COMPARISON OF CLIENT ATTENDANCE, ATTRITION, AND

OUTCOMES IN 2 CLASS SYSTEM PACKAGES

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Using the principles of systems analysis as a guide, this study compared two class schedule formats used by Behavior Management and Parenting Services (BMAPS) in order to address the following research questions: 1) What effects do 2 different class formats have on student attrition and appointment keeping? 2) What effects do 2 different class formats have on student outcomes on a pre and posttest assessment? 3) What effects do 2 different class formats have on staff procedures? BMAPS provides parent education to individuals referred by Child Protective Services. The current research included approximately 200 referred clients with an appointment or class scheduled with BMAPS between January 1, 2006 and September 22, 2007. Data was collected by reviewing client files for class attendance and performance records. Results of this study allow BMAPS to enlist the class format that is correlated with better attrition rates and client outcomes.

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CHAPTER 1

INTRODUCTION

The current study was conducted in the Behavior Analysis Resource Center's (BARC) Behavior Management and Parenting Services project (BMAPS) at the University of North Texas (UNT). BMAPS offers a 15-hour positive parenting education series and related services to parents, primarily biological parents at-risk or reported for maltreatment. BMAPS suffered from chronic truancy by clients attending the parenting series. The current study assessed the effects of 2 class system formats. The efficacy of each format was evaluated in terms of parent attendance and attrition, parent outcomes on a post-assessment including roleplays and a written activity, and system effects for the program.

Service organizations of nearly every shape and size battle the plague of missed appointments. In addition to the revenue organizations stand to recover through the use of successful intervention strategies, improved patient care and more effective client services can also be rendered when rate of no-shows decreases. The social significance of improvements in attendance varies by populations and services. With 905,000 victims of child abuse in the United States in 2006, parents and caregivers, the perpetrators in 80% of cases (US Dept of Health and Human Services, 2008), are an imminent social concern and society stands to benefit from effective prevention services. Attrition in such a population presents challenges in both achieving effective behavior change and evaluating the efficacy of programs.

VanCamp (2004) measured attendance and attrition in a positive parenting series provided by the Behavior Analysis Service Project (BASP) in Florida. Attendance

and attrition to the 30-hour class series were measured in 3 districts of the state over a 3-year period. Overall, approximately 36% of the total caregivers enrolled failed to complete the series. On average, the caregivers enrolled in the BASP series missed 3 out of 10 classes.

The BASP series was taught in every district of the state of Florida and to a variety of populations. Biological, relative, and adoptive parents, residential child-care staff, Department of Children and Families (DCF) staff, and other staff, as well as an unspecified group of non-staff caregivers (termed "other") received BASP services. Some populations received incentives or were required to enroll. Van Camp (2004) also measured attendance and attrition by caregiver type for populations not required to enroll and not receiving incentives. Of the non-staff caregiver types, biological parents had the lowest class attendance.

Whitehouse, Van Camp, and Vollmer (2008) also measured attendance to the BASP program over the same 3-year period and districts. The researchers found a downward trend in overall attendance to the BASPS 30-hour series as well as to a condensed 15-hour version of the series. Data comparing the BMAPS and BASP programs will be presented in the results section.

Letourneau (2001) assessed a parenting program for adolescent mothers of infants. The mothers were divided into 2 groups within a randomized trial design. For 6 weeks, mothers in both groups received weekly home visits by a nurse and incidental teaching regarding infant health or postpartum concerns. The intervention group also received an additional intensive structured intervention program; the comparison group did not. Results indicated mothers with partner difficulties, mothers with infants admitted

into the neonatal intensive care unit, or mothers visited less than 60 minutes per week were less likely to attend follow-up visits. Fifty percent of the mothers attended each of 2 follow-up visits.

Huebner (2002) evaluated the effects of a parenting program on parent reported stress and observed parent-child interactions using the Home Observation for Measurement of the Environment assessment. Participants were at risk for parenting problems or maltreatment due to serious life stress factors. These factors included poverty, small social networks, a history of childhood maltreatment, and drug or alcohol abuse. To avoid attrition, the program encouraged parent-involvement by providing choice of curriculum, free transportation and child care services, and a meal at each program meeting. Despite choice and incentives, only 20% of the parents attended all 8 sessions of the parent education program.

