
Author: Jennifer A Schmidt, Northern Illinois University - Department of Leadership, Educational Psychology & Foundations

Date: March 2009

Basic Concepts and Definitions

One of the most basic concerns of many researchers in the area of work and family is the question of how individuals and family units balance the demands of their work and family obligations in everyday life. This basic concern can be addressed in research in a variety of ways. The first deals with the question of time use: How much time do mothers, fathers, or couples spend working? How much time do they spend with their children? How much time do working parents spend doing housework, helping their kids with homework, or talking with their spouse? A second set of questions deals more directly with quantifying the juggling that inevitably occurs with work and family commitments: How often are parents multitasking, simultaneously tending to multiple obligations from home and/or work? When the demands of work or home temporarily increase, which activities are most likely to get squeezed out of the schedule? The answers to most of the above questions are usually estimated in terms of hours and minutes. Beyond these questions of time use lie a host of other questions about the quality of this time. In addition to the quantity of time family members spend engaged in various tasks, how can we measure the quality of time spent in these activities? Do parents and children enjoy the time they spend together? Is the quality of parent-child interaction or spousal interaction substantially different in single-earner vs. dual-earner households? Finally, there are questions to be answered about how family members move in and through time: How can we effectively study the daily transitions that parents must make as they transition from work to family life and the emotional and affective changes that accompany these transitions for both parents and children?

The experience sampling method, or ESM (Csikszentmihalyi & Larson, 1987) is an extraordinarily effective, though underutilized, tool for addressing questions like those listed above regarding the intersection of work and family life. The measurement of time and experience afforded by ESM has been called a systematic phenomenology in that it combines a focus on lived experience with the use of tools of empirical investigation. The method can be used to measure multiple facets of time, including the quantity of time family members spend engaged in various activities, the degree to which one's activities or attention are divided at a given point in time, the subjective evaluations of the quality of one's
experience at any given time, and the fluctuations that occur in these subjective evaluations as family members move in and through time. The focus of this entry, then, is on how ESM has been or could be used as a measurement tool to address the issues outlined above. As appropriate, ESM will be compared to other methods in terms of its effectiveness for measuring certain aspects of work and family time. The purpose of the entry is to focus on the strengths, drawbacks, and possibilities of ESM in particular rather than offering a comprehensive description of the many ways time use in work and family contexts can be measured.

The Procedure
ESM is a signal-contingent method of data collection in which participants provide multiple reports of their activities, thoughts, companions, and emotions over a period of time. Typically, participants are asked to carry or wear a signaling device like an alarm wristwatch, a pager, or a personal digital (or data) assistant (PDA) for a period of 1 week. The signaling device is programmed to vibrate or beep at randomly selected moments within each 2-hour time block that participants are awake, for a total of eight signals each day. In response to each signal, participants respond to a short (typically 1-page) questionnaire that can be found in a small diary they carry with them. If a PDA is used as the signaling device, the questionnaire is administered electronically through the PDA. There is considerable variation across studies with regard to each of these procedural parameters. This variation occurs as a result of differences in the research questions being addressed, the population being studied, and the degree of burden placed upon participants by the questionnaire itself given the nature of the items being asked and the types of situations in which respondents will be expected to answer them. For example, researchers have signaled participants as rarely as twice a day and as often as 12 times per day. The signaling period can last as few as 2 or 3 days (e.g., Hurlburt, 1979) and as long as several weeks or even months (Feldman Barrett, 1998; LeFevre, Hendrickx, Church, & McClintock, 1992). In most ESM studies aimed at understanding family life, participants are signaled across all waking hours in the day; however, more targeted signaling schedules (e.g., focusing only on work hours, home hours, or transitional times) are also possible. For a complete review of the many procedural variations of ESM, see Hektner, Schmidt, and Csikszentmihalyi (2007).

While a number of general features of the ESM questionnaire are uniform across studies (e.g., most include reports of one's location, thoughts, activities, and emotions), the number and content of items on the questionnaire itself varies considerably from study to study depending on the research question being addressed. The ESM format has been left unstructured to encourage researchers to use it for their own purposes (Kubey, Larson, & Csikszentmihalyi, 1996). Typically, the ESM questionnaire will include open-ended items asking participants to record their location, activities (primary and secondary), and their thoughts at the time of the signal. Following these items is a series of scaled questions asking participants to rate the cognitive, affective, and motivational dimensions of their experience at that same moment. For example, participants are asked to rate how much they were concentrating, how stressed
they felt, or how much they were enjoying themselves. Examples of experience sampling questionnaires used in a recent study of families can be found in Schneider and Waite (2005) and Hektner et al. (2007).

The ESM data collection procedure requires a certain degree of literacy proficiency on the part of participants, and, thus, is not generally appropriate for use with very young children or with participants who have low literacy skills. It is important, then, for the reader to keep in mind that the method may be less effective at providing information about the intersection of work and family for certain populations. ESM has been shown to be manageable among children as young as 10 or 11 years old who are reading at or near grade level (see Hektner et al., 2007, for a review).

