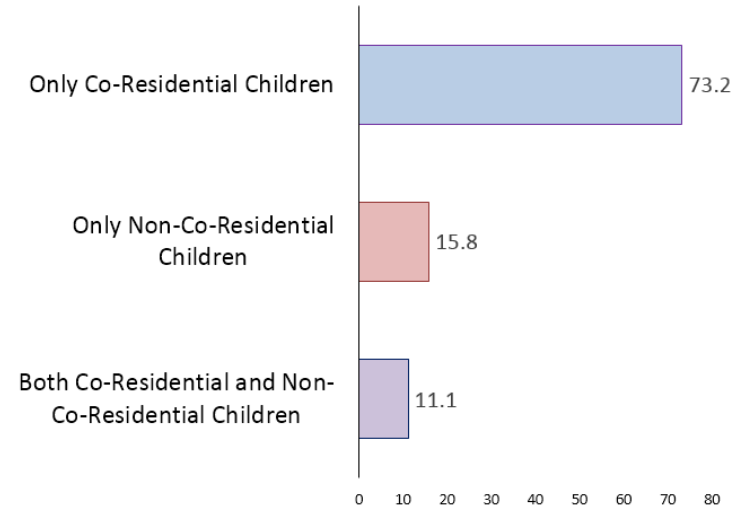
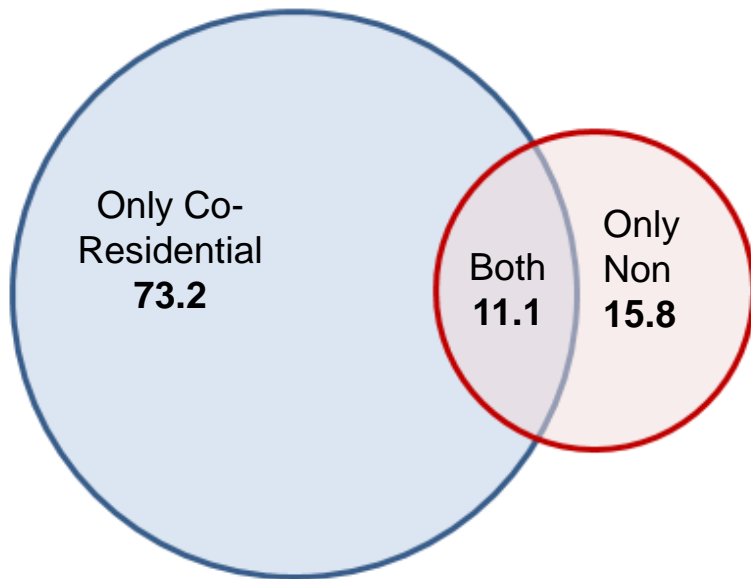
Venn Charts

- ▶ In a Venn chart, each circle area is proportional to the magnitude of the “only” population segment plus the “overlap” and the overlap of the two circles illustrates the combined population.
- ▶ Note that many Venn charts (even in published literature) are schematic representations only (created using Shape files) and are not geometrically precise.
- ▶ Also note that people tend to have greater difficulty interpreting areas of circles (as opposed to diameters of circles), complicating interpretation of Venn charts.
- ▶ Accurately interpreting areas of circles with concave and convex boundaries and cutouts is more difficult still.

Distribution of Fathers Aged 15-44 By Residential Location of Children US 2006-2010

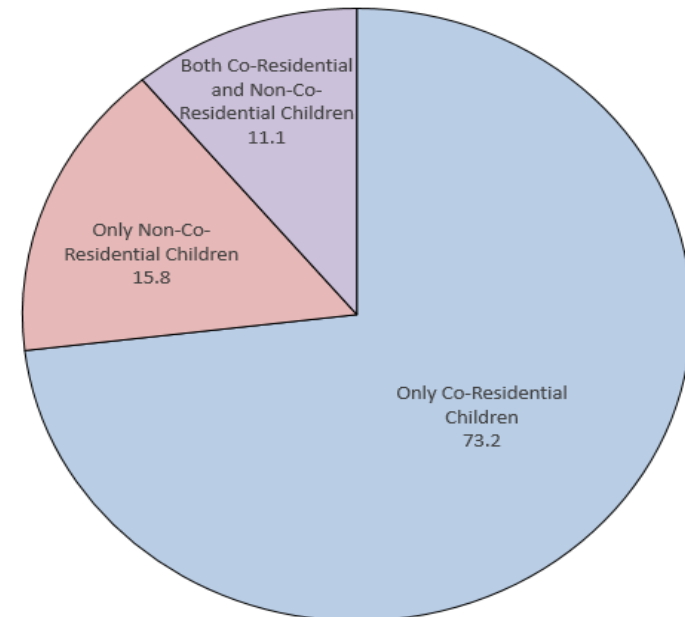


Percent Distribution of Fathers Aged 15-44 By Residential Location of Children US 2006-2010