Attendance and attrition issues are prevalent in a variety of service organizations beyond parenting programs. Dental and medical health care facilities, mental health in- and out-patient hospitals, and blood banks suffer from patient no-shows (Bosnes, Aldrin, & Heier, 2005; Festinger, Lamb, & Kirby, 1996; Freund & Russell, 1991; Izard, 2005; "Pep talk reduces no-shows," 2004; Rice & Lutzker, 1984; Sharma, Elkins, van Sickle, Roberts, 1995; Shepard & Moseley, 1976; Siskos, 2003; Turner & Vernon, 1976; Wesch, Lutzker, & Frisch, 1987). Hotels, the restaurant and travel industries, and car rental services all lose revenue to cancelled and skipped reservations (Hellerstein, 1996; Lollis, n.d.; Yu, n.d.). Much research and many anecdotes are directed toward rectifying losses created by clients who miss appointments in these populations.

A brief review of the literature by Lacy, Paulman, Reuter, Lovejoy, (2004) targeted demographical and predictor variables. The researchers reported health care patient no-shows were younger in age, of lower socioeconomic status, and in receipt of government-provided healthcare. Berrigan and Garfield (1981) and Fraps, McReynolds, Beck, and Heisler (1982) also identified individuals in the lower socioeconomic strata as more likely to miss appointments. Males with low levels of community involvement and homes further from providers were also at greater risk for being no shows (Fraps et al., 1982). Research by Dubinsky (1986) indicated that unemployed individuals and those with less access to transportation did not attend appointments.

Oft-cited reasons for patients and clients failing to attend scheduled appointments include forgetfulness, treatment anxiety, parking fees, and unreasonable wait-times (Izard, 2005; Lacey et al., 2004; Vazquez & Aguero-Vazquez, 2004). Health providers have reported that patients without insurance coverage (Vazquez & Aguero-Vazquez, 2004) or with insurance policies but unable to afford co-pays (Kelly, 2005) chronically miss appointments without cancellation. Patients have cited discomfort interacting with reception staff, parking inconveniences (including parking fees), and untimely appointment hours offered by organizations as other hindrances (Kelly, 2005). Clients also blame child care and transportation as road-blocks to keeping commitments (Lacy et al., 2004).

A wide range of interventions targeted at increasing appointment-keeping have been investigated. Wesch et al. (1987) evaluated a $3 appointment fee on the attendance of students at a campus health care facility. The facility charged students the $3 fee for appointments kept and missed unless a student cancelled or rescheduled

an appointment. Following introduction of the fee, missed appointments showed a significant decrease in frequency. By analyzing the pattern of no-shows in the year before intervention, the authors predicted that the campus health care facility avoided 2889 missed appointments in the subsequent year.

Other researchers have investigated the influence of reducing the call-appointment interval on number of no-shows. Benjamin-Bauman, Reiss, and Bailey (1984) conducted a study in which clients were assigned to a 1, 2, or 3-week interval between call for appointment and appointment date. Attendance rates of those in the 1-week interval were significantly higher than those in the 3-week interval. In a second experiment, the researchers assessed differences in show-rates between clients assigned a 1-day interval and 2-week interval. Again, the shorter interval resulted in significantly higher rates of attendance. A similar study by Festinger, Lamb, and Kirby (1996) resulted in higher rates of attendance by individuals in an outpatient cocaine treatment center when offered an appointment on the same day as opposed to the typical 1 to 7 day interval between call and appointment. Freund et al. (1991) evaluated rate of no-shows and the length of delay between intake and first appointment at a campus counseling center. Clients' intake appointments occurred between 1 and 7 days after calling. Following the intake appointment, clients were placed on a wait list for a counseling appointment. Clients were exposed to natural delays between 4 and 53 days for the initial counseling appointment. Statistical analyses did not support an effect for time interval on client attendance at the appointment.