Generally speaking, studies involving ESM present a heavier burden on both participants and researchers in comparison to more traditional survey research. Participants must agree to carry the signaling device (and, if necessary, a diary book and a pen or pencil) with them for several days. While the actual time participants spend responding to each questionnaire is minimal (typically amounting to 1-2 minutes per signal, for a total of about 10-12 minutes per day), the fact that this must be done for several days presents some degree of burden for participants and may discourage certain individuals from participating. As a result, the vast majority of ESM studies have involved purposive rather than random samples of participants. In ESM studies, volunteer rates are extremely variable. Rates have been reported as low as 12% for unskilled, blue-collar workers and as high as 90% for middle school students (Csikszentmihalyi & Larson, 1987). In an ESM study by Schneider and Waite (2005) in which parents and their children were invited to participate, lower volunteer rates were observed for fathers than for mothers and their adolescent children. Signal response rates for those who do agree to participate in ESM studies are far less variable: Studies whose design requires very few signals per day report signal response rates above 90%, while the more typical studies involving 7-9 signals per day report signal response rates in the 70-80% range. In the Schneider and Waite study mentioned above, signal response rates were highest for mothers and lowest for adolescent children, with father’s response rates falling in the middle. See Hektner et al. (2007) for a review of response rates across multiple ESM studies; see Jeong (2005) for a thorough analysis of potential weighting that might need to be done to account for missing responses.

Because of the volume of data generated by a single participant in an ESM study, the use of this instrument can be burdensome to researchers as well. When PDAs are used as the signaling and recording device, dealing with the data is simple: The electronic data stored in each PDA can be uploaded in a matter of seconds to a computer. Data collected via paper-and-pencil versions of the ESM forms require considerable investment of time and resources to enter. Moreover, when the ESM form includes open-ended items in which participants describe their thoughts and activities, considerable time and resources are necessary to train researchers to reliably code these data. Researchers who use this
method agree that the analytical possibilities are worth the considerable effort involved, but those considering ESM as a method for their research should be aware of the investment required.

Psychometric Properties
The validity and reliability of ESM have been assessed in a number of ways. Because of the limited number of ESM studies involving entire families, much of the evidence about the psychometric properties of the method comes from studies of individuals rather than families. While there is no reason to suspect that data collected from parents and children in the same family would be any more or less reliable than data collected from individuals, much of what we know at this time about the strengths and weaknesses of ESM comes from studies conducted with individual adults or adolescents.

The nature of ESM is such that some traditional means of assessing reliability cannot reasonably be applied. For example, because the primary purpose of ESM is to capture variation in activity and emotion from one moment to the next, indicators of stability such as test-retest reliability are relatively meaningless. Some researchers have aggregated data on these internal states from the first half of the signaling week and compared it with aggregated data from the second half of the week, finding strong correlations between these aggregate measures in both central tendency and degree of variation (ranging from .55-.91, depending on the population; see Csikszentmihalyi & Larson, 1987; Kraan, Meertens, Hilwig, Volovics, Dijkman-Caes, & Portegijs, 1992; Larson, Moneta, Richards, & Wilson, 2002). Many ESM studies involve composite measures in which multiple ESM items are used simultaneously to measure a single latent construct (e.g., intrinsic motivation, positive affect, anxiety). The internal consistency of composite measures, as indicated by Cronbach’s alpha coefficient, are consistently within acceptable range (.70-.90; see Csikszentmihalyi, Rathunde, & Whalen, 1993; and Larson et al., 2002; see Hektner et al., 2007, for a review).

Researchers have also assessed the internal and external validity of ESM. Internal validity refers to the degree to which confounding variables can be accounted for so that one’s conclusions are warranted by the data. Zuzanek (1999) provides evidence that the internal validity of ESM might be higher than in one-time questionnaires because the immediacy of the questions eliminates possible intervening variables related to recall failure and social desirability. Intentional over- or underreporting of particular activities is less likely than it might be in traditional survey formats due to the sheer number of responses required for ESM. Moreover, because ESM questions are answered immediately, the method is more likely to capture seemingly unimportant activities like daydreaming, which are typically under-reported in time-diary studies or one-time surveys (Csikszentmihalyi & Larson, 1987).

External validity refers to the degree of generalizability of study results. On one level, ESM has a high degree of external or ecological validity in that it focuses on ordinary daily experiences rather than contrived situations. However, because of the intensive nature of data collection using ESM, it is difficult
to obtain a true random sample of participants. While the method is designed to collect true random samples of experiences, the individuals who are willing and able to participate in this relatively intensive data collection procedure do not typically represent a random sample of individuals. Because much ESM research employs purposive rather than random participant samples, one should be cautious about generalizing results to larger populations. For a more thorough treatment of the psychometric properties of ESM, see Hektner et al. (2007).

Importance of Topic to Work and Family Studies
ESM is an effective tool for gathering data about multiple aspects of experience relevant to the study of work and family. The analytical possibilities of data collected via ESM are numerous. The data set that results from this procedure is extraordinarily rich and flexible and includes numerous observations for each participant, with each “case” representing a particular moment in time for a given individual. These data can be used to measure both time use and subjective experience in the various activities captured by the method. When the ESM signaling schedule is designed to sample all waking hours of the participants (which is most often the case), the data can be used to estimate time use, providing estimates, for example, of the amount of time mothers and fathers spend working and, perhaps more interestingly, of how often mothers and fathers spend time taking care of family business while at work. The data can be aggregated in a number of ways to address research questions about situations (e.g., how does parents’ experience at work compare with the time they spend with their families?) or questions about persons (e.g., how does the experience of working mothers compare with that of working fathers when they are with their children?).

