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What is a family in science terms

Content Area Families and Individuals in Societal Contexts Paul R. Amato, Ph.D., professor emeritus at Pennsylvania State University, was president of the NCFR Board of Directors from 2013 through 2015. The National Council on Family Relations (NCFR) is the oldest nonprofit, nonpartisan, multidisciplinary professional association focused solely on family research, practice, and education. NCFR represents scholars, professionals, and students in the discipline of Family Science, the scientific study of families and close interpersonal relationships. At various times in my career I have returned to a perennial question: What is a family? As a researcher, I claim to study families. But if you were to ask me for a definition of family, I would probably get tongue-tied and mumble something like, "Well, there are different ways of thinking about it...." A perusal of family textbooks reveals that many authors also have struggled with this question. Presumably, the teachers who use these textbooks also have struggled. This is a curious problem, because as researchers, we try to measure the characteristics of families. Yet, the unit of analysis is not always clear. A common approach is to rely on an objective definition of family. In doing so, researchers impose their definitions on the people being studied. For example, the U.S. Census Bureau defines a family in the following manner: "A family is a group of two people or more (one of whom is the householder) related by birth, marriage, or adoption and residing together." This definition is useful for obtaining a current snapshot of various family configurations (such as the percentage of children living with single parents in a given year), and to track changes over time in family living arrangements. The main limitation of this definition is that it specifies (and restricts) who is (and who is not) in a person's family. An alternative, subjective approach is to let people make their own decisions about who is in their families. Drawing on people's implicit definitions leads to some interesting implications. Consider the common case of a divorced mother living with her child continues to spend a significant amount of time with her father, she probably will continue to view him as a family member. In cases like these, the mother and child do not share the same family, although their families overlap. A researcher who adopts the U.S. Census Bureau definition would say that the daughter is in a single-parent family, whereas the daughter would claim to be in a two-parent family. This example illustrates three curious features of subjective definitions of families. First, residence and family are different. In fact, when asked to list family members, most people exclude individuals who live with them from their family circles. For example, research shows that many adolescents do not consider their residential stepfathers to be family members. Relying on household-centered definitions has led researchers to over-identify the home as the site of a person's most meaningful family relationships and to give insufficient attention to relationships and interactions with family members outside the home. Second, family membership is asymmetrical. That is, person A might claim person B as a member of his family, but person B might not claim person B might not clai in contrast, membership is always reciprocal, and family members are not always related by blood, marriage, or adoption. Many cohabiting partners, for example, consider themselves to be family. Similarly, many people consider their best friends to be family members. Family scholars have noted the importance of fictive kin in many people's lives — a phenomenon that is especially important for some racial and ethnic groups, such as African Americans. From a subjective perspective, of course, these individuals are not "fictive." Other people may choose to reject close biological relatives (such as a parent, a child, or a sibling) from their family definition. Children who rarely (or never) see their biological fathers, for example, often say that they have no father. When it comes to perceptions of family, biology is not destiny. Accepting people's subjective definitions of family definitions of family, biology is not destiny. difficult to study, however, if we rely on people's subjective definitions. Nevertheless, adopting a subjective definitions. Using this approach, researchers can identify family networks by asking focal respondents to list all the members of their families. A frequent outcome of this exercise would be that members of the same household produce different family networks. For example, respondents can report on the extent to which family members argue or disagree with one another, despite the fact that each person in a household might be referring to a different (but overlapping) group of people. Although this approach might seem unwieldy, it would more accurately reflect people's understandings and experiences. Other characteristics that may be applicable to family networks include the extent to which members communicate with one another, are emotionally close, exchange assistance, and are available as potential help givers in times of need. Obtaining this information would be that children with divorced parents report more fragmented family networks than do children with continuously married parents. This type of data also would allow researchers to assess the extent to which family networks are sources of social capital (resources exchanged through relationships). In addition to assessing links within networks, researchers could assess the extent to which network members have relations with or exchange resources with members of different networks. A potentially interesting extension would be to assess the links between overlapping networks or parents and children? Researchers could relate these data to various individual-level outcomes, such as spouses' marital satisfaction or children's educational achievement. The assumption underlying the analysis would be that households with a high level of family network overlap confer certain benefits on their members. Or one might argue for the alternative hypothesis when members of overlapping networks transmit tension and negative emotions. To study families as families and not as aggregates of individuals, researchers must define the unit of analysis. Most current research is based on objective definitions of families—definitions that are not shared by the majority of individuals that we study. Viewing families as overlapping networks that extend across multiple households, with each network having at its nucleus a reference person, might yield new insights, especially in an era when families are becoming more complex and difficult to classify. Because only a small number of family scholars have adopted this approach, the potential of taking people's families-of-choice seriously is currently unrealized. In chemistry, a family is a group of elements with the term "group". Because the two words have defined different sets of elements over the years, the IUPAC recommends the numerical system numbering elements from group 1 to group 18 be used over the common names of families or groups. In this context, families are distinguished by the orbital location of the outermost electron. This is because the number of valence electrons is the primary factor in predicting the types of reactions an element will participate in, the bonds it will form, its oxidation state, and many of its chemical and physical properties. Examples: Group 18 on the periodic table is also known as the noble gas family or noble gas family o metals or the lithium group. Elements in this group have one orbital electron in the outer shell. Group 16 is also known as the oxygen group or chalcogen family. Here is a chart that shows the IUPAC number of the element group, its trivial name, and its family name. Note that while families are generally vertical columns on the periodic table, group 1 is called the lithium family rather than the hydrogen family. The f-block elements between groups 2 and 3 (the elements found below the main body of the periodic table) may or may not be numbered. There is controversy over whether group 3 includes lutetium (Lu) and lawrencium (Lw), whether it includes lanthanum (La) and actinium (Ac), and n/a coinage metals volatile metals icosagens crystallogens pnictogens chalcogens halogens noble gases CAS Group IA IIA VIIB VIIIB VI literature. At the most basic level, sometimes the families are simply considered the metals, metalloids or semimetals, and honmetals. Metals tend to have positive oxidation states, high density, and be good electrical and thermal conductors. Nonmetals, on the other hand, tend to be lighter, softer, have lower melting and boiling points, and be poor conductors of heat and electricity. In the modern world, this is problematic because whether an element has metallic character or not depends on its conditions. For example, hydrogen can act as a metal rather than a nonmetal. Common families include the alkali metals, alkaline earths, transition metals (where the lanthanides or rare earts and actinides may be considered a subset or as their own groups), basic metals, halogens, noble gases, and other nonmetals. Examples of other families you may encounter might be the post-transition metals (groups 13 to 16 on the periodic table), the platinum group, and the precious metals. Element homologous elements of the same element family. Because homologous elements share similar electrochemical properties, they can be used to predict the behavior of new elements. This becomes increasing helpful for the superheavy elements, of which only a few atoms have been prepared. However, predictions are not always accurate. The reason is because valence electron effects aren't quite as significant when an atom has extremely high numbers of both protons and electrons. Lighter homologs more often share common properties. An element family is a column of elements on the periodic table. Each member of a family has the same number of valence electrons. Family members share similar chemical and physical properties. An element family is also called an element group. Because of the potential for confusion, the IUPAC prefers element groups be labelled by number rather than name. There are 18 element families or groups. Fluck, E. (1988). "New Notations in the Periodic Table" (PDF). Pure Appl. Chem. IUPAC. 60 (3): 431-436. doi:10.1351/pac198860030431 Leigh, G. J. Nomenclature of Inorganic Chemistry: Recommendations 1990. Blackwell Science, 1990. ISBN 0-632-02494-1.