Several evaluations of single antecedent and combination antecedent interventions have also been conducted. Friman, Finney, and Rapoff (1985) reported an

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increase in number of appointments kept and a decrease in number of appointments missed across 5 providers with the implementation of a combination intervention consisting of a telephone and mail reminder as well as a parking pass. A cost-benefit analysis of the intervention provided further support for the use of the intervention. Ross, Friman, and Christopherson (1993) assessed the effects of mail and telephone reminders and a parking pass, mail reminder and parking pass, telephone reminder only, and control conditions on attendance and cancellations for child healthcare appointments. The authors reported that all interventions significantly increased the number of cancellations, but had no significant effect on attendance at the child healthcare appointments. Turner and Vernon (1976) evaluated a call reminder for improving attendance at a community mental health center. Results suggested that a telephone prompt alone can significantly decrease rate of no-shows.

Rice and Lutzker (1984) evaluated four treatments to reduce no-shows including antecedent and consequence interventions. Treatment groups included control, receipt of a modified appointment card, free follow-up if the client did not reschedule, and reduced-fee follow-up if the client did not reschedule. Face to face delivery of the modified appointment card occurred during appointment scheduling at the business office. The bigger card held a red sticker to be placed in the client's date book as a reminder of the upcoming appointment. The researchers reported that the least expensive conditions were also the least effective (control and modified appointment card), and the two consequence-based interventions were approximately equal in effectiveness (free and reduced-fee follow-up).

Katz, Moyer, Cox, and Stern (2003) examined a rapport building intervention on patient attendance at appointments. The authors implemented the intervention, a triage-based e-mail system, in a randomized controlled trial. The researchers assigned physicians and patients to intervention and control groups and analyzed system use, no-show rates, and users' perceptions of the system via survey. E-mail volume for the participating physicians increased significantly; however, the rate of no-shows did not vary significantly with implementation of the intervention.

Bosnes et al. (2005) measured the effectiveness of a system for predicting the number of donors that would attend a given day of a blood drive. By incorporating donor predictor variables (time interval from call to appointment, age, number of previous donations) and information about donor attendance in previous years (no-show rate, arrivals, and deferrals), the authors were able to arrange staff schedules in a way that reduced donor wait times by 43%.

CHAPTER 2

METHOD

Personnel and Setting

Parents at-risk of or reported for child abuse or neglect are referred to the Behavior Analysis Resource Center's (BARC) Behavior Management and Parenting Services project (BMAPS) by Texas' Child Protective Services (CPS). Most parents' children had been removed from the home and the parents were seeking reunification. Attending a parenting class was commonly required of these parents before children could be returned to their home. Other services and actions that may be required included attending alcohol or drug rehabilitation, attending anger management classes, ending an abusive relationship, maintaining sobriety, receiving therapy sessions, finding employment, making suitable housing arrangements, and undergoing psychological testing.

Figure 1 shows a supersystem diagram of the organization (Rummler & Brache, 1995). Boxes to the far left of the diagram represent inputs of BMAPS, which is nestled within the parent organization, BARC. Students entered the system as staff, parents referred by the court system and Children's Protective Services (CPS) enrolled in classes, and contract support was received from a local counseling center. Service fees were used to fund operations and pay senior level staff. Competitors of BMAPS are represented in the boxes on the lower left of the diagram. Other schools competed for the best students, and other labs within the department at the University of North Texas (UNT) competed for students' membership. Additionally, other classes for parenting were provided in the North Texas community. Outputs of the organization are located

on the far right of the diagram. Arrows denote the markets and receiving systems to which outputs are filtered. Students left the organization to enter the labor market as trained behavior analysts. Participant involvement reports (PIRs) were a value-added product created by BMAPS and delivered to CPS. The PIR contained information regarding the conduct and outcomes of parents who complete the BMAPS class series. Other organization outputs included BMAPS services such as job training for students and parenting classes for parents.