When ESM is administered to entire families, the data allow researchers to examine the perspectives of multiple family members at the same moment (e.g., how do the various members of a family feel during a family dinner?). To date, only a small number of ESM studies have been carried out with parents and children from the same families. Much of the ESM-generated knowledge about family and work time comes from studies that involved parents (one or both) or older children, but not both. Notable exceptions are two beautifully designed studies by Reed Larson and Maryse Richards (1994a) and Barbara Schneider and Linda Waite (2005). These two studies involved mothers, fathers, and adolescent children from the same families. The resulting data sets document multiple facets of work and family life that were previously unavailable to researchers and enable researchers to define and examine lines of tension, conflict, or alignment among family members (Hektner et al., 2007). ESM studies involving entire families can be considered a “gold standard” for shedding light on the lived daily experience of parents and children in working families. More such studies are sorely needed to continue to illuminate aspects of home and work life for a broader variety of family units.

State of the Body of Knowledge
Over the past 3 to 4 decades, ESM has been used to address a wide range of issues related to family
time commitments. Following is a review of some of the major facets of work and family time illuminated by these studies. What is presented here is simply a sample of findings intended to illustrate both the contributions and the potential of the method.

**The Juggling Act: Time Use at Home and at Work**

One of the most basic uses of ESM is for the estimation of time use. When the signaling schedule is such that all waking hours are part of the sampling period, and signal times are chosen randomly over a period of multiple days, participants’ reports of their activities and locations can be used to compute the proportion of all responses that occurred in particular contexts. Using a simple formula that includes the total waking hours per week, this proportion can be translated into a rough estimate of waking hours per week spent in various activities. For example, one could calculate the hours per week parents spend working or with their children. While there are other fairly reliable, less labor-intensive methods for estimating work hours, ESM allows for a much more nuanced analysis of time use, providing estimates of time spent on specific activities that are often overlooked by other methods designed for studying time use.

Before proceeding, it is important to say a word about the use of ESM for measuring time use. Jeong, Mulligan, and Schneider (2004) present a rare comparison of time estimates using time diary and ESM data collected from a small sample of individuals who completed both instruments during the same period. The time diary study involved participants providing 1-day retrospective accounts of their activities at the end of each day for a period of 1 week, accounting for their time usage since waking up in the morning. Their detailed analysis reveals strengths and weaknesses of each method. They find ESM response rates to be higher when participants were in work settings than when they were at home or in public. Their analyses suggest that time diaries may provide more accurate time estimates than ESM for general activities that are long in duration, such as total hours spent in the workplace. Time diaries are less reliable, however, in their estimates of more specific activities or activities that are short in duration (e.g., how much of the total time at work is actually spent working as opposed to socializing or taking care of non-work tasks at work). They find ESM to be the superior instrument for estimates of these more specific activities.

While on the surface, the estimation of time using ESM seems fairly straightforward, even the earliest ESM studies of multiple family members reveal that members of the same family can have vastly different lived realities of the same family. When they are together and signaled to respond to the ESM, parents, children, and spouses do not always agree on simple things like whom they are with or what they are doing at a given moment. These multiple “versions” of a single family were so compelling that Larson and Richards (1994a) chose the title *Divergent Realities* for the book describing their landmark study of families. One of the simplest examples of these divergent realities involves those moments when spouses were together in the same room of their home but involved in separate activities. Larson and Richards
observed that when participants were signaled under these circumstances, women were more likely to report that they were with their spouse, but men more often reported being alone. The researchers found that those moments of “mutual togetherness” where both partners report being with their spouse were categorized as emotionally more positive by both parties compared to moments of “unmutual togetherness” where the husband’s and wife’s report of their companionship diverged. It is important, then, to keep in mind that the strength of ESM lies in its ability to capture phenomenology—the lived experience of individuals within families. Members of the same family can live in very different “realities”: Capturing these multiple perspectives is critical to developing an understanding of families and family dynamics.

A number of ESM studies have revealed gender-related differences in the time allocation patterns of working parents. In the study mentioned above, Larson and Richards (1994a) report that the men in their study spent approximately 46 hours per week on the job, including transportation to and from work. Women’s work patterns were much more variable than men’s, with only about a third of women working comparable hours. In a more recent study involving a sample of full-time working parents, Sexton (2005) reported that men worked an average of 49 hours per week, while women worked an average of 44 hours per week. These estimates may be compared to estimates gathered with time diaries, another widely used method for estimating time use. National time-diary studies estimate that men work about 47 hours per week while women work about 42 hours per week (Robinson & Bostrom, 1994; Robinson & Godbey, 1997). Multiple ESM studies have revealed that one-quarter to one-third of mothers’ and fathers’ time at work is spent not working, but socializing, eating, and engaging in other personal activities (Hoogstra, 2005; Kubey & Csikszentmihalyi, 1990; Larson & Richards, 1994a). This type of information about what parents are doing (or not doing) at work represents a unique contribution of ESM.