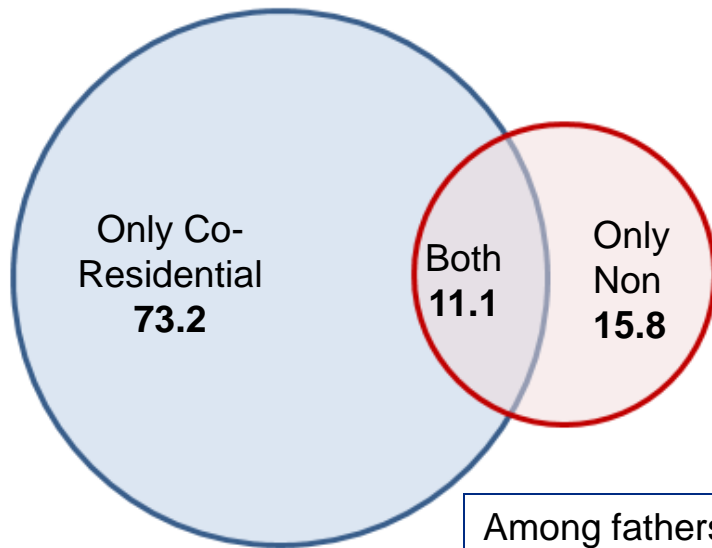


Venn diagrams are often perceptually harder to interpret accurately. Bar charts and even pie charts often communicate easier and better.

73% of fathers have only co-residential children
 16% of fathers have only non-co-residential children
 11% of fathers have some co-residential children and some other non-co-residential children

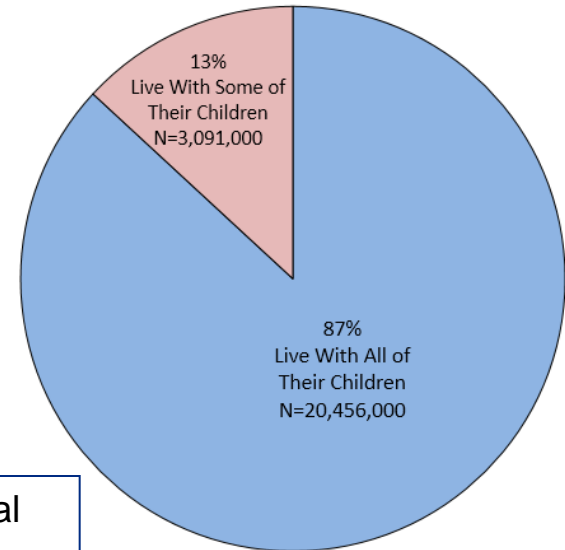


Percent Distribution of Fathers Aged 15-44 By Residential Location of Children US 2006-2010

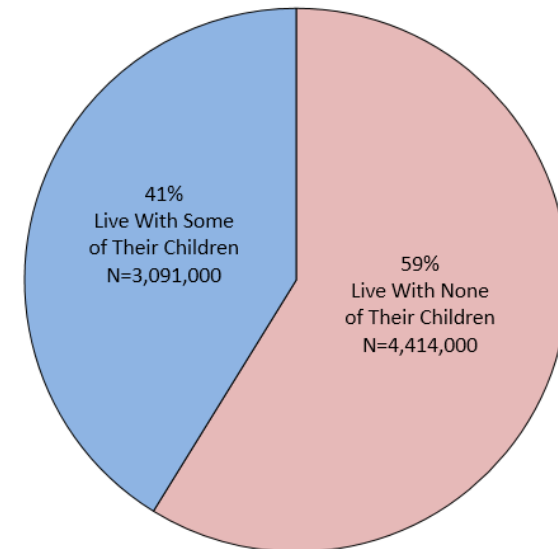


Among fathers with Co-Residential Children, 87% live with all of their children and 13% have some of their children living with them and other of their children living elsewhere.

Fathers with Any Co-Residential Children



Fathers with Non-Co-Residential Children



Among fathers with Non-Co-Residential Children, 59% live with none of their children and 41% have some of their children living with them and other of their children living elsewhere.