Family Mapping: A Cumulative Measure of Family Structure and Instability

Background. In the past several decades, children's experiences in diverse family types have become increasingly common. The instability of the family environment and changing family structure are strong focal points for research on adolescent development. Findings from decades of comparative studies consistently show that children growing up in stepfamilies or single-parent families have, on average, worse outcomes (e.g., Cherlin, 2008; Sweeney, 2010). The research on family structure and youth outcomes, however, is limited due to definitions of family structure and measurement methods that are too broad and do not consider types of sibling relationships and inclusion in multiple households (Strow & Strow, 2008). Early evidence shows that when a more nuanced approach is taken, differences between children previously grouped in one broad family type are uncovered (e.g., Harcourt, Adler-Baeder, Erath & Pettit, 2012).

Typically, static measures of family structure at a given time point are used rather than measures that capture cumulative experience and instability (for an exception, see Wu & Martinson, 1993), which may limit our understanding of family structure experiences' influence on adolescent outcomes (Manning & Bulanda, 2007). In line with the instability hypothesis (Wu & Martinson, 1993) and a cumulative risk perspective (Rutter, 1979), a growing body of literature suggests that children who experience multiple transitions in family structure may fare worse developmentally than children raised in stable households (Fomby & Cherlin, 2007) and that the cumulative impact of family transitions and instability may be a more important indicator of adolescent well-being than current family structure (Cavanagh, Schiller, & Riegle-Crumb, 2006).

Although the need for measures that capture family structure trajectory is recognized (Brown, 2006; Manning & Bulanda, 2007; Wu & Martinson, 1993), researchers are concerned that more thorough measurement attempts at family structure may be time consuming and tedious (Brandon, 2007) or may produce data that are "too rich" (Wu & Martinson, 1993). A few studies (e.g., Brabant

et al., 1994; Fravel et al., 2000; Garwick et al., 1994; Hofferth et al., 1999; Mu & Tomlinson, 1997; Sherman & Boss, 2007; Tomlinson et al., 1999; Wu & Martinson, 1993) have utilized innovative methods for capturing family instability over time and provided rationale for the value of continuing to explore these variations in experiences. Most recently, Manning and Bulanda (2007) compared implications for children of measuring parental cohabitation at a single time point versus measuring parental cohabitation throughout childhood. The static measure missed 1/2 the experiences of living in cohabitating families, compared with the cumulative experience measure. The results also indicated that the static measure failed to account for 2/5 of experiences in single-parent families, 1/3 in nuclear families, and 1/5 in married stepparent families. Thus, the experiences of youth living in different family types are underrepresented using static measures.

In these previous studies, measurement development was not the focus; thus, an important next step is the development and offering to the field of a formal structure and coding protocol that balances efficiency for the respondent and the researcher - and data richness, thus promoting usefulness and replication (Carroll et al., 2007). The central purpose of the current study is the creation and validation of such a measure. Our guiding questions included: (1) Can a reliable measure be created that captures cumulative family structure experience? (2) Can this measure be implemented and coded efficiently? (3) What is the feasibility of offering the measure for broader use in research? The measure includes an emphasis on parent partner transitions, as well as sibling presence, type and residence of siblings. Capturing these sibling data is a particularly important contribution, since standard family structure measures typically focus solely on parent relationship status, and a handful of recent studies demonstrate the unique contribution to adolescent outcomes of sibling presence and type (e.g., Gennetian, 2005; Ginther & Pollak, 2004; Halpern-Meekin & Tach, 2008; Strow & Strow, 2008). In addition, the current study is guided by the additional research question: What is the value of a complex, cumulative measure vs. other methods of

capturing family structure? We expect to demonstrate that relying on static measures alone is not sufficient to fully understand the influence of family structure on child and adolescent well-being. That is, when adolescents are categorized more accurately based on cumulative family structure experiences, important differences among youth can be uncovered that would be undiscovered when static time-point family structure measures are utilized.

Methods. A sample of young adults were recruited for the current study. The sample consists of 550 young adults. In addition to completing a survey that includes identification of current family structure, participants were instructed to draw or "map" their living arrangements history through a series of transitions, starting with birth and ending with their current age. Respondents self-determined transition points based on a significant family event (e.g., marriage, marital disruption, birth of a sibling) and visually depict households, label members, and describe the transition. The participants include the ages they were and duration of time in each family structure. Additionally, participants were instructed to include non-residential family members and the percentage of time they or their relatives lived in each residence. This allows for the examination of family structure across multiple households and includes all potential household members regardless of biological relatedness or residence, information typically not captured with any single measure. All completed the measure within 25 minutes, with the majority of respondents finishing well before that time. Maps were coded by the researchers and acceptable inter-rater reliability was established on 25% of all surveys. Because the use of mapping differs from standard survey methods, a procedure for respondent checking was also utilized. The researcher contacted respondents for verification of any information provided that was in any way unclear. In 99% of the cases, the code assigned was accurate. The initial coding system identified 304 distinct variables.

Expected Results. Data collected from the measure are very rich, allowing the researcher to examine multiple dimensions of family structure experience. Our goal is to offer a user-friendly

implementation procedure and coding system that will efficiently capture a broad range of information. The coding system offered will include multiple levels of depth and detail and categories of information from which a researcher can chose, according to their needs for their specific study questions. These include family structure type, proximal family membership, and distal family membership (i.e., nonresidential household) at specified developmental time-points, as well as time distribution in households. Length of time in each family structure type and time since most recent transition is documented. Additionally, sibling living situations and bio-relatedness is coded at each specified time point. Summation variables are also calculated, such as, total number of: transitions, marital transitions, cohabiting transitions, adult entrances/exits, child/sibling normative entrances/exits, and child/sibling non-normative entrances/exits. Planned results include examinations of several youth outcomes using a comparative methodology similar to the Manning and Bulanda (2007) study in which use of standard methods for capturing current static family structure vs. use of the information provided by the family mapping method will be examined to identify misclassifications of youth in family groups and to uncover within family group differences in outcomes not identifiable with standard static measures of family structure. We expect that this measure will offer promising new directions in the study of family demography as it provides levels of data that allow researchers to answer questions not previously addressed. Currently, our knowledge of how family structure and instability influence child well-being is limited due to incomplete "pictures" of living arrangements over time. Family Mapping allows for examination of more nuanced variables and groups of experiences, thus providing newly discovered potential predictors of outcomes that will inform the study of youth and families.