At home, a different sort of work occupies most of the time of working parents. ESM studies, like studies using other methods, show that the time mothers and fathers spend on housework and child care is not at all balanced, indicating that women spend more time engaged in such activities (Kubey & Csikszentmihalyi, 1990; Larson & Richards, 1994a; Lee, 2005; Zuzanek & Mannell, 1993). The most recent ESM estimate of the difference in time spent on housework by dual-career mothers and fathers is 9.4 hours per week (Lee, 2005). ESM studies suggest that mothers are multitasking more often than fathers, which accounts for some of the gender gap in household chores. Women are far more likely than men to be doing laundry, cooking dinner, or cleaning the house while in the midst of other activities like working from home, catching up with friends on the phone, or talking with their husbands. Because ESM typically asks respondents to report on their primary and secondary activities (if applicable), it enables researchers to begin to quantify some of the juggling done by parents in working families.

Williams, Suls, Alliger, Learner, and Wan (1991) conducted an ESM study that very directly estimates how much time working mothers spend juggling two tasks at once from their different roles. They asked
mothers who were employed full-time to report on each signal whether they were juggling two or more tasks at once. Mothers reported “interrole juggling,” combining tasks for family with tasks for work or for other roles, 17% of the time. Compared to the other moments on which they reported, these “juggling” moments were characterized by less enjoyment, more negative affect, less effort, and less satisfaction with their ability. This finding suggests that mothers who try to do it all may end up feeling as if they are doing nothing really well. This result does not necessarily suggest that mothers should not work full-time, but rather highlights the unrealistic expectations and demands placed on working mothers in our culture.

Some researchers have used ESM to study the impact of parental employment on children’s time allocation. Because of the literacy and attentional demands of ESM, there are no ESM data from younger children to address this issue. Results from studies involving older children have been mixed and may be the result of different sample populations and reporting mechanisms. Richards and Duckett (1994) conducted a study in which the early adolescent children of mothers who worked full-time, part-time, or not at all completed ESM. The authors found that adolescent children of employed mothers spent no less time with their parents than children whose mothers did not work. As they get older, children become more independent, spending less and less time with their parents (Larson, Richards, Moneta, Holmbach & Duckett, 1996). This study suggests that due to these shifts in adolescents’ companionship, mothers who work full-time do not “miss out” on time that would otherwise be spent with their teenage children. Instead, families with working mothers appear to squeeze in more shared time in the evenings to compensate for lack of time in the afternoon. Fathers in these families spend more time with their children compared with men whose wives do not work, but even in these situations, fathers tend to spend less time with children than mothers do. While the total time spent with children did not vary with maternal employment in this study, the activities shared by parents and children did. Adolescents whose mothers work full-time spent more time with parents doing homework and less time in leisure activities compared with teenagers who have stay-at-home mothers. The researchers also found that in families where the mother works, sons, but not daughters, spend more time watching television and less time playing sports than boys with stay-at-home moms.

In a study involving older adolescents, Schmidt (2005) found that mothers who worked full-time spent about 7 hours per week less with their children compared to mothers who do not work outside the home. These contradictory findings may be due to sampling differences between the two studies. The adolescents in Schmidt’s study were older and came from middle- and upper middle-class families, while the adolescents in Richards and Duckett’s study were younger and were primarily working and middle class. Further, Richards and Duckett used adolescents’ ESM reports of companionship, while Schmidt used parent reports. Because there have been no ESM studies with large samples of stay-at-home fathers, there are no comparable data available for the impact of father’s employment on children. Multiple ESM studies do show, however, that children generally spend less time with their fathers than with their mothers (Larson & Richards, 1994a; Schneider & Waite, 2005). The two studies
described above present conflicting information about whether time with adolescent children is appreciably decreased when both parents work full-time. It is unclear, then, whether and how much time with teenage children gets “squeezed out” when both parents work full-time. ESM studies have provided more clear-cut evidence about what activities do seem to fall by the wayside when parents work full-time. Specifically, in households where both parents work, employed mothers spend considerably less time preparing, serving, and cleaning up after family meals (see Hektner et al., 2007). Future ESM studies involving parents and children can further inform us as to what specific activities get “squeezed out” when either work demands or family demands are increased.

Measuring the Quality of Time: Subjective Experience
ESM can provide a uniquely nuanced picture of the subjective experience of mothers, fathers, and children in working families. Studies spanning 3 decades and involving couples at different stages in their marriages seem to converge on the finding that while couples spend less and less time together as their families grow, they still enjoy each other's company. Both husbands and wives had slightly better moods when together than when apart, regardless of how long they had been married or how much time they spent together (Kirchler, 1988; Koh, 2005; Larson, Richards, & Perry-Jenkins, 1994). In the most recent of these studies, Koh (2005) finds that wives’ positive mood when with their husbands was attributed to their emotional uplift whenever they had any companionship. The reason for husbands, on the other hand, centers on the relaxation and release from stress they felt at home compared with work.

A number of ESM studies suggest broad divisions in the way that mothers and fathers respond emotionally to the major contexts of life (Kirchler, 1988; Koh, 2005; Larson et al., 1994). For example, two studies conducted more than a decade apart both concluded that patterns of affect in the public and family spheres were near mirror images for mothers versus fathers. Mothers reported far greater levels of positive affect in situations outside of the home (e.g., at work, in public) compared to those in the family sphere. The pattern for fathers was the reverse, with fathers reporting higher levels of positive affect when with the family than when away from home. Fathers reported more negative moods than mothers while at their jobs, including more anger, boredom, nervousness, and loneliness (Koh 2005; Larson et al., 1994). These different patterns in the sources of emotional distress might reflect gender differences in the perceived demands and obligations placed on men and women. To explain why women enjoy being in public outside of their jobs more than men, Koh (2005) suggested that women and men may do different things while in public. She found that women spend more time in public than men and are more likely to socialize with friends during that time.

