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PILOT STUDY FOR DEVELOPMENT AND APPLICATION OF A MEALTIME
VIDEO-CAPTURE PROTOCOL TO VALIDATE THE SATTER FEEDING
DYNAMICS INVENTORY

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ABSTRACT

The parent-child feeding relationship influences development of child eating habits and relationship with eating. The Satter Feeding Dynamics Model (fdSatter) was developed to help diagnose and treat obesogenic parental feeding behaviors by targeting specific parent feeding behaviors and advocating for child eating competence (Lohse et al 2014). The Satter Feeding Dynamics Inventory (fdSI), a 15-item Likert-scaled self-report of feeding practices and attitudes, measures adherence to fdSatter. Although face and content validity of the fdSI have been demonstrated, construct validity has not been assessed. The purpose of this study was to assist with construct validation by developing a protocol for evaluating mealtime observations.

A pilot study consisting of eight families with preschool age children informed full study procedures. The eight families completed a survey set of tested and validated instruments in addition to the fdSI. Two of the eight families agreed to video-capture of a typical evening meal, including retaking the fdSI and a brief post-video debriefing. Contrasting fdSI responses against observed mealtimes will facilitate validation of an instrument with a capacity for early identification and treatment of feeding problems, inform treatment design and delivery, and enhance education efforts to improve parent feeding practices.

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CHAPTER 1

INTRODUCTION & LITERATURE REVIEW

Satter Feeding Dynamics (fdSatter) Model

Negative child behavior patterns greatly contribute to child obesity; these patterns include disruptive mealtime behavior and extreme food selectivity (Birch et al 2003). Specifically in toddlers and preschoolers, a positive relationship has been found between feeding behaviors, including controlling, restrictive and indulgent, and child weight status. Additionally, a positive relationship has been shown between parental pressuring and increased child BMI (Lohse et al 2014).

The Satter Feeding Dynamics Model (fdSatter) describes parent-feeding behaviors and categorizes them as promoting or preventing normal child growth and development (Satter 2007). The fdSatter model addresses parent feeding behaviors and advocates for child eating competence (Satter 2007). This model is based on authoritative parenting, which emphasizes respecting the child's opinions and desires, but also maintaining clear parental leadership (Lohse et al 2013). fdSatter both defines and addresses parental feeding actions that support child eating competence (Lohse et al 2014).

Satter's Division of Responsibility in Feeding (sDOR) is a construct of the fdSatter model (Satter 2007). sDOR fosters a responsive and supportive feeding relationship (Lohse et al 2014) through a process where parents take leadership for *what* their children eat and *when* their children eat, but simultaneously allow their children to determine *how much* they eat and *whether or not* they eat (Lohse et al 2013). Parents are responsible for food management, meal structure and mealtime social context to ensure a

positive feeding environment (Lohse et al 2014). Parents must also be responsive and trusting of their child's eating autonomy (Lohse et al 2014). Overall, sDOR dictates that parents do the *what, when, and where of feeding*, and children do the *how much and whether of eating* (Lohse et al 2014).

Optimal feeding finds a balance between providing parents with leadership with feeding, but also allowing children autonomy with eating (Lohse et al 2014). This feeding relationship must be both responsive and supportive (Lohse et al 2014). sDOR's priority is to ensure consistent feeding, where parents keep control of the food supply and menu but do not impose control on how much the child decides to eat. This concept emphasizes trust that the parent has for the child to manage their own food consumption (Lohse et al 2014). For example, when a parent provides their child with a meal or snack, the parent trusts the child in managing food consumption; this sets expectations for child self-mastery and encourages child autonomy with eating (Lohse et al 2014). If parents follow the principles of the sDOR, children will remain or develop to become competent with their attitudes towards eating, with growth and food regulation, with acceptance of food, and with behavior during mealtimes (Lohse et al 2013). However, failure to find this balance between leadership and child autonomy can result in a child becoming eating incompetent, which can lead to obesity, underweight, or extreme food selectivity (Lohse et al 2013).

Studies that assess child-eating behaviors have become quite popular and suggest that obese children tend to become obese adults (Patrick et al 2005). Previous studies have shown significant positive relationships between authoritative parenting practices and improved child feeding interventions (Patrick et al 2005). By age 3, eating is affected

more by responsiveness to environmental cues regarding food intake; moreover, the parent-child feeding experience is a major factor in these environmental cues (Patrick et al 2005). For example, parents may look at restricting children's access to certain foods as a method to promote healthy eating patterns (Johnson & Birch 1994). However, parental feeding restriction, in particular, has been linked to increased child weight status and eating habits (Faith et al 2004). Parental restriction of certain types of foods has been correlated with increased child preference for the restricted food (Johnson & Birch 1994). This parental restriction actually focuses children's attention on the restricted food and increases children's desire to obtain and consume the particular food (Fisher & Birch 1999). Forcing, coercing, and pressuring children to eat has also been correlated with poor child self-regulation in regards to eating behaviors (Fisher & Birch 1999). The various parental feeding styles represent the caregiver's particular style of either maintaining or changing their child's eating behaviors.

fdSatter is based on authoritative parenting and emphasizes an authoritative approach in the parent-child feeding relationship (Satter 2007). Parents who follow the sDOR principles allow the child to be independent within the context that they provide, although still remaining attentive and warm towards the child (Lohse et al 2014). Authoritarian feeding, which focuses on leadership without autonomy, and indulgent feeding, which emphasizes autonomy without leadership, are different types of feeding styles that are not aligned with the sDOR principles (Satter 2007). The sDOR principles are recognized as the best childhood feeding models and have been incorporated in recommendations by the Academy of Nutrition and Dietetics, the American Academy of Pediatrics, and the childhood obesity guidelines (Lohse et al 2014). These principles also

form the basis for WIC certification and for related core messages developed by the USDA Food and Nutrition Service (Lohse et al 2014).

Validation

Validity refers to the accuracy of the data collection measurement; moreover, this concept occurs when the researcher comes to the conclusion that the data collection tool, such as a survey, measured what it was intended to measure (Gay 1987). The different types of validity include content, construct, concurrent, criterion and predictive. These four types are classified into either logical or criterion-related validity. Logical validity includes content validity and is determined primarily through judgment (Gay 1987). Criterion-related, or empirical, validity includes concurrent and predictive validity, and is determined by relating performance on a test to performance on another criterion in each case (Gay 1987).

A construct is a non-observable trait, such as intelligence, which explains behavior (Gay 1987). Constructs cannot be seen; only the effects can be observed. Moreover, constructs help explain certain differences between individuals. Research that involves constructs is valid only to the extent that the measure of the construct is captured. The process of validating a test of a construct involves testing hypotheses deduced from a theory concerning the construct (Gay 1987). A critical feature of construct validity is construct representation, which involves the researcher's attempt to identify the mechanisms underlying task performance (Gay 1987). Generally, a number of independent studies are required to establish the credibility of a test of a construct.

Survey Validation

Although validity appears to be a straightforward concept, assuring that a survey is valid can be challenging. Survey research is a method that researchers utilize to gather information from a sample of individuals (Schutt 2012). Collecting responses to research questions through the use of surveys has become an efficient way for researchers to collect data from a wide variety of individuals (Schutt 2012). Historically, surveys have been a critical component of research because they are cost effective, requiring minimal investments of time and resources (Schutt 2012). The versatile nature of surveys is one of the main reasons why they are so widely used and appealing to researchers (Schutt 2012). Surveys also allow for sampling of large populations, which can help researchers develop a general idea of the attitudes, characteristics, and behaviors of a particular population (Schutt 2012). Surveys can be administered in various different ways, including by mail, by phone, in person, electronically, and in a group setting (Schutt 2012). The variety in survey administration methods is another reason why surveys are commonly used in research (Schutt 2012). Questionnaires include the survey questions, and the context created by the questionnaire can significantly influence how the questions are interpreted and answered by the participant (Schutt 2012). Questionnaires are often refined and tested to ensure that the respondents will understand what the questions mean, and survey validation is imperative to assuring outcomes have meaning (Schutt 2012). Survey validation involves constant modifications until confidence that a survey accurately reflects the concept is established. Validation activities can include comparing survey responses with behavioral observations, including video-capture (Gay 1987).

Video Validation

Data collection using video-capture is more common because of more cost-effective cameras and accessible computer editing applications. Over the past several decades, video research has been used primarily in categories including peer, family, informal, classroom and teacher learning (Goldman et al 2007). Video-as-data has been used for various educational purposes and can be utilized in several ways depending on the researcher's preference and the type of study. For example, several researchers use video records to code for quantitative behavioral analysis, but others use video for qualitative research purposes (Goldman et al 2007).