BMAPS was operated by a staff of graduate students pursuing Master's degrees in behavior analysis. Two students were assigned by the project director to manage operations and train staff. Most of the participating students contributed between 2 and 15 paid and volunteered hours per week of a college semester. Staff members were responsible for a number of administrative tasks including client enrollment in the parenting class series, answering client phone calls, administering preassessment and post-assessment assessments, providing feedback following parent-child visitations, and communicating with clients' social workers and case-related volunteers.

The primary duty of the student staff, and the foremost service offered by BMAPS, was the provision of a 15-hour parenting series. The series offered by BMAPS was a modified version of the Essential Tools for Positive Parenting curriculum, originally developed by the state of Florida's Behavior Analysis Service Project (BASP). Graduate students presented the behaviorally-based curriculum that teaches positive child behavior management strategies. The series was typically conducted within the college campus community and scheduled weeknights and Saturdays to accommodate

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a primarily working-class clientele. On average, the series was offered 5 times per semester. In the first 3 years of the project, 53, 94, and 137 clients were served.

Procedure

Nature of the Problem

As stated, BMAPS suffered from chronic truancy by clients, particularly in the first session of the 5-week series. Truancy data are shown in graphs including clients enrolled since January 1, 2006 and are discussed in the results section. Due to the comprehensive nature of classes within the series, BMAPS established a policy by which truancy resulted in the client receiving dropout status. Clients who dropped out were required to re-enroll in a later series in order to complete the service. Clients failing to re-enroll risked the consequences associated with non-adherence to their service plan, including permanent removal of their children from the home. The high rate of "no-shows" also resulted in reduced class sizes. The project considered 10-12 clients to be an optimal class size for providing services. Significantly fewer clients meant less meaningful training for staff learning to teach a class and inefficient use of paid staff resources. In the spring semester of 2007, following class series in which attendance was between 1 and 5 clients, the project director, project manager, and staff trainer elected to make a scheduling change in an attempt to improve client attendance.

Original Package: Class System 1

Prior to intervention, the BMAPS class met for 3 hours once per week for 5 consecutive weeks in a classroom on campus. Before and after enrollment in the 5-

week series, parents were scheduled for individual pre- and post-assessment appointments at the BMAPS office, also located on campus. Scheduling for office visits accommodated both staff and clients and normally occurred during the day or early evening. These individual client appointments did not occur on the same day or at the time as the classes, and were always located in a different building from where the series was held. Preassessment appointments were held from a few hours to approximately 2 weeks prior to the start of the class series in which the parent was enrolled. Similarly, post-assessments could occur within an hour after a series ended or as long as 2 weeks later.

Parents attending a preassessment appointment needed to first locate one of two parking kiosks for a visitor's parking pass and a campus map. Using the map and directions sometimes provided by the kiosk worker, the parent navigated the campus community to the building housing the BMAPS office. After finding the appropriate building, its parking lot, and the entryway, the parent then located the office within the building. Initially, the BMAPS office was located within the behavior analysis office suite, and later, in the lower level of the building within another organization's suite. Neither office could be found by a newcomer with particular ease, and because appointments were scheduled around other graduate student activities, if a parent arrived late, the graduate student would not always be able to conduct the assessment. Hence, a late policy was instigated: if parents arrived 20 minutes or more late their appointment was canceled. Following an appointment, the facilitating BMAPS staff member provided the parent with another map indicating the building and parking for the site of the 5 class series.

In addition to the large response cost on the part of the parent for an appointment, extensive effort by staff was needed to prepare for and conduct the assessment appointment. To schedule the appointment, staff members filled out a call sheet for the project's records, checked computerized staff and class schedules, provided directions to the campus kiosk, and informed the parent of the late policy. Appointments were scheduled on the BMAPS calendar and sent to the staff people who conducted the assessment, the client was entered onto the master roster/class list, and the new call sheet was filed in a binder locked in the BMAPS filing chest. At the time of the appointment, two staff people were present to facilitate. The staff retrieved the call sheet and other papers related to the client (such as an information release form from CPS or other agency) and collected it in a file for the client. One of the staff led the appointment by describing paperwork given to the client and leading roleplays. The other staff person assisted with roleplays, collected data on client performance, and videotaped the assessment. Video recordings were labeled and stored on an external drive immediately following the appointment. Two physical files were also created and stored for the client. One file received a non-identifying numerical code and contained assessment data, and the second was filed by client name and contained signed consent papers. At the closing of the appointment, the staff provided the client with a map and verbal directions to the class site. An alternate procedure was required when a parent failed to show for an appointment. Maps of appointment procedures are depicted in Figures 2 and 3. A staff training checklist of appointment procedures is shown in Figure 4.