A small longitudinal study of Italian couples suggests that men and women may also diverge from one another in their emotional responses following the arrival of their first child. As part of a longer study, Delle Fave and Massimini (2000, 2004) administered ESM to new parents on four separate occasions during the first 6 months after childbirth. In general, they found that fathers experienced higher moods
and greater intrinsic rewards during child care than mothers, while mothers rated their skills and confidence somewhat lower than did fathers. In this sample in particular, fathers may have had more of a choice as to when they engaged in childcare. Earlier ESM studies present evidence that fathers often view child care as discretionary and tend to do child care only when they are in a good mood already (Larson & Richards, 1994a; Larson et al., 1994; Lee, 2005). The lower confidence levels of mothers in this study may reflect both a tendency for fathers to defer to mothers in the more difficult child-care situations and cultural expectations that mothers should naturally know how to care for their children.

ESM provides researchers with valuable information about how adolescents experience their time with family as well. While the amount of time adolescents spend with their parents decreases steadily and dramatically from 5th grade to 12th grade, adolescents' reports of their activities and emotions suggest that decreased time with family members does not necessarily indicate emotional distance. As they grow older, girls actually spend increasing amounts of time talking to their mothers about interpersonal issues. While they do not follow exactly the same trajectory, boys and girls experience a general decline in positive affect when with family members from about 5th grade through 9th or 10th grade, at which time positive affect begins to rebound, returning to more positive levels by 12th grade. Interestingly, the parents who have to live with these teenagers do not appear to have corresponding dramatic decreases in positive affect when they are with their moody adolescent children.

Capturing the Dynamics of Family Interaction: Fluctuations as Family Members Move in and through Time

In addition to answering basic questions about what families do together and how they feel when doing it, ESM can be used to advance our knowledge about more complex aspects of family dynamics by charting how family members feel as they move through their days and how emotions in one context can spill over to another context and get transmitted to family members. Larson and Richards (1994a) signaled family members simultaneously and analyzed sequences of experience to chart daily trajectories of experience for working mothers and fathers. In a sample of mothers and fathers working full-time, the emotional variations over the course of each workday were very revealing. Mothers and fathers begin and end the day similarly, with near-neutral emotions. The researchers identified stark gender-related patterns during the hours between these two points of similarity. Specifically, employed mothers report being happy all morning at work, with the high point being the lunch hour, then descend to their lowest point in the day around dinnertime—a phenomenon Larson and Richards refer to as “the 6 o’clock crash.” Working fathers, on the other hand, experience their entire workday as emotionally neutral or negative and then during the dinner hour experience a sharp increase in happiness. For men, this appears to be the time of day when they can relax after a hard day’s work, while women come home and begin the “second shift” (Hochschild, 1989), preparing dinner and tending to children.

In a more recent ESM study of working families, Sexton (2005) generally did not find gender fluctuations in experience similar to Larson and Richards. She found that both mothers and fathers experienced a
decrease in positive affect when they moved from home to work: Mothers were generally happier at home than at work and did not appear to be substantially different from fathers in these patterns. Sexton did find, however, that both mothers and fathers reported feeling more engaged at work than at home and had higher levels of self-esteem at work. It is unclear whether the different findings in these two studies reflect cohort differences (the studies were conducted a decade apart from one another) or differences in the types of families examined in each study (the data used by Sexton was drawn from a sample that was larger and more affluent, than the sample studied by Larson and Richards).

A number of researchers have used ESM data gathered from entire families to determine the nature, directionality, and strength of family members’ influence on each other’s emotions (Almeida, Wethington, & Chandler, 1999; Larson & Gillman, 1999; Larson & Richards, 1994a, 1994b; Matjasko & Feldman, 2005). To assess emotional transmission, one family member’s emotional state at a given time (say, just before leaving work) is used to predict the emotional state of other family members a few hours later when family members are together. A number of ESM studies examining such issues of emotional transmission were compiled in a special edition of *Journal of Marriage and the Family* (February 1999). While the results of these studies are not always consistent with one another, one finding that is consistent is that the paths of transmission within families (e.g., from mother to daughter, husband to wife) are not always reciprocal or equal in strength. Matjasko and Feldman (2005) found that mothers’ happiness and anger, but not their anxiety, was transmitted to their adolescent children when mothers came home from work. They did not identify any emotional transmission pathways from fathers to their children. Larson and Richards (1994a, 1994b), on the other hand, found that it was primarily fathers, not mothers, who transmit their emotions to their children. Daughters exerted reciprocal transmission to their fathers, influencing fathers’ emotions with their prior emotional state. Sons did not influence fathers’ emotions, while both sons and daughters exerted appreciable influence on their mothers’ subsequent emotions. While the lines of emotional transmission between parents and children may not be so clear-cut, there seem to be clear transmission effects between spouses, running from husband to wife (Larson & Richards, 1994a). While wives do not generally influence their husbands’ emotional state, wives are fairly consistently influenced by their husbands’ moods, particularly in situations where husbands are just returning from work.

**Implications for Research and Practice**

Over the past 3 decades, the experience sampling method has contributed substantially to our understanding of family life by informing us about what families do at home, at work, and at school; what they do when they are together and apart. The method has helped us estimate how various family members spend their time, how this time allocation differs by the gender of the parent or child, and changes in time allocation as children in families grow older. While ESM research to date has begun to paint the backdrop, we have really only begun to scratch the surface of the potential of ESM to inform scholars of work and family. ESM is particularly effective at providing information about activities that
occur rarely or may seem unimportant and thus are often underreported in time diaries or one-time surveys. One area of great potential for future ESM research is in documenting the divided attention of working mothers and fathers and examining the impact of this cognitive tension on a variety of personal, family, and work outcomes. Several studies reviewed here have documented parental multitasking and role juggling, but ESM has the ability to help us understand parents’ thoughts as well as their actions. In the typical ESM study, in addition to reporting their primary and secondary activities, participants also report what was on their mind as they were signaled. It would be highly informative to do systematic analyses of respondents’ simultaneous thoughts and activities from the perspective of time allocation. How often are working parents thinking about their children or family duties while doing work tasks? How often are they making work plans in their heads while cooking dinner, playing with the children, or relaxing in the living room? How often is the attention of working parents singularly focused on the task at hand rather than divided between the multiple roles they must play? A more detailed analysis of the attentional divides faced by working parents would more fully illuminate the pressures working parents face and perhaps suggest key “points of relief” where singularly focused attention on the part of a parent would have maximum benefit in terms of overall well-being.

Perhaps more important than documenting how family members spend time, ESM enables researchers to assess the quality of that time by gathering in-the-moment reports of subjective experience while daily activities are happening. These reports often diverge from results obtained using other measures, which can suffer from problems associated with poor recall or memory reconstruction. ESM data collected from family members can shed light on the emotional states of parents and children as they engage in their daily activities and as they move from one life sphere to another. These data can be particularly useful in helping us better understand key daily transition points for mothers, fathers, and children. Finally, ESM provides researchers with a method of quantifying and tracking “emotional contagion” in families, documenting how emotions are transmitted from one family member to another. Being able to systematically measure some of the ways that family members influence one another emotionally is critical to our understanding of family dynamics. Because so few ESM studies have been conducted with entire families, the body of research on emotional transmission in families is still in its infancy. Future research should include studies involving a broad range of families.

One clear implication from ESM research conducted with families is that considering the perspectives of multiple family members is critically important. ESM data have revealed that in a certain sense, each family member lives in a different reality and has different emotional experiences that correspond to these perceptual differences. Future studies should more thoroughly document these differences in lived experience for multiple members of the same family. These different realities may have an impact on family members’ overall well-being and on patterns of interaction among family members.
While the implications discussed thus far have centered on suggestions for future research, ESM also has a great deal of potential as a clinical tool to be used with families in counseling or therapy sessions. ESM has been used in an increasing number of studies aimed at describing, preventing, and treating pain and psychopathology. ESM has been used to shed light on drug abuse, eating disorders, schizophrenia, depression, arthritis, and panic attacks. The value of ESM to the clinician lies in its ability to illuminate the circumstances in which clients’ symptoms wax and wane. The method can be used to identify patterns related to time of day, social context, or activities. These patterns can reveal things about the function of the disorder in the client’s life and can suggest potential strategies to alleviate the problem. In clinical settings, ESM can function as an assessment tool and as an integral component to therapy. The method can be used as a means for documenting changes that take place in the lives of clients as a result of treatment. For a review of the many ways ESM has been used in clinical settings, see Hektner et al. (2007).

To date, there have been no published studies documenting the use of ESM in family counseling or therapy. It is fairly easy to see, however, how the method might be of some use in this domain. ESM could be used to assess family patterns of interaction. Clinicians could use the data provided by ESM as a window into how various family members are feeling when engaging in family activities. Patterns of emotion and emotional transmission could be identified and brought to the attention of family members seeking treatment. The information gathered by ESM could potentially help parents, children, and spouses understand one another better. After the conclusion of the ESM study of families conducted by Schneider and Waite (2005), several of the participant parents requested copies of their ESM data. Among this small group of parents, several commented on how seeing their own daily fluctuations in mood helped facilitate a reflection on their work life and their patterns of family interaction that they hoped would lead to improved family relationships. While this evidence is purely anecdotal, the point is that the type of information provided by the ESM could be used in a systematic way with families who seek professional help in improving family relationships.

References


experience of psychopathology: Investigating mental disorders in their natural settings (pp. 324-338).
New York: Cambridge University Press.


together, working apart: Dual-career families and the work-life balance (pp. 138-158). New York: Cambridge University Press.


**Locations in the Matrix of Information Domains of the Work-Family Area of Studies**

The Editorial Board of the Teaching Resources section of the Sloan Work and Family Research Network has prepared a Matrix as a way to locate important work-family topics in the broad area of work-family studies. ([More about the Matrix ...](#)).

Concepts related to adult development are relevant to all of the "Individual" domains in the Matrix of Information Domains of the Work-Family Area of Study. In addition, theories of adult development are relevant to Domain F: Theoretical Underpinnings.

Note: The domain areas most closely related to the entry's topic are presented in full color. Other domains, represented in gray, are provided for context.

<table>
<thead>
<tr>
<th>Domain A: Antecedent Descriptives</th>
<th>Domain B: Work-Family Issues and Experiences</th>
<th>Domain C: Covariates</th>
<th>Domain D: Responses to W-F Issues and Experiences</th>
<th>Domain E: Outcomes and Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Antecedents</td>
<td>Individual Experiences</td>
<td>Individual Covariates</td>
<td>Individual Decisions &amp; Responses</td>
<td>Individual Outcomes &amp; Impacts</td>
</tr>
<tr>
<td>Family Antecedents</td>
<td>Family Experiences</td>
<td>Family Covariates</td>
<td>Family Decisions &amp; Responses</td>
<td>Family Outcomes &amp; Impacts</td>
</tr>
<tr>
<td>Workplace Antecedents</td>
<td>Workplace Experiences</td>
<td>Workplace Covariates</td>
<td>Workplace Decisions &amp; Responses</td>
<td>Workplace Outcomes &amp; Impacts</td>
</tr>
<tr>
<td>Community Antecedents</td>
<td>Community Experiences</td>
<td>Community Covariates</td>
<td>Community Decisions &amp; Responses</td>
<td>Community Outcomes &amp; Impacts</td>
</tr>
<tr>
<td>Societal Antecedents</td>
<td>Societal Experiences</td>
<td>Societal Covariates</td>
<td>Societal Decisions &amp; Responses</td>
<td>Societal Outcomes &amp; Impacts</td>
</tr>
</tbody>
</table>

**Domain F: Theoretical Underpinnings to All Domains**
About the Matrix

Sloan Work and Family Research Network
Resources for Teaching: Mapping the Work-Family Area of Studies

Introduction

It was appropriate that the members of the Founding Editorial Board of the Resources for Teaching began their work in 2000, for their project represented one of the turning points in the area of work and family studies. This group accepted the challenge of developing resources that could support the efforts of teaching faculty from different disciplines and professional schools to better integrate the work-family body of knowledge into their curricula. The Virtual Think Tank began its work with a vision, a spirit of determination, and sense of civic responsibility to the community of work-family scholars.

A fundamental challenge emerged early in the process. It became clear that before we could design resources that would support the teaching of those topics, we would first need to inventory topics and issues relevant to the work-family area of studies (and begin to distinguish the work-family aspect of these topics from "non work-family" aspects).

The members of the Virtual Think Tank were well aware that surveying the area of work and family studies would be a daunting undertaking. However, we really had no other choice. And so, we began to grapple with the mapping process.

Purpose

1. To develop a preliminary map of the body of knowledge relevant to the work-family area of study that reflects current, "across-the-disciplines" understanding of work-family phenomena.

2. To create a flexible framework (or map) that clarifies the conceptual relationships among the different information domains that comprise the work-family knowledge base.

It is important to understand that this mapping exercise was undertaken as a way to identify and organize the wide range of work-family topics. This project was not intended as a meta-analysis for determining the empirical relationships between specific variables. Therefore, our map of the workfamily area of study does not include any symbols that might suggest the relationships between specific factors or clusters of factors.
Process

The Virtual Think Tank used a 3-step process to create the map of the work-family area of studies.

1. **Key Informants:** The members of the Virtual Think Tank included academics from several different disciplines and professions who have taught and written about work-family studies for years. During the first stage of the mapping process, the Virtual Think Tank functioned as a panel of key informants.

   Initially, the Panel engaged in a few brainstorming sessions to identify work-family topics that could be addressed in academic courses. The inductive brainstorming sessions initially resulted in the identification of nearly 50 topics.

   Once the preliminary list of topics had been generated, members of the Virtual Think Tank pursued a deductive approach to the identification of work-family issues. Over the course of several conversations, the Virtual Think Tank created a conceptual map that focused on information domains (see Table 1 below).

   The last stage of the mapping process undertaken by the Virtual Think Tank consisted of comparing and adjusting the results of the inductive and deductive processes. The preliminary, reconciled list was used as the first index for the Online Work and Family Encyclopedia.

2. **Literature review:** Members of the project team conducted literature searches to identify writings in which authors attempted to map the work-family area of study or specific domains of this area. The highlights of the literature review will be posted on February 1, 2002 when the First Edition of the Work-Family Encyclopedia will be published.

3. **Peer review:** On October 1, 2001, the Preliminary Mapping of the work-family area of study was posted on the website of the Sloan Work and Family Research Network. The members of the Virtual Think Tank invite work-family leaders to submit suggestions and comments about the Mapping and the List of Work-Family Topics. The Virtual Think Tank will consider the suggestions and, as indicated, will make adjustments in both of these products. Please send your comments to Marcie Pitt-Catsouphes at pittcats@bc.edu

Assumptions

Prior to identifying the different information domains relevant to the work-family area of study, members of the Virtual Think Tank adopted two premises:
1. Our use of the word "family" refers to both traditional and nontraditional families. Therefore, we consider the term "work-family" to be relevant to individuals who might reside by themselves. Many work-family leaders have noted the problematic dimensions of the term "work-family" (see Barnett, 1999). In particular, concern has been expressed that the word "family" continues to connote the married couple family with dependent children, despite the widespread recognition that family structures and relationships continue to be very diverse and often change over time. As a group, we understand the word "family" to refer to relationships characterized by deep caring and commitment that exist over time. We do not limit family relationships to those established by marriage, birth, blood, or shared residency.

2. It is important to examine and measure work-family issues and experiences at many different levels, including: individual, dyadic (e.g., couple relationships, parent-child relationships, caregiver-caretaker relationships), family and other small groups, organizational, community, and societal. Much of the work-family discourse glosses over the fact that the work-family experiences of one person or stakeholder group may, in fact, be different from (and potentially in conflict with) those of another.

Outcomes

We will publish a Working Paper, "Mapping the Work-Family Area of Study," on the Sloan Work and Family Research Network in 2002. In this publication, we will acknowledge the comments and suggestions for improvement sent to us.

Limitations

It is important to understand that the members of the Virtual Think Tank viewed their efforts to map the work-family area of study as a "work in progress." We anticipate that we will periodically review and revise the map as this area of study evolves.

The members of the panel are also cognizant that other scholars may have different conceptualizations of the work-family area of study. We welcome your comments and look forward to public dialogue about this important topic.

Listing of the Information Domains Included in the Map

The members of the Virtual Think Tank wanted to focus their map of work-family issues around the experiences of five principal stakeholder groups:
1. individuals,
2. families,
3. workplaces,
4. communities, and
5. society-at-large.

Each of these stakeholder groups is represented by a row in the Table 1, Information Domain Matrix (below).

**Work-Family Experiences:** The discussions of the members of the Virtual Think Tank began with an identification of some of the salient needs & priorities/problems & concerns of the five principal stakeholder groups. These domains are represented by the cells in Column B of the Information Domain Matrix.

- Individuals' work-family needs & priorities
- Individuals' work-family problems & concerns
- Families' work-family need & priorities
- Families' work-family problems & concerns
- Needs & priorities of workplaces related to work-family issues
- Workplace problems & concerns related to work-family issues
- Needs & priorities of communities related to work-family issues
- Communities' problems & concerns related to work-family issues
- Needs and priorities of society related to work-family issues
- Societal problems & concerns related to work-family issues

**Antecedents:** Next, the Virtual Think Tank identified the primary roots causes and factors that might have either precipitated or affected the work-family experiences of the principal stakeholder groups. These domains are highlighted in Column A of the Information Domain Matrix.

- Individual Antecedents
- Family Antecedents
- Workplace Antecedents
- Community Antecedents
- Societal Antecedents

**Covariates:** The third set of information domains include factors that moderate the relationships between the antecedents and the work-family experiences of different stakeholder groups (see
Column C in Table 1).

- Individual Covariates
- Family Covariates
- Workplace Covariates
- Community Covariates
- Societal Covariates

**Decisions and Responses:** The responses of the stakeholder groups to different work-family experiences are highlighted in Column D.

- Individual Decision and Responses
- Family Decisions and Responses
- Workplace Decisions and Responses
- Community Decisions and Responses
- Public Sector Decisions and Responses

**Outcomes & Impacts:** The fifth set of information domains refer to the outcomes and impacts of different work-family issues and experiences on the principal stakeholder groups (see Column E).

- Outcomes & Impacts on Individuals
- Outcomes & Impacts on Families
- Outcomes & Impacts on Workplaces
- Outcomes & Impacts on Communities
- Outcomes & Impacts on Society

**Theoretical Foundations:** The Virtual Think Tank established a sixth information domain to designate the multi-disciplinary theoretical underpinnings to the work-family area of study (noted as Information Domain F).
Table 1: Matrix of Information Domains (9/30/01)

<table>
<thead>
<tr>
<th>Domain A: Antecedent Descriptives</th>
<th>Domain B: Work-Family Issues and Experiences</th>
<th>Domain C: Covariates</th>
<th>Domain D: Responses to W-F Issues and Experiences</th>
<th>Domain E: Outcomes and Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Antecedents</td>
<td>Individual Experiences: Needs &amp; Priorities; Problems &amp; Concerns</td>
<td>Individual Covariates</td>
<td>Individual Decisions &amp; Responses</td>
<td>Individual Outcomes &amp; Impacts</td>
</tr>
<tr>
<td>Family Antecedents</td>
<td>Family Experiences: Needs &amp; Priorities; Problems &amp; Concerns</td>
<td>Family Covariates</td>
<td>Family Decisions &amp; Responses</td>
<td>Family Outcomes &amp; Impacts</td>
</tr>
<tr>
<td>Workplace Antecedents</td>
<td>Workplace Experiences: Needs &amp; Priorities; Problems &amp; Concerns</td>
<td>Workplace Covariates</td>
<td>Workplace Decisions &amp; Responses</td>
<td>Workplace Outcomes &amp; Impacts</td>
</tr>
<tr>
<td>Community Antecedents</td>
<td>Community Experiences: Needs &amp; Priorities; Problems &amp; Concerns</td>
<td>Community Covariates</td>
<td>Community Decisions &amp; Responses</td>
<td>Community Outcomes &amp; Impacts</td>
</tr>
<tr>
<td>Societal Antecedents</td>
<td>Societal Experiences: Needs &amp; Priorities; Problems &amp; Concerns</td>
<td>Societal Covariates</td>
<td>Societal Decisions &amp; Responses</td>
<td>Societal Outcomes &amp; Impacts</td>
</tr>
</tbody>
</table>

Domain F: Theoretical Underpinnings to All Domains