The vast diversity of the video-as-data collection methods requires researchers to establish unique coding and observational schemes necessary for data analysis and validation. However, video datum is a tool for researchers to identify, expose and validate theoretical categories and disciplines (Goldman et al 2007). For example, a study on maternal control during feeding time with infants utilized video observational data to assess nonverbal maternal behavior (Farrow & Blissett 2006). The study featured video recordings of mothers feeding their infants solid foods at 6 months (Farrow & Blissett 2006). The researchers used a video camera to record feeding interactions between the mother and child, and observations were made during the mealtime in the caregiver's homes (Farrow & Blissett 2006). The researchers made efforts to place the video camera in an unobtrusive position, and the filming began when the caregiver presented the child with food and ended when the food was removed (Farrow & Blissett 2006). The researchers coded the caregiver behaviors in the videos using a Likert scale from 1 to 9,

indicating the level of control the caregiver asserted on the feeding versus the allowed infant autonomy in controlling their own feeding under supervision (Farrow & Blissett 2006). The maternal control study was able to expose mother-child feeding interactions and problems; the findings suggested that caregivers who allowed more infant autonomy led to greater self-regulation in infant feeding (Farrow & Blissett 2006). As used in Farrow & Blissett (2006), video-capture enables repeat viewing and revisiting for later analysis (Goldman et al 2007).

Examples of video use to capture behaviors include the Bob's and Tom's Method of Assessing Nutrition (BATMAN) use in coding family and child mealtime interactions captured with video-recordings (Klesges et al 1983). Whereas previous studies focused on quantifying aspects of normal weight and overweight children, Klesges et al (1983) did not directly assess child food intake. Instead, Klesges et al (1983) focused on the particular parental feeding variables that may influence children's eating behaviors and attitudes. BATMAN required researchers to code after every 10-seconds; coding included assessment of the environment, child behaviors, parent behaviors, interaction between the parent and child, and the child's response to the interaction (Klesges et al 1983). The researchers also were required to code if someone encouraged or discouraged the child's eating activity or behavior, such as playing with food, crying, whining, food requests, and engaging in other activities (Klesges et al 1983). BATMAN provided operational definitions for these different types of parental encouragement or discouragement behavior, and included physical encouragement, physical discouragement, verbal encouragement, verbal discouragement, presents food, offers food, and modeling eating (Klesges et al 1983). This process was limiting, however, because researchers only used

observational data made during the short mealtime interaction and were under severe time restraints with 10-second observation periods followed by 10-second coding periods. However, more recent studies have utilized video and have benefited from the repeated viewing and re-opening for later analysis that video data provides. For example, repeated viewing was utilized in observation of families in a Head Start dinner meal (Hughes et al 2011). Researchers observed and coded live during the family mealtime setting (Hughes et al 2011). Audio videotapes were utilized during home observations for backup; moreover, each home observation included both live coding and videotaping of the full meal (Hughes et al 2011). The backup videotapes were instrumental in data analysis, as they allowed researchers to review mealtime interactions and validate their findings (Hughes et al 2011).

Iannotti et al (1994) included video recordings of lunchtime and dinnertime meals of 27 girls and 18 boys and their mothers. Researchers identified the feeding prompts that successfully encouraged children to eat (Iannotti et al 1994). Results indicated that maternal encouragement prompting a child to eat was more successful than discouragement to prompt a child to not eat (Iannotti et al 1994). Commands, actions and rationales by the mothers were more likely to succeed in influencing child eating, as opposed to maternal use of negative consequences that failed to obtain desired feeding outcomes (Iannotti et al 1994).

Satter Feeding Dynamics Inventory (fdSI) and Validity

The Satter Feeding Dynamics Inventory (fdSI) is a tool designed to measure adherence to the fdSatter model. However, this tool has not yet been adequately validated. Prior research established the content validity of the fdSI (Lohse et al 2014).

However, construct validity of the fdSI has not yet been established (Lohse et al 2014). Establishing construct validation is a necessary step prior to widespread use; this can be accomplished using observation and concurrent administration with validated tools in an experimental or clinical design. Contrasting fdSI responses against observed mealtimes will facilitate validation of an instrument with a capacity for early identification and treatment of feeding problems, inform treatment design and delivery, and enhance education efforts to promote parent feeding practices that prevent childhood obesity.

CHAPTER 2

PILOT STUDY METHODS

A pilot study is essentially a small-scale version of a consequent full study that involves essential pre-testing of research instruments and processes to increase the likelihood of accuracy for the full-study. Pilot studies are essential for providing advanced warning and opportunity for the researchers to correct or improve upon any research protocol that was inadequate prior to the full study. The purpose of the research described in this thesis was to conduct a pilot study to assess the feasibility of a larger full study that was to be subsequently conducted. In addition, a goal of this research was to develop a coherent data analysis method for the video data that were collected.

Pilot Study Design

This pilot study was a cross-sectional, multi-component study that included the use of surveys and video. The purpose of the multi-component subsequently described was to examine the construct validity of the fdSI instrument to measure the degree of adherence to the sDOR, and to also assist with the development and modification of educational materials to encourage adherence to the sDOR in parents of preschoolers. The fdSI was concurrently administered with validated instruments and observation was done with a partial sample to compare with parent fdSI findings. Video recordings were stored on a password protected PSU server. The videographer and other research personnel had access to the recordings.

Pilot Study Eligibility

Sample selection targeted low-income families in Central Pennsylvania; specifically, the study included primary caregivers (18 years of age or older) of preschool children between 24 and 72 months, and with access to the Internet. Eight participants were included in the pilot study, and two families completed the video filming and follow-up activities. The pilot study videos to verify procedure feasibility were conducted with filming occurring on September 14, 2012 and September 20, 2012.

Pilot Study Recruitment

Information cards were distributed by study personnel at Centre County WIC clinics to recruit pilot study subjects. Interested participants emailed the researcher to receive the survey link, which included the study consent form (Appendix C). Participants provided implied consent prior to survey completion. Completion of the surveys posed very minimal risk to the participants and therefore implied consent was appropriate (See Figure 2.1). Several consents were required depending on age and involvement. These included:

- Verbal Consent (Children under age 13): Children under the age of 13 provided verbal consent to participate in the video-capture portion of the research study, as outlined by The National Commission for the Protection of Human Subjects of Biomedical and Social Science Research.
 - Children between 7-13 years of age were given a verbal description of the study and could provide verbal consent, which was recorded on the consent form.
 - Children under the age of 6 were consented by the parent/caregiver in the

written consent.

- Written consent (Caregivers & participants over age 13): Caregivers signed the consent form for themselves and their preschooler for the videotaping portion. Other family members also had the opportunity to provide consent prior to the video-capture portion of the study.

Preliminary inclusion and exclusion criteria are listed below:

Preliminary Inclusion Criteria

- Recruited from low-income venue
- Parent/Caregiver with child at least 24 months of age but less than 6 years of age
- Participants consented to researcher use of the videotaping recordings outside of this study in presentation at conferences, for educational training such as training students and classroom presentations, and in publications.

Preliminary Exclusion Criteria

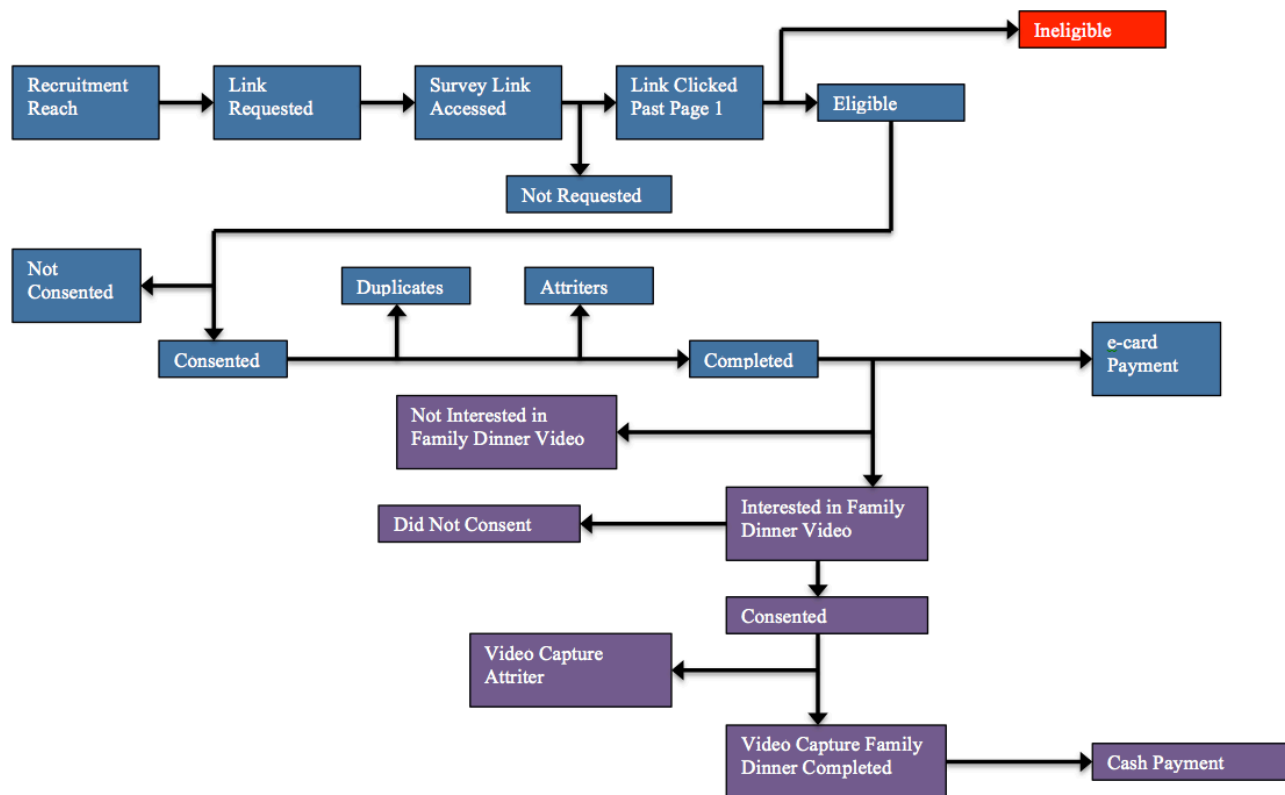
- Parents less than 18 years of age
- Parents with no children
- Parents who are unable to read English
- Child who is ward of the state
- Child who has a diagnosis of a disease that influences their food intake
- Parents studying to be or employed as a nutritionist
- Excluded from the video capture portion of the study if participants lived in a home deemed difficult, unsafe, or unsuitable for the video capture crew.

Pilot Study Survey Collection

Recruited video participants were required to complete a survey set two times prior to video-capture, therefore enabling the measure of test-retest reliability. The first online multi-item survey set took approximately 25 minutes to complete and was completed two weeks prior to video-capture. Following a set of eligibility questions, survey items included the fdSI survey (Lohse et al 2014), ecSatter Inventory Low Income (ecSI/LI) Survey (Lohse et al 2007; Krall & Lohse 2011), Child Feeding Questionnaire (Birch et al 2003), Pittsburgh Sleep Quality Questionnaire (Buysse et al 1989), Caregiver Feeding Style Questionnaire (Hughes et al 2005), General Health Survey (Montazeri et al 2013; Makowska et al 2002), Three Factor Eating Questionnaire (Karlsson et al 2000), Mealtime Questionnaire (Burnier et al 2011), NutriSTEP Survey (Simpson et al 2010), Pediatric Quality of Life Survey (Varni et al 2003), and demographic questions. The second set included only the fdSI (Lohse et al 2014) and ecSI/LI (Lohse et al 2007; Krall & Lohse 2011), which took about five minutes to complete. Participants were contacted to remind them of data collection procedures and the anticipated schedule. Participants received a \$10 online gift card for completion of the first online multi-item survey.

Figure 2.1 Pilot Study Validation of the Satter Feeding Dynamics Inventory (fdSI)

Procedure*



*Blue Procedure: Survey Recruitment & Eligibility Process

Purple Procedure: Video-Capture Consent Process

Pilot Study Video Collection

A second survey set that contained both the fdSI (Lohse et al 2014) and ecSI/LI (Lohse et al 2007; Krall & Lohse 2011) surveys were sent to families who expressed interest in videotaping prior to the mealtime filming. Participants who completed the second survey set and video-capture portion of the study received \$50 cash. The \$50 for the video-capture portion and the \$10 online gift card for the first online multi-item survey resulted in total possible compensation of \$60 to be paid to each participant.

Below are the videotaping procedures:

Pre-Video Home Visit

The preliminary home visit took approximately 30 minutes to complete. This visit included the following steps:

1. Research personnel contacted the participant prior to going to the home to confirm the visit time and date.
2. Researchers met with participants at participant's home on the confirmed visit time and date, and provided description of the video-capture phase.
3. Researchers encouraged participants to ask questions about the video-capture. Other family members, including other adults and children, were then invited to participate in the video-capture of the family meal.
4. All interested participants, including other adults and children, were asked to provide permission on the consent form to use the data in public conferences and publications. Participants received full disclosure on use of the data and their responses, and voluntarily provided identifiable information and appropriate consent.
5. The caregiver's weight and height, as well as the child's weight and height, were measured.
6. Participants were emailed a link to the second survey set, and research personnel scheduled a time to come back to the home for the video-capture phase of the study.
7. Participants were able to access the link to the second-survey set and complete the required surveys prior to the mealtime videotaping.

Mealtime Filming

The video-capture portion of the actual family meal included the following procedure steps:

1. Research personnel contacted the participants to confirm the appointment and that the second set of surveys had been completed.
2. Researchers entered the home at the scheduled time and gave another brief description of the video-capture procedures and were prompted for questions.
3. The researchers made observations including pre- and post-mealtime description, environment, and behavior. After the observations were made, the researchers would leave to minimize the number of people in the room during the mealtime; moreover, the videographer was the only person present with the family members from the research team during the actual feeding.
4. Filming began 30 minutes prior to and following the meal; total video length depended on the length of the meal, but was anticipated to be 1 ½ hours total.
5. A follow-up interview and debriefing lasted approximately 5-10 minutes after the taping, and occurred during the video-equipment teardown.
6. Participants received \$50 in cash for completion of the video capture portion of the study.

The videographer was trained and experienced with being unobtrusive during

filming and used two Panasonic HC-X900M High Definition camcorders shooting at 1920x1080 resolution. Each camera was outfitted with a Rode VideoMic camera-mounted shotgun microphone. Videos were recorded on the camera in AVCHD format, edited in Final Cut Pro X and exported to h.264 masters, which were then compressed for distribution. However, the camera microphones actually captured the majority of what was used for post-production editing.

Post-Video Capture

Debriefing by research personnel occurred as the videographer disassembled the equipment. Debriefing included a face-to-face conversation between the researchers and the participants (Appendix B). The videographer and researchers noted their observations following the visit to reference during future data analysis.

Development of Pilot Study Video Data Analysis Protocol

A video data analysis system was set in place to measure adherence to the 15-question fdSI survey. Each pilot study video was about an hour in length, and the videos were analyzed using the template in Appendix A. Prior to scoring, the researchers reviewed the description for each item and then considered the descriptors for each scaled response (e.g. Always, Often) to determine the rating. The rating for each item was determined by first comparing the extremes of the scale. For example, the researcher first determined if either “Never” or “Always” applied. Then, they considered “Rarely” and “Often”, and then “Sometimes.” The researcher iteratively visited the blank items after revisiting the video and used the same rating procedure as before. As a last resort, the

researcher indicated a tentative rating or noted the item was unable to rate/not applicable. For example, particular questions involving leftovers and/or snack habits throughout the day may have not been apparent or shown in the mealtime filming. Furthermore, the researcher may not have acquired enough information from the video to accurately answer these particular questions.

CHAPTER 3

RESULTS

Pilot Study Results

Eight participants completed the survey set that included the fdSI and the validated instruments. Children ranged from 2 through 5 years in age; parents were over the age of 18. Sex was not reported for 7 of the 8 children. Figure 3.1 depicts a breakdown of the pilot study participant parenting styles measured using the Hughes measure (Hughes et al 2005)

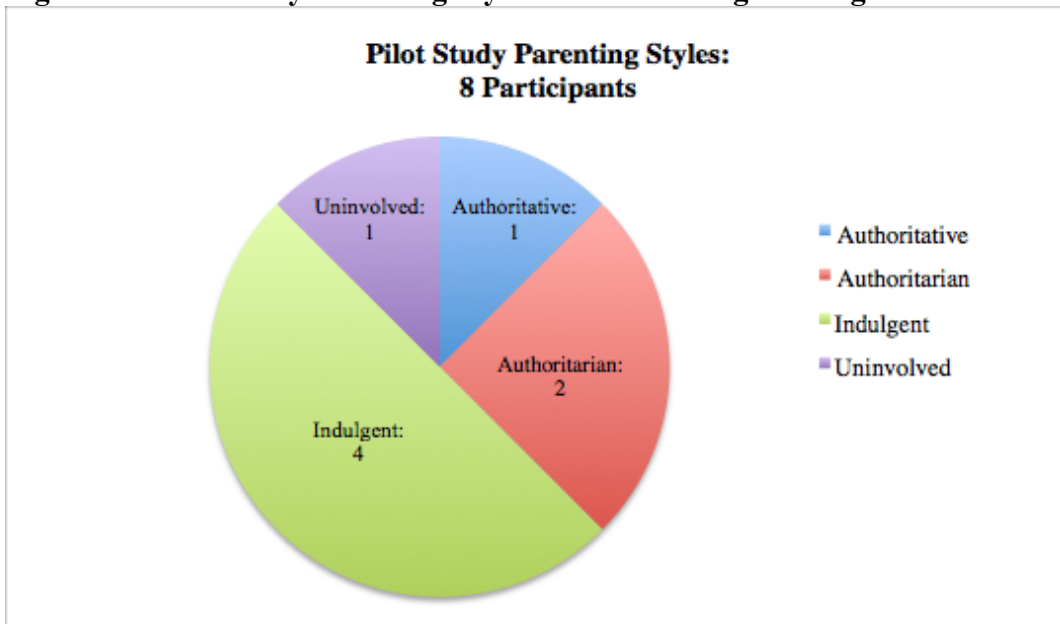
Two parents participated in the mealtime video capture, which included a second survey of the ecSI/LI and fdSI, administered prior to video-capture of the meal. The fdSI frequencies for the original 8 participants are shown in Table 3.1. The rating system and explanations are provided in Table 3.2.

Tables 3.3 and 3.4 detail the 2 families that completed the follow-up studies and videos. Pilot Study Family 1 video-captured a meal with a father, mother and preschool age son (Table 3.3). Pilot Study Family 2 video-capture was of a meal with a mother and her preschool age daughter (Table 3.4). Both Table 3.3 & Table 3.4 depict original fdSI responses, follow-up fdSI responses, and researcher responses and notes for the designated pilot study video family. Numbers in the *Research Observational Notes* column shown in Table 3.3 & Table 3.4 dictate what time in the video filming the designated behavior and/or interaction can be observed.

Differences between the parent's perception of their feeding behaviors and the parent's actual feeding behaviors were observed during the videos. Researchers wrote a narrative for each time block (Appendix A) that included what the parents did and said,

what the child did and said, what happened, and anything pertaining to the item rating. Using this observational information, the researchers then scored the 15 fdSI items based on the observed actions and behaviors of the parents in the videos (Table 3.3 & 3.4). The researchers reviewed each fdSI item for rating in the order shown on the scoring sheet, and referenced the intervals identified in the narrative log in relation to item scoring. The total quality of the interaction was more pertinent in consideration than the quantity; researchers not only looked at concrete and discrete behaviors, but also considered the interaction in context and if it was representative or not representative of the overall nature of the interaction. Using this information, the researchers were able to note any discrepancies, especially depicted in questions 2, 4 and 11 (Table 3.3 & 3.4). To help the researchers eliminate these discrepancies in the full study, the response criteria were defined as depicted in Table 3.2.

Figure 3.1 Pilot Study Parenting Styles Assessed Using the Hughes Measure*



*(Hughes et al 2005)

Table 3.1. Pilot Study fdSI Survey Frequencies

Question*	Question Type	A	O	S	R	N
1) My family has meals at about the same times every day.	Leadership	1	4	3	-	-
2) I try to make my child taste everything that is prepared for a meal.	Autonomy	5	2	1	-	-
3) I try to make my child eat everything on her/his plate.	Autonomy	-	3	4	1	-
4) I let my child eat whenever s/he feels like eating.	Leadership	-	1	2	5	-
5) If I think my child hasn't had enough, I try to get him or her to eat a few more bites.	Autonomy	3	1	2	1	1
6) When I am home at mealtimes, I sit down and eat with my child.	Leadership	5	2	1	-	-
7) I struggle to get my child to eat.	Autonomy	-	2	-	5	1
8) When I am home, I offer my child snacks at about the same times.	Leadership	-	4	4	-	-
9) I decide what foods to buy based on what my child eats.	Leadership	-	2	3	2	1
10) I let my child feed him/herself.	Autonomy	4	3	1	-	-
11) I let my child eat until s/he stops eating and doesn't want more.	Autonomy	2	3	1	2	-
12) I am comfortable with providing meals for my family.	Leadership	5	3	-	-	-
13) I make something special for my child when s/he won't eat.	Autonomy	-	1	1	3	3
14) I let my child have drinks (other than water) whenever s/he wants them.	Leadership	-	2	2	3	1
15) We have food leftover after meals.	Leadership	1	3	2	2	-

*Responses include: A (Always), O (Often), S (Sometimes), R (Rarely), N (Never).

Table 3.2. fdSI Rating System & Explanations

*Responses include: A (Always), O (Often), S (Sometimes), R (Rarely), N (Never).

Question	Response Category*	Explanation
1) My family has meals at about the same times every day.	A, O, S, R, N	Minimal observation during food preparation and cleanup recorded in narrative. Also, conversation about child's eating at other times. Can get from parents' diet assessment.
2) I try to make my child taste everything that is prepared for a meal.	A	Extreme verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	O	Considerable verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	S	Moderate, verbal and/or physical persuasive or forcing and coercive behavior by the parent.
	R	Minimal verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	N	No verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
3) I try to make my child eat everything on her/his plate.	A	Extreme verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	O	Considerable verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	S	Moderate, verbal and/or physical persuasive or forcing and coercive behavior by the parent.
	R	Minimal verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	N	No verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
4) I let my child eat whenever s/he feels like eating.	A, O, S, R, N	Want to know whether the child is given free access to foods between regularly scheduled meal and snack times. Minimal observation during food preparation and cleanup time recorded in narrative. Also, conversation about child's eating at other times. Child may be given repeated food handouts during prep time. Also consider app to trigger parent to record child's eating/drinking.
5) If I think my child hasn't had enough, I try to get him or her to eat a few more bites.	A	Extreme verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	O	Considerable verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	S	Moderate, verbal and/or physical persuasive or forcing and coercive behavior by the parent.
	R	Minimal verbal and/or physical, persuasive or forcing and coercive behavior by the parent.

	N	No verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
6) When I am home at mealtimes, I sit down and eat with my child.	A	Parent sits and attends to the meal and the social interaction. Is up once or twice during the meal.
	O	For most of the time, parent sits and attends to the meal and the social interaction. Is up more than twice during the meal.
	S	About half the time, parent sits and attends to the meal and social interaction. Is up several times during the meal. Parent divides attention between reading, watching TV, talking on the phone, texting, working on computer, etc.
	R	Parent waits table or sits briefly during the meal. If parent sits, gives most attention to watching TV, talking on phone, texting, working on computer, etc. Little engagement with the child or with the eating episode. Engagement with the child may be negative: Child misbehaving, parent disciplining.
	N	Parent does not sit or interact with the child or beyond helping the child get food, engage with the eating episode. May be working nearby- in the kitchen or doing deskwork.
7) I struggle to get my child to eat.	A	Extreme verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	O	Considerable verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	S	Moderate, verbal and/or physical persuasive or forcing and coercive behavior by the parent.
	R	Minimal verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
	N	No verbal and/or physical, persuasive or forcing and coercive behavior by the parent.
8) When I am home, I offer my child snacks at about the same times.	A, O, S, R, N	Might get some allusion to this in conversation, can record in narrative. Otherwise have to explore in another way. Consider app to trigger parent to record child's eating/drinking.
9) I decide what foods to buy based on what my child eats.	A, O, S, R, N	Might get some allusion to this in conversation, can record in narrative. Otherwise, have to explore in another way. Explore in post-taping interview.
10) I let my child feed him/herself.	A	Continuous parent attempts to feed the child or interfere with the child's manner of eating. Parents' attempts may be verbal and/or physical, persuasive and/or negative.
	O	Frequent and persistent parental attempts to feed the child or interfere with the child's manner of eating. Parents' attempts may be verbal and/or physical, persuasive and/or negative.
	S	Occasional, somewhat more emphatic parental attempts to feed the child or interfere with the child's manner of eating with moderate positive & persuasive and/or negative affect by either parent or child.

	R	Minimal, low-key attempt by parents to feed or to correct child's manner of eating.
	N	The parent provides the food and helps child to get served, but then lets the child feed self in whatever manner child chooses.
11) I let my child eat until s/he stops eating and doesn't want more.	A	Extreme, verbal and/or physical, persuasive and/or negative parental behavior and attempts to induce the child to stop eating.
	O	Considerable, critical verbal and/or physical, persuasive and/or negative parental behavior and attempts to induce the child to stop eating.
	S	Q11: Moderate, mildly critical verbal and/or physical, persuasive and/or negative parental behavior and attempts to induce the child to stop eating.
	R	Q11: Minimal, matter-of-fact, low level of verbal and/or physical, persuasive and/or negative parental behavior and attempts to induce the child to stop eating.
	N	None. Parent helps child to get served but then allows child to eat as much or as little as s/he wants. With no fuss, the child is allowed to ask for and receive more food and/or leave food on the plate.
12) I am comfortable with providing meals for my family.	A, O, S, R, N	Observe mom's demeanor during food preparation and getting meal on the table, also conversation. Inquire in pre-taping interview.
13) I make something special for my child when s/he won't eat.	A	Providing the child's special food is made obvious, there is discussion with the child about this food. Child may refuse food, parent offer a substitute, or provide a substitute from the first.
	O	Providing the child's special food is a focus for attention.
	S	Parent provides the child's special food without discussion or struggle.
	R	Parent asks for child's preference minimally or matter-of-factly. The food in question is likely to be a side dish or condiments, ingredients in salad.
	N	Food is on the table and child picks and chooses from what is available.
14) I let my child have drinks (other than water) whenever s/he wants them.	A, O, S, R, N	Minimal observation during food preparation and cleanup time recorded in narrative. Also, conversation about child's drinking at other times. Also consider app to trigger parent to records child's eating/drinking. Address whether the parent lets child have drinks such as juice, milk, soda, Kool-Aid or sweet tea whenever s/he wants. Also inquire about whether parent gives child water for thirst.
15) We have food leftover after meals	A	Food is in 100% of serving dishes
	O	75%
	S	50%
	R	25%
	N	Food is in 0% of serving dishes

Table 3.3. Pilot Study Family 1: Father, Mother, Son

Question	fdSI Survey	fdSI Survey Follow-up	Researcher Observational Score	Research Observational Notes
1) My family has meals at about the same times every day.	S	S	N/A	No information pertaining to this question found in the video.
2) I try to make my child taste everything that is prepared for a meal.	A	O	R	<p>Parents did not have the son taste anything but did ask if he wanted the food they prepared on his plate.</p> <p>There wasn't much pertaining to this in the beginning of this particular meal, but they did ask him if he wanted the food on his plate, hinting at their answer of A or O.</p>
3) I try to make my child eat everything on her/his plate.	S	S	O	Both parents kept nagging the son to eat more bites of his food, but didn't really reference eating everything on the plate. However, they did insinuate that they wanted him to finish eating everything on his plate, leading to researcher score of O. Interesting that they answered S for both the survey and follow-up, since they definitely were very encouraging of him to finish everything on his plate. However, they did stress certain items on the plate. Possible recommendation to have the videographer zoom in on the plate also so we can see specifically what is being eaten.
4) I let my child eat whenever s/he feels like eating.	O	R	S	<p>The father has said to the son that the son needs to start eating because "we" are eating (11:12). They are basically forcing him to eat with them at this particular time. The mom later referenced that the son eats fruit all day (27:14), so researcher recorded S since they probably let him eat fruit when he wants.</p> <p>Researcher score in between both survey and follow-up responses; parents likely basing answers on what happens throughout the day and researcher answers based on dinner alone.</p>
5) If I think my child hasn't had enough, I try to get him or her to eat a few more bites.	A	O	A	<p>The parent practically nagged the son the entire time to eat a few more bites. They were continually bribing him to eat a few more bites and so forth, so this falls under the A classification.</p> <p>They nagged the child the entire time, but there might be instances where it doesn't happen as often.</p>

6) When I am home at mealtimes, I sit down and eat with my child.	O	S	O	<p>Both parents sat down with the son in this particular video, but they did get up to clean up and greet the guest, so SP scored O.</p> <p>At first they had the same response as me, but the 2nd response lowered to S. They did get up during the meal, especially when the guest was there, so this change in response is understandable.</p>
7) I struggle to get my child to eat.	O	O	O	<p>They definitely struggled to get their son to eat everything on his plate, and they had to constantly nag and bribe him to eat his food. However, the son loved eating the bread and grapes that were provided for him. There is definitely a struggle to get the child to eat certain foods, which makes the O response appropriate.</p>
8) When I am home, I offer my child snacks at about the same times.	S	S	N/A	<p>Mom did say that the son eats fruit all day though, but not sure about a time frame for this (27:14)</p> <p>Again, nothing really said at dinner.</p>
9) I decide what foods to buy based on what my child eats.	S	S	S	<p>They did not base the dinner around foods that the son likes as exhibited at 6:44 when the dad asks if the son wants pork and he says no. However, the mom did have grapes for him after dinner, which is a food that the son likes so the S label was noted.</p>
10) I let my child feed him/herself.	O	O	O	<p>The parents let the son feed himself, but when would start getting fidgety and stop eating his food, the mom would start to feed him (14:15, 28:34, etc).</p>
11) I let my child eat until s/he stops eating and doesn't want more.	O	S	N	<p>The parents kept bribing the son to finish all of his food, regardless of if he wanted to stop eating and didn't want to eat anymore.</p> <p>They changed to a response closer to mine, but maybe they thought that the child wants to keep eating.</p>
12) I am comfortable with providing meals for my family.	A	O	O	<p>Not much in the video for this topic, except for the fact that the parents were talking about faxing expenses (18:26), suggesting that money might be a concern. But they did have enough food to even feed another guest so it seems like they are pretty comfortable with providing meals for the family.</p> <p>Similar responses.</p>
13) I make	N	N	N	<p>The parents had grapes ready for the son but only as a</p>

something special for my child when s/he won't eat.				<p>bribe. They did not prepare anything particularly special for the son and didn't really take into consideration what foods he would like.</p> <p>They didn't take into consideration what he wanted to eat so this makes sense. SP trying to account for other instances where they might, but just going off this video would warrant the N response.</p>
14) I let my child have drinks (other than water) whenever s/he wants them.	O	S	O	<p>In the first couple of minutes of the video, the parents let the son have a drink. However, the dad tries to convince the son that he wants a particular type of drink.</p> <p>Likely changed from O to S because they didn't really emphasize the drinks during the dinner.</p>
15) We have food leftover after meals.	O	A	O	<p>Was unable to see any evidence of this in the video because it just filmed the child in the time-out after the dinner portion.</p> <p>Unable to see in the video.</p>

Table 3.4. Pilot Study Family 2: Mother, Daughter

Question	fdSI Survey	fdSI Survey Follow-up	Researcher Observational Score	Researcher Observation Notes
1) My family has meals at about the same times every day.	O	O	N/A	N/A
2) I try to make my child taste everything that is prepared for a meal.	A	O	O	<p>The mom really involved the daughter in preparing the food for the meal (2:05 helps sprinkle the salt and cook together). She also had the daughter taste the pepper (18:38), but didn't have the child taste everything prepared for the meal so researcher chose O.</p> <p>Lines up pretty directly, probably changed from A to O because daughter is constantly moving and might not get a chance to try things before the meal.</p>
3) I try to make my child eat everything on her/his plate.	S	S	S	Mom didn't really make an emphasis on this but asked the daughter if she was done with her food.
4) I let my child eat whenever s/he feels like eating.	N	S	O	<p>The mom is pretty lenient with her daughter. During the cooking time, the daughter wanted to eat the pepper (18:38), so the mom washed it and gave it to her. However, SP didn't put the A option for this because when the daughter asked for another piece, the mom said let's wait until we get it on your whole salad.</p> <p>Hard to see from just the dinner video but mom's response understandable because when the daughter asked mom for a pepper after she originally ate the first piece, the mom did say no and to wait for dinner.</p>
5) If I think my child hasn't had enough, I try to get him or her to eat a few more bites.	S	S	S	<p>There was no reference to the mom trying to get the daughter to eat more. Likely because mom makes what the daughter likes and will eat, and the daughter does eat most of her food.</p> <p>There was no reference but this might occasionally occur.</p>
6) When I am home at	A	A	A	They both sat down together and did the prayer, and would sit and eat together for both dinner and

mealtimes, I sit down and eat with my child.				dessert.
7) I struggle to get my child to eat.	N	R	N	<p>The daughter seems to like everything the mom makes and it seems like the mother really tries to work with her daughter to prepare what her daughter would like to eat. Not a struggle to get her to eat her food at all.</p> <p>The daughter can be a little difficult because she's a bit assertive, so this might be a problem in certain situations if the mom didn't make something the daughter liked to eat.</p>
8) When I am home, I offer my child snacks at about the same times.	O	S	N/A	No reference made to this in the video, but seems as though the mom would likely be somewhat lenient with snacks.
9) I decide what foods to buy based on what my child eats.	S	S	A	<p>The mom really accommodated her child in this respect. She asked her child what she wanted on her salad (13:50), asked what kind of dressing the daughter wanted on her salad (24:53). The daughter really liked the dinner as well (41:40), so the mom knows what to cook to please her daughter.</p> <p>It seemed like the mom was very accommodating of the daughter's food preferences, but when looking back, she did push the daughter on certain foods that the mom likes herself and thinks are healthy.</p>
10) I let my child feed him/herself.	A	A	A	The mom didn't once try to feed the daughter because she was feeding herself.
11) I let my child eat until s/he stops eating and doesn't want more.	O	O	A	<p>The mom didn't bribe or force the daughter to eat more food and let her eat at her own pace. In fact, the daughter wanted the mom to hurry up preparing the food for her to eat it.</p> <p>Can likely see the mom urging her daughter at times to finish her plate if she doesn't finish eating; however, in this video, the daughter finished her food.</p>
12) I am comfortable with providing meals for my	A	A	O	Not much information on this but the mom did say she tried a new kind of chicken and she referenced very healthy fruits and vegetables that probably are pricey so it seems like they are able to buy more expensive healthy foods, but they might just invest in

family.				<p>buying those foods for the child.</p> <p>She did talk about buying healthy items, which are likely more expensive, so A answer is understandable.</p>
13) I make something special for my child when s/he won't eat.	N	R	R	<p>The mom cooks to basically please her daughter. She does specialize the salad and smoothie special for her daughter in particular.</p> <p>The daughter doesn't seem to be a picky eater. Appears that the mom does take into account the daughter's preferences but probably wouldn't buy something special if the child wouldn't eat.</p>
14) I let my child have drinks (other than water) whenever s/he wants them.	N	S	O	<p>Not much reference to this but did ask daughter what she wanted to drink (27:20) and let daughter drink milk with her smoothie (1:02:35)</p> <p>Not much on drinks in this particular video but the mom didn't really give the daughter drink options so this might reflect her response.</p>
15) We have food leftover after meals	O	O	O	<p>They definitely had leftovers, and it looked like the mom made extra so the daughter could have chicken and fries for her lunch tomorrow (1:11:35).</p>

Recruitment Process Outcomes From The Pilot Study

The pilot study revealed that the planned process for validation was feasible, but would benefit by a few changes. These changes were applied to the full study that began recruitment on May 18, 2013. Once the questionnaire was revised, the filming of the remaining 18 families began. The head researcher coordinated the filming schedule with the families, and another trained researcher and the videographer attended the filmings.

Video-Capture Process Outcomes

Pilot study outcomes revealed a need to consider audio quality; moreover, the parents needed an extra microphone to be heard, as this information was crucial in later data analysis. After collaboration between the videographers and researchers, a wireless lavalier microphone was added to the full study. This lavalier microphone was worn by the adults and helped capture more clearly what the adults were saying. Specifically, the lavalier microphone was an Audio Technica PRO 88W/T connected to a small belt pack that transmitted the audio back to the camera to record onto specific discs. With this belt method, no obtrusive wires were dangling off of the adults as they went about their preparations. The lavalier microphone led to major audio improvements and provided for better audio coverage in the full study.