Revised Package: Class System 2

In the revised class system, implemented on March 17, 2007, the BMAPS series met once per week for 7 consecutive weeks at a single location on campus or less often, at an affiliated counseling center located approximately 25 miles from the university. During the first and last week of the series, preassessment and post-assessment assessments were conducted. A team of approximately 5 BMAPS staff members administered the assessment class. Paperwork was distributed and described to the class of parents and was followed by the individual roleplay assessments conducted in the hallway or another vacant classroom nearby. Parents created their own named files with materials provided by the staff, and roleplays were no longer video recorded. Staff members created the coded file and both the named and coded files were stored after the preassessment assessment class was conducted.

An important change resulting from the revised system was the imposition of a longer delay between initial contacts by parents and the first meeting with BMAPS staff members. In the previous system, appointments for preassessment were scheduled as soon as possible following a parent's initial phone request to enroll in the course. In the new system, a staff member directly enrolled the parent into a class at the time of the phone request to enroll; however, the class and, therefore, the first in-person contact between the parent and staff members, could occur between 1 day and approximately 3 weeks after the call. To bridge this delay, reminder calls were made to parents one day prior to the first class meeting.

Parents reported directly to the class site and all meetings (preassessment, class meetings, and post-assessments) were held at the same time of day on the same day of seven consecutive weeks. Staff members were present for 3 hours during

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preassessments and post-assessments hence, parents who arrived late could still be accommodated.

This arrangement reduced the labor required for preassessment and post-assessment activities by allowing the facilitators to prepare for and conduct activities with several parents at once. Paperwork could be described and administered to several clients simultaneously, rather than on a 1-1 basis. It was no longer necessary to coordinate clients' and staff members' schedules for individual appointments, so class enrollment was also more efficient. Staff members created a call sheet and listed the parent on the master roster when a parent called to enroll. Creation and storing of files took place simultaneously for a group of clients, and usually was completed within approximately 60 minutes. Staff members were given the choice of completing this task immediately following the assessment or during their regularly scheduled work time. The new procedures are diagrammed in Figure 5, and a table comparing the 5 and 7 week class system is displayed in Table 1.

As stated, the revised System 2 series was implemented to alleviate problems and response costs associated with the System 1 series and reduce the rate of attrition in the class series. Attrition was measured as the number of parents who did not attend ("no-shows") any one of the five classes in the series. Parents who missed any class were required to restart the series; therefore, no-shows are counted only one time per parent and for the first missed class. Attendance was measured as the number of parents that attended each divided by the total number enrolled. Parent outcomes were measured by comparing post-assessment scores of parents in System 1 and System 2.

Prior to data collection, consent was received from the Institutional Review Board. All data were collected by an unbiased data collector who reviewed attendance records for all class sessions (to identify no-shows) as well as pre- and post-assessment scores.

CHAPTER 3

RESULTS

Figure 6 displays the number of parents enrolled in the class at the outset of a series and the number of parents who completed the class for the System 1 and System 2 class schedules. One hundred thirteen parents enrolled in System 1 classes and 74 parents completed the classes. Eighty-seven parents enrolled in System 2 classes and 23 completed those classes. The percentage of parents who completed the post-assessment increased from 65% in the System 2 series to 74% in System 1.

Figure 7 displays the percentage of attendance at post-assessments, based on the number of parents who attended the final class session. For example, if 8 parents attended class Session 5, the number of parents who attended the final session was divided by 8 and the results were multiplied by 100. In the System 1 group, 85.1% attended their post-assessment appointment following completion of all 5 class sessions in the parenting series. For the System 2 group, 100% of parents who completed the class attended the post-assessment.