Another improvement that was a result of the pilot video study analysis was the experimentation with using a Zoom H2N portable digital recorder that could be placed in the middle of a dining table area or in very close proximity to the preparation and dining areas. However, post-production editing showed that the combination of the camera microphones and the lavalier microphones were sufficient for overall audio and the Zoom

H2N microphone added too much additional noise from plates, forks, glasses, and other objects in the area. However, the Zoom H2N microphone was helpful in some cases for adults who were very soft spoken.

Additionally, the observations from the pilot study videos also warranted that the videographer keep a detailed log during the video sessions of his personal observations of the designated participants. This log, which was used in the full study, included information such as names of the participants, location and date of the filming, the type of meal, and his personal comments. The videographer's comments included information that could be helpful to the researchers, such as environmental obstacles during filming, pre and post video setup observations, and any interaction the videographer had with the participants.

Feasibility Outcomes From The Pilot Study

As in many studies, participants can often be unreachable and unreliable at times. Several participants were not present at the scheduled time of meeting. The researchers decided that it was imperative to clarify and confirm time and date of any meeting or appointments with the participants to ensure that they were present for the activity. The participants would only receive the \$50 after successful completion of the video capture.

With the two pilot study videos, one researcher was sufficient for analysis. However, the researchers collaborated during this phase and agreed that analysis was needed by several parties to ensure reliability for the full study. After further deliberation, a tier system was developed for use in the full study.

The tier system incorporated improvements from the pilot study analysis method.

Videos were coded in five-minute segments as in the pilot study. During these five-minute intervals, the researcher noted general observations about the parent-child interaction and if any of the behaviors could help answer the fdSI questions. Only one researcher analyzed these segments in this pilot study, which led researchers to realize that multiple parties should analyze the full study videos due to ensure reliability. Some information not obtained from the video data could be obtained from the pre-video interviewing visit and debriefing information.

Based on pilot study outcomes, the video coding process for the full study included the following:

- Tier 1: Two researchers view 5 minute segments of each video and determine the fdSI items that could be coded in those 5 minutes.
- Tier 2: Experts in the Division of Responsibility in Feeding view all video segments that were tied to a specific fdSI items and code for the possible response options based on observation
- Tier 3: Two researchers compare Tier 2 responses with parent fdSI responses to assess congruency and construct validation.

CHAPTER 4

DISCUSSION

In this study, video data were used to measure and record behaviors to validate the fdSI, a measure of the adherence to fdSatter. Typically, a number of independent studies are required to establish the credibility of a test of a construct, which makes this process quite difficult. This study has shown the extensiveness of determining if the fdSI has construct validity and the difficulty in trying to test this concept. Video capture of a family meal was used for comparative analysis against the parent fdSI responses.

A pilot study was able to uncover discrepancies to ensure accurate testing during the full study. Discrepancies included analysis criteria when coding the video data, as well as video audio and filming issues. The creation of a video-data analysis system helped to provide a coding system for the video data and was heavily utilized in the full study. Additionally, the response criteria coding system was provided to researchers in the full study for data analysis in both Tier 1 and Tier 2 categories.

The videography and audio issues during the pilot study were addressed, and measures to correct these in the full study allowed for enhanced accuracy in video data coding. The improved video data collection and coding systems provided the researchers with a tool to identify, expose, and validate the different theoretical categories. The video data coding system in this study was similar to, but expanded upon, coding strategies used in a study assessing maternal control during infant feeding (Farrow & Blisset 2006). Specifically, this fdSI full study required multiple researchers for video data coding to ensure accuracy. The maternal control during infant feeding only used one trained researcher to analyze video data (Farrow & Blisset 2006). However, the maternal control

study used a Likert scale that rated nonverbal control that the caregiver asserted during the mealtime on a scale from 1 to 9, whereas the Likert scale for this study was based on frequency (Farrow & Blisset 2006)

Examples of video use to capture behaviors include the Bob's and Tom's Method of Assessing Nutrition (BATMAN) use in coding family and child mealtime interactions captured with video-recordings (Klesges et al 1983). BATMAN required researchers to code after every 10-seconds, and assessed the environment, child behaviors, parent behaviors, interaction between the parent and child, and the child's response to the interaction (Klesges et al 1983). This process was limiting, however, because researchers only used observational data made during the short mealtime interaction and were under severe time restraints with 10-second observation periods followed by 10-second coding periods. However, more recent studies have utilized video and have benefited from the repeated viewing and re-opening for later analysis that video data provides. For example, repeated viewing was utilized in observation of families in a Head Start dinner meal (Hughes et al 2011).

Live coding and videotaping of a full meal was used in another family mealtime study, whereas this fdSI study eliminated the live coding portion to minimize distracting environmental stimuli and promote real mealtime behaviors (Hughes et al 2011). However, both this study and Hughes et al (2011) allowed researchers to review mealtime interaction and validate their findings.

Repeated viewing showcases social relationships and physical human interaction behaviors that are unable to witness in other modes of data collection (Goldman et al 2007). The luxury of repeated viewing of the videos, as highlighted in several other

studies that use video validation such as Hughes et al (2011), was crucial in this study and helped enhance the researchers ability to validate their findings as it has in previous research (Goldman et al 2007).

Future Directions & Implications for Practice

The future involving videography in research includes devising new forms of technology that can evolve the medium itself. Although video data provide an excellent means of viewing exemplars of specific behaviors and interactions, certain issues such as distractions are still present. Since this study was conducted in the home setting, the researchers made an effort to make the subjects feel more natural and comfortable in the study environment. Future research should take note of this method and continue to make efforts that preserve normalcy and comfortable environments so as to receive realistic data.

Repeated viewing significantly enhanced the researcher's ability to observe the families and code accordingly. Video is a rich medium that allows for repeated viewing and for researchers to re-open the video files for later analysis. Future research should strive to incorporate video practices because there is an extra level of social relationships and physical human interaction that are unable to be recorded in other data collection forms. Not only is video datum advantageous when observing the parent-child feeding relationship, but this mode of data collection can certainly be applied to other studies, such as teaching and possibly athletic training to name a few.

Survey item comprehension and feed practice responses from the participants might differ based on participant race or ethnicity. Further study is warranted with a more

racially and ethnically diverse sample. Additionally, the small sample size for the video portion of the study warrants conservative interpretation of the findings.

Availability of this instrument to assess the Division of Feeding Responsibilities will facilitate the identification of feeding behaviors that are associated with feeding problems, and will identify families that should receive education or intervention to ameliorate feeding problems. In addition to enabling construct validation, video-capture will provide information into feeding practices of families with preschool-age children. Contrasting fdSI responses against observed mealtimes helped facilitate validation of an instrument with a capacity for early identification and treatment of feeding problems, informed treatment design and delivery, and enhanced education efforts to improve parent-feeding practices.

APPENDIX

Appendix A: fdSI Study Narrative Log

Appendix B: fdSI Survey

Appendix C: Post-Video Capture Interview Script

Appendix D: Consent Forms

Appendix A

fdSI Study Narrative Log

The fdSI Study Narrative Log was created for use during the pilot studies and contributing to the video data analysis for the full study. This log cut the pilot study videos into five-minute segments, allowing for the researchers to write specific observations for that particular time frame and include which fdSI items could be coded with the information provided in that segment. The log includes the specific time interval of the video, a segment number for the specific time frame, space for researcher observations, and a space where researchers could depict which fdSI items (Appendix B) could be scored with the information from the segment. The segment numbering helped the researchers for later reference of the video. Appendix A features an excerpt of a sample blank log.

Video ID/Description _____ /Date _____

Segment #	Interval	Observations	# Vital to Scoring
1	0:00 – 5:00		
2	5:01-10:00		
3	10:01-15:00		
4	15:01-20:00		

Appendix B

fdSI Survey

The fdSI Survey includes questions presented to the participants in the survey component of the study. The fdSI Survey was distributed to participants in both the pilot and full studies. Appendix B also features information for the researchers regarding behaviors and factors to look for when coding for the specific fdSI question.

1. My family has meals at about the same times every day.
 - a. Minimal observation during food preparation and cleanup time recorded in narrative. Also conversation about child's eating at other times. Can also obtain from parents' diet assessment.
2. I try to make my child taste everything that is prepared for a meal.
 - a. The child attempts to taste part or all of everything that is on the table or plate before leaving the table. This can be verbal (parents might play games, threaten, bribe, reason, use pressure tactics, or make a big deal about the food) or physical (hold the food in front of the child until the child gives in and eats, grab, touch, open child's mouth, make child eat before leaving the table).
3. I try to make my child eat everything on his/her plate.
 - a. Parent attempts to get child to eat part of or everything that is on the plate before leaving the table. This can be verbal or physical.
4. I let my child eat whenever s/he feels like eating.
 - a. Want to know whether the child is given free access to foods between regularly scheduled meal and snack times.
5. If I think my child hasn't had enough, I try to get him or her to eat a few more bites.
 - a. Parent attempts to eat a few more bites, and this can be verbal or physical.
6. When I am home at mealtimes, I sit down and eat with my child.
 - a. The parent sits down and focuses on the eating episode. The parent may be paying attention to the target or other child or sitting quietly. The parent may be up a time or two to get more food or do something similar, but generally is engaged with eating and the family meal. Scores are lower if the parent reads, watched television, talks on the phone, texts or does other things unrelated to the eating experience.
7. I struggle to get my child to eat.
 - a. Verbal or physical bid by parent to get the child to eat or to finish food. This can be verbal or physical. Evaluated based on parents' target foods irrespective of child's preferred foods.
8. When I am home, I offer my child snacks at about the same times.
 - a. Allusion to this in the mealtime conversation or post-taping interview.
9. I decide what foods to buy based on what my child eats.

- a. Allusion to this in the mealtime conversation or post-taping interview.
10. I let my child feed him/herself.
- a. The parent provides the food and helps the child to get served, but then lets the child feed himself in whatever manner the child chooses.
11. I let my child eat until s/he stops eating and doesn't want any more.
- a. The parent helps the child get served but then allows the child to eat as much or as little as the child wants. The child is allowed to ask for more food and receive more food, continue eating or stop eating when they choose.
12. I am comfortable with providing meals for my family.
- a. Observe parents' demeanor during food preparation and meal.
13. I make something special for my child when s/he won't eat.
- a. Parent asks the child what the child wants during meal preparation or at the table and makes a substitute dish for the child.
14. I let my child have drinks (other than water) whenever s/he wants them.
- a. Allusion to this in the mealtime conversation or post-taping interview.
15. We have food leftover after meals.
- a. Assess during cleanup portion.

Appendix C

Post-Video Capture Interview Script

Appendix C features a brief script and series of questions for the researcher to ask the participants post-video capture.

“Thank you for taking the time to participate in this study. Your participation will assist us with nutrition education program development. We would like to talk about the videotaping portion study to hear your comments and suggestions.”

1. Was this a typical meal with regards to
 - a. Location? (on a scale from 1-7 with 1 being very typical and 7 being not typical at all) _____
 - b. Timing? (on a scale from 1-7 with 1 being very typical and 7 being not typical at all) _____
 - c. Type of food served? (on a scale from 1-7 with 1 being very typical and 7 being not typical at all) _____
 - d. Child behavior? (on a scale from 1-7 with 1 being very typical and 7 being not typical at all) _____
2. If not, how was it different?
3. On a scale from 1-7 (with 1 being extremely aware and 7 being not aware at all), how aware were you of the video cameras in the room...
 - a. At the beginning of taping?
 - b. At the end of taping?
4. Tell us any comments you have about the videotaping of your meal.
5. What else would you like to say about the study?

Appendix D: Consent Forms

Appendix D features the various consent forms used in this study, including the Implied Consent Form for Social Science Research (Home Visits), Implied Informed Consent Form for Social Science Research (Caregiver Survey #1), Informed Consent Form For Social Science Research (Other Adults in House), Child Assent Form for Social Science Research (Assent 6-13 Yr Olds), and Child Assent Form for Social Science Research (14-17 Yr Olds).



Informed Consent Form for Social Science Research
The Pennsylvania State University – Home Visits

ORP OFFICE USE ONLY
DO NOT REMOVE OR MODIFY
IRB# 40150 Doc. #1002
The Pennsylvania State University
Institutional Review Board
Office for Research Protections
Approval Date: 11/06/2012 – J. Mathieu
Expiration Date: 07/16/2013 – J. Mathieu

Title of Project: Feeding Practices of Caregivers of Preschoolers

Principal Investigator: Barbara Lohse, PhD, RD
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814-865-5169; lohseb@psu.edu

Co-Investigator: Kristen Arnold, MS
306 Chandlee Lab, University Park, PA 16802
814-867-3676; kna121@psu.edu

1. **Purpose of the Study:** This research study is being conducted by researchers at The Pennsylvania State University. The purpose of this research is to learn about feeding practices of the parents of preschool age children (2 to 5 year olds). Information from this study will be used to inform future nutrition program development and assessment
2. **Procedures to be followed:** Researchers will come into your home on two occasions: (1) a preliminary home-visit, in which researchers will measure the height and weight of you and your preschooler and will give you the link to complete another online survey set; (2) a second home visit during which researchers will video-tape a typical family meal. Following video-capture, you will be given the opportunity to participate in a short debriefing interview. You are also being asked to grant permission for any of your other children to take part in the video-capture of the family meal.
3. **Duration/Time:** The preliminary home-visit will take approximately 30 minutes. Completion of the second survey set will take about 5-10 minutes. Time required for video-capture will vary, depending on the length of the meal. Recording will begin 30 minutes prior to the meal and finish 30 minutes after the meal. The debriefing interview will last around 5-10 minutes.
4. **Statement of Confidentiality:** Your participation in this research is confidential unless you agree to allow your recordings to be used publicly as described below. Video recordings will be stored on computers on a password protected file that can only be accessed by researchers. Regarding the survey, your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet by any third parties. Penn State's Office for Research Protections, the Institutional Review Board, and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this project. If you do not want your recordings used as stated below, they will be destroyed 3 years after the close of the study.

Please check one:

I agree that segments of the recordings made of my participation in this research may be used for conference presentations.

_____ I do not want segments of the recordings made of my participation in this research to be used for conference presentations.

Please check one:

_____ I agree that segments of the recordings made of my participation in this research may be used for education and training of future researchers/practitioners.

_____ I do not want segments of the recordings made of my participation in this research to be used for education and training of future researchers/practitioners.

5. **Right to Ask Questions:** Please contact Barbara Lohse at (814) 865-5169 or lohseb@psu.edu with questions, complaints or concerns about this research. You can also call this number if you feel this study has harmed you. If you have any questions, concerns, problems about your rights as a research participant or would like to offer input, please contact Penn State University’s Office for Research Protections (ORP) at 814-865-1775. The ORP cannot answer questions about research procedures. Questions about research procedures can be answered by the research team.
6. **Payment for participation:** Each family will receive \$35 cash for completion of video-capture.
7. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions or complete any activities you do not want to complete. Refusing to participate or withdrawing early from the study will involve no penalty or loss of benefits you would be entitled to otherwise.

You must be 18 years of age or older to take part in this research study. If you agree to take part in this research study, to allow your child(ren) to take part in this study and the information outlined above, please sign your name and indicate the date below.

You will be given a copy of this consent form for your records.

- I give permission for my preschooler to take part in the home meal recording and to have their height and weight measured.

Printed Name of Child	Date of Birth	Date
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- I give permission for my other children to take part in the home meal recording. Please list each child.

Printed Name of Child	Date of Birth	Date
-----------------------	---------------	------

Printed Name of Child	Date of Birth	Date
-----------------------	---------------	------

Printed Name of Child Date of Birth Date

Printed Name of Child Date of Birth Date

Participant Signature Date

Person Obtaining Consent Date



Implied Informed Consent Form for Social Science Research

The Pennsylvania State University – Caregiver Survey #1

Title of Project: Feeding Practices of Caregivers of Preschoolers

Principal Investigator: Barbara Lohse, PhD, RD
205 Chandlee Lab, University Park, PA 16802
814-865-5169; lohseb@psu.edu

Co-Investigator: Kristen Arnold, MS
306 Chandlee Lab, University Park, PA 16802
814-867-3676; kna121@psu.edu

1. **Purpose of the Study:** This research study is being conducted by researchers at The Pennsylvania State University. The purpose of this research is to learn about feeding practices of the parents of pre-school age children (2 to 5 year olds). Information from this study will be used to inform future nutrition program development and assessment.
2. **Procedures to be followed:** You will be asked to go online to complete a multi-item survey. Following survey completion, you will be given the opportunity to provide your contact information to participate in the next phase of the study. If you are selected, this will involve (1) a preliminary home-visit during which researchers will come into your home to measure the height and weight of you and your preschooler and will ask you to complete another survey set; (2) a second home visit during which researchers will video-tape a typical family meal. This consent form is for the survey completion. You will receive a second consent form to sign if you participate in the video-capture portion of the study.
3. **Duration/Time:** The online, multi-item survey will take approximately 35 minutes to complete.
4. **Statement of Confidentiality:** Your participation in this research is confidential. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet by any third parties. Penn State's Office for Research Protections, the Institutional Review Board, and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this project.
5. **Right to Ask Questions:** Please contact Barbara Lohse at (814) 865-5169 or lohseb@psu.edu with questions, complaints or concerns about this research. You can also call this number if you feel this study has harmed you. If you have any questions, concerns, problems about your rights as a research participant or would like to offer input, please contact Penn State University's Office for Research Protections (ORP) at 814-865-1775. The ORP cannot answer questions about research procedures. Questions about research procedures can be answered by the research team.
6. **Payment for participation:** You will receive a \$10 online gift card for completion of the multi-item survey.

7. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions or complete any activities you do not want to complete. Refusing to participate or withdrawing early from the study will involve no penalty or loss of benefits you would be entitled to otherwise.

You must be 18 years of age or older to access the surveys in this research study.

Completion and submission of the survey implies your consent to take part in this research study. Please print off a copy of this consent form to keep for your records.

This informed consent form was reviewed and approved by The Pennsylvania State University's Institutional Review Board (IRB# 40150 Doc. #1001) on 11/06/2012. It will expire on 07/16/2013. (J. Mathieu).



Informed Consent Form for Social Science Research

The Pennsylvania State University – Other Adults in House

ORP OFFICE USE ONLY
DO NOT REMOVE OR MODIFY
IRB# 40150 Doc. #1006
 The Pennsylvania State University
 Institutional Review Board
 Office for Research Protections
 Approval Date: 11/06/2012 – J. Mathieu
 Expiration Date: 07/16/2013 – J. Mathieu

Title of Project: Feeding Practices of Caregivers of Preschoolers

Principal Investigator: Barbara Lohse, PhD, RD
 205 Chandlee Lab, University Park, PA 16802
 814-865-5169; lohseb@psu.edu

Co-Investigator: Kristen Arnold, MS
 306 Chandlee Lab, University Park, PA 16802
 814-867-3676; kna121@psu.edu

1. **Purpose of the Study:** This research study is being conducted by researchers at The Pennsylvania State University. The purpose of this research is to learn about feeding practices of the parents of preschool age children (2 to 5 year olds). Information from this study will be used to inform future nutrition program development and assessment
2. **Procedures to be followed:** Researchers will come into your home to video-tape a typical family meal.
3. **Duration/Time:** Time required for video-capture will vary, depending on the length of the meal. Recording will begin 30 minutes prior to the meal and finish 30 minutes after the meal.
4. **Statement of Confidentiality:** Your participation in this research is confidential unless you agree to allow your recordings to be used publicly as described below. Video recordings will be stored on computers on a password protected file that can only be accessed by researchers. Penn State's Office for Research Protections, the Institutional Review Board, and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this project. If you do not want your recordings to be used as stated below, they will be destroyed 3 years after the close of the study.

Please check one:

_____ I agree that segments of the recordings made of my participation in this research may be used for conference presentations.

_____ I do not want segments of the recordings made of my participation in this research to be used for conference presentations.

Please check one:

_____ I agree that segments of the recordings made of my participation in this research may be used for education and training of future researchers/practitioners.

_____ I do not want segments of the recordings made of my participation in this research to be used for education and training of future researchers/practitioners.

5. **Right to Ask Questions:** Please contact Barbara Lohse at (814) 865-5169 or lohseb@psu.edu with questions, complaints or concerns about this research. You can also call this number if you feel this study has harmed you. If you have any questions, concerns, problems about your rights as a research participant or would like to offer input, please contact Penn State University's Office for Research Protections (ORP) at 814-865-1775. The ORP cannot answer questions about research procedures. Questions about research procedures can be answered by the research team.
6. **Payment for participation:** Each family will receive \$35 cash for completion of video-capture.
7. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions or complete any activities you do not want to complete. Refusing to participate or withdrawing early from the study will involve no penalty or loss of benefits you would be entitled to otherwise.

You must be 18 years of age or older to take part in this research study. If you agree to take part in this research study and the information outlined above, please sign your name and indicate the date below.

You will be given a copy of this consent form for your records.

Participant Signature

Date

Person Obtaining Consent

Date



Child Assent Form for Social Science Research

The Pennsylvania State University – Assent 6-13 Yr Olds

ORP OFFICE USE ONLY
DO NOT REMOVE OR MODIFY
IRB# 40150 Doc. #1003
 The Pennsylvania State University
 Institutional Review Board
 Office for Research Protections
 Approval Date: 07/17/2012 – J. Mathieu
 Expiration Date: 07/16/2013 – J. Mathieu

Title of Project: Feeding Practices of Caregivers of Preschoolers

Principal Investigator: Barbara Lohse, PhD, RD
 205 Chandlee Lab, University Park, PA 16802
 814-865-5169; bal18@psu.edu

1. **Purpose of the Study:** This study will look at how parents feed their pre-school age children (2 to 5 year olds). Findings from this study will be used to make nutrition programs better.
2. **Procedures to be followed:** A meal in your home will be video-taped and you will be asked to be at the meal as you would on a normal day.
3. **Duration/Time:** Video-taping will begin 30 minutes before the start of the meal, and will end 30 minutes after the meal.
4. **Statement of Confidentiality:** We will not let anyone know that you participated in this research. We will not share any of your information with anyone. We may want to share the video with other researchers if you allow us. Please check one:

_____ Yes, you may use this video to tell other people/researchers what you are learning about family meals.

_____ No, I don't want you to use this video to tell other people/researchers what you are learning about family meals.

5. **Right to Ask Questions:** Please contact Barbara Lohse at (814) 865-5169 or bal18@psu.edu if you have any questions or concerns about this study.
6. **Voluntary Participation:** You can decide if you want to do this study. If you decide to do this study, you can decide to stop at any time.

 Name of Child

 Birthday

 Today's Date

 Printed Name of Witness

 Signature of Witness

 Date



Child Assent Form for Social Science Research

The Pennsylvania State University – 14–17 Yr Olds

ORP OFFICE USE ONLY
DO NOT REMOVE OR MODIFY
IRB# 40150 Doc. #1007
 The Pennsylvania State University
 Institutional Review Board
 Office for Research Protections
 Approval Date: 07/17/2012 – J. Mathieu
 Expiration Date: 07/16/2013 – J. Mathieu

Title of Project: Feeding Practices of Caregivers of Preschoolers

Principal Investigator: Barbara Lohse, PhD, RD
 205 Chandlee Lab
 University Park, PA 16802
 814-865-5169; bal18@psu.edu

1. **Purpose of the Study:** This study will look at how parents feed their pre-school age children (2 through 5 year olds). Findings from this study will be used to make nutrition programs better.
2. **Procedures to be followed:** A meal in your home will be video-taped and you will be asked to be at the meal as you would on a normal day.
3. **Duration/Time:** Video-taping will begin 30 minutes before the start of the meal, and will end 30 minutes after the meal.
4. **Statement of Confidentiality:** We will not let anyone know that you participated in this research. We will not share any of your information with anyone. We may want to share the video with other researchers if you allow us. Please read the following statements, and check one:

_____ Yes, you may use this video to tell other people/researchers what you are learning about family meals.

_____ No, I don't want you to use this video to tell other people/researchers what you are learning about family meals.

5. **Right to Ask Questions:** Please contact Barbara Lohse at (814) 865-5169 or lohseb@psu.edu if you have any questions or concerns about this study.
6. **Voluntary Participation:** You can decide if you want to do this study. If you decide to do this study, you can decide to stop at any time.

 Name of Child

 Birthday

 Today's Date

 Printed Name of Witness

 Signature of Witness

 Date

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ACADEMIC VITA
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EDUCATION

The Pennsylvania State University, University Park, Pennsylvania August 2011- December 2014
Schreyer Honors College
Bachelor of Science, Nutritional Sciences- Dietetics Option, Human Development & Family Studies Minor

NUTRITION FIELDWORK EXPERIENCE

New York Presbyterian Weill Cornell Medical Center, New York, New York May 2014 -- August 2014
Clinical Nutrition Services Intern

- Completed 300 hours as part of undergraduate fieldwork experience. Worked with patients, dietitians, food service personnel, and medical staff to improve patient care. Organized several nutrition hospital events and dietitian programs.

Red Light, Green Light, Eat Right!, Garden City, New York May 2013 -- August 2013
Intern to Dr. Joanna Dolgoff, MD

- Shadowed Dr. Dolgoff in pediatric nutrition practice and assisted in satellite media tours.

Zied Health Communications, LLC, New York, New York June 2012 -- September 2013
Intern to Elisa Zied, MS, RD, CDN

- Researched scientific studies on nutritional topics featured in Elisa Zied's new book, *Younger Next Week*.

Dello Certified Nutritionals, Inc., Manhasset, New York May 2010 -- August 2013
Administrative Assistant to Certified Nutritionist, Part-time

- Managed social media websites, ran administrative duties, and worked with body analysis equipment.

HEALTH & WELLNESS JOURNALISM EXPERIENCE

Foodie On Campus Online Magazine, Baltimore, Maryland June 2014 -- August 2014
Editorial Assistant & Writer

- Edited and wrote several health related articles on a weekly basis. Uploaded articles to Wordpress portal.

Gamer Fit Nation, New York, New York January 2013 -- May 2014
Health and Nutrition Columnist

- Author of bi-weekly health and nutrition column entitled, "Fast Track To Fit With Stef!"

FITNESS EXPERIENCE

Equinox, Great Neck, New York May 2014 -- Present

The Training Station Athletic Clubs, Port Washington, New York May 2013 -- Present

Penn State Fitness, University Park, Pennsylvania February 2013 -- Present

Indoor Cycling Instructor

- Instruct groups of clients at various fitness centers in dynamic indoor cycling classes.

ACTIVITIES

Standards Chair, Sigma Alpha Professional Agriculture Sorority

Social Committee, Schreyer Honors College Student Council

Member and Volunteer, Student Nutrition Association

Student Member, Academy of Nutrition and Dietetics

SKILLS & CERTIFICATIONS

Certifications: Schwinn Certified Indoor Cycling Instructor; ServSafe Certified; CPR/First Aid Certified

Computer: Microsoft Word, Excel & PowerPoint; WordPress; Website Design; Social Media

Languages: Knowledge of Spanish & Greek