Parents who failed to attend a class session in Systems 1 and 2 were required to re-enroll in the class, beginning with Session 1. Figures 8 through 10 illustrate attendance and no shows for each session of the class for parents enrolled for the first time (Figure 8), the second time (Figure 9), and the third time (Figure 10). In the upper graphs of these figures, the number of parents expected to attend each session is represented by a horizontal, dashed line. The number of no-shows (parents who did not attend the session as expected) are shown for Systems 1 and 2 using filled and open

bars, respectively. The lower graphs of these figures show the percentage of no-shows to each session.

Figure 8 displays the results for first-time attendees. 28.3% of the parents failed to show to Session 1 in System 1, the highest percentage of no-shows for all sessions for this group. The total number of parents expected for this session was 113, also shown on the graph. For subsequent sessions in the System 1 group, the percentage of no-shows decreased. For Session 2, 1.2% of the class failed to show, for Session 3, 6.3% failed to show, for Session 4, 1.3% failed to show, and in the final week, Session 5, 0% no-shows occurred. The total no-shows for all parents' first enrollment in the System 1 group was 34.5%. In the System 2 series, 17.2% no-shows occurred in the first session, followed by 15.1% no-shows in Session 2. No-shows decreased in Session 3 and remained low for the remainder of the sessions. In Session 3, 3.2% no-shows occurred, in Session 4, 3.3% no-shows occurred, and in Session 5, 1.7% of the parents failed to show. In total, 35.6% no-shows occurred in the System 2 group, a difference of 1.1% from the System 1 group. Of the total no-shows in the System 1 group (34.5%), 15% re-enrolled in Session 1 of a subsequent series. Of the 35.6% no-shows in the System 2 group, 20.7% re-enrolled in a later series.

Figure 9 illustrates attendance for parents re-enrolled in a second series. For the System 1 group, the percentage of no-shows to Sessions 1, 2, 3, 4, and 5 were 5.9%, 12.5%, 14.3%, 8.3%, and 0%. The total no-shows for all parents' second enrollment in the System 1 group was 35.3%. In the System 2 series, 38.9% no-shows occurred in the first session, followed by 8.3%, 0%, 18.2%, and 0% in Sessions 2 through 5. For the

System 2 group in second enrollment, a total of 55.6% no-shows occurred, a difference

of 20.3% between the System 1 and System 2 groups.

Figure 10 shows attendance for parents in the System 1 and System 2 groups

enrolled for a third time in the Behavior Management and Parenting Services project

(BMAPS) class. The total no-shows for all parents' third enrollment in the System 1

group was 0%. In the System 2 series, 66.7% no-shows occurred in the first session,

followed by 0% in all 4 of the subsequent sessions. For the System 2 group enrolled in

the series a third time, 66.7% total no-shows occurred. The difference in no-shows

between the System 1 and System 2 groups for parents in third enrollment was 66.7%.

Table 2 provides a summary of the 2 x 2 analysis of variance for the effects of

class system, 5 or 7, and pre- versus post-assessment condition on percentage correct

on the curriculum assessment. A significance level of .05 was used for all statistical

tests. First, as displayed in Table 2, there was a statistically significant main effect of

assessment condition (pre- vs. post-assessment) on percentage correct on the

assessment. The partial eta squared (η^2) = .59 indicates a large effect size. Parents

performed better on the assessment after completing the class ($M = 79.6$, $SD = 11.9$)

than before completing the class ($M = 34.4$, $SD = 12.9$). Second, as displayed in Table

2, there was not a statistically significant main effect of class system on percentage

correct on the assessment. Parents' performance on the assessment in the System 1

class series, measured as difference from preassessment to post-assessment ($M =$

58.3, $SD = 25.1$) was similar in magnitude for parents in the System 2 series ($M = 55.5$,

$SD = 26.58$). Third, as displayed in Table 2, assessment condition and class system did

not have an interactive effect on percentage correct on the assessment. The effect on

changes in percentage correct between preassessment and post-assessment of enrollment in System 1 and System 2 was of similar magnitude for each condition of the assessment.

Figure 11 (Van Camp, 2004) is presented as a point of reference. The figure displays the attendance data at parenting series for the Behavior Analysis Service Project (BASP), Florida's program for parent training. As stated, the 15-hour positive parenting curriculum employed by Behavior Management and Parenting Services project (BMAPS) originated in the BASP. There, the curriculum is taught in every district and to a variety of populations with a primary focus on foster parents. In addition to foster parents, Florida's Department of Children and Families (DCF) referred biological, relative, and adoptive parents, residential child-care staff, DCF staff, and other staff for enrollment in the parenting class. As displayed in Figure 11, among adoptive, relative, foster, and biological caregivers (those caregivers who were not staff), biological parents had the lowest class attendance ($M = 56\%$).

Figure 12 (Whitehouse et al., 2008) is presented as a benchmark for the current study. The open squares on the graph depict *all* of the above caregiver types attendance to the BASP's 15-hour class series and only those parents who did not receive incentives and were not required to attend. The closed squares indicate attendance for the 30-hour class series (the 15-hour curriculum was created out of the more comprehensive 30-hour series). The attendance percentage was calculated by dividing the number of caregivers in attendance in each class by the number of parents enrolled in the first class of the series and multiplying by 100. Pre- and post-assessments were conducted the same days as Sessions 1 and 5, respectively. Figure

12 shows a descent in caregiver attendance for both the 15-hour and 30-hour class series. By Session 5 of the 15-hour series, approximately 80% of those enrolled in Session 1 still attended the series.

Figure 13 displays BMAPS attendance data in a configuration comparable to the data in Figure 12. The open circles represent the attendance percentage at BMAPS classes for the 5 sessions of the System 1 series and the post-assessment. Seventy-two percent of enrolled parents attended the first session of the System 1 series. By Session 5, 66% of the initially enrolled parents were in attendance, and 56% of those enrolled in Session 1 attended the post-assessment. The closed circles show the attendance percentage at the 5 classes in the System 2 meeting system and post-assessment. Initially, 83% of the parents enrolled attended the series (Session 1). By Session 5, 64% of the class was in attendance. All of the parents who attended Session 5 also attended the post-assessment. A comparison with outcomes from the BASP investigation (Figure 12) reveals that both programs lost caregivers across sessions of the series; however, by Session 5, BASP retained 80% of caregivers and BMAPS retained approximately 65% of parents.

CHAPTER 4

DISCUSSION

The current study was designed to compare attendance rates in a series of parenting classes presented in 2 system formats. The two systems were evaluated by 1) percentage of enrollees to complete the series, 2) percentage of no-shows in Sessions 1 through 5 for first and repeated enrollment, and 3) percentage of no-shows to the post-assessment. Between subject and between groups differences in pre- to post-assessment scores were also examined, and comparisons to a similar program, Behavior Analysis Service Project (BASP), were made.

The outcome of the analysis of variance (ANOVA) for the 5 and System 2 series showed no statistical differences in post-assessment scores between parents in the 5 or System 2 groups. Without distinguishable learning outcomes between the systems, attendance, attrition, and staffing issues became the determining factors for the most efficient model.

In terms of attendance, the percentage of enrolled parents to complete the Behavior Management and Parenting Services project (BMAPS) class series supports the use of the System 2 series. The completion rate of parents enrolled in the System 2 group was nearly 10% higher than the completion rate of parents in the System 1 group. The percentage of parents to attend all 5 sessions in the series and subsequently complete a post-assessment also provides support for the System 2 series. Attendance at the post-assessment by parents completing the classes in the System 2 series was 100%. Attendance percentage by parents in the System 1 group was 86%, 14% less than in the System 2 group.

The total attrition rate between the 2 systems for parents in first-time enrollment with the BMAPS series showed no percentage differences; however, differences in patterns of attrition were seen. The largest percentage of parent no-shows in the System 1 group occurred in session 1. Few no-shows occurred in later sessions of the series. In contrast, no-shows in the System 2 group were distributed almost evenly between sessions 1 and 2 of the series. Whereas changes in the system appeared to alter the distribution of no-shows, the variables underlying this finding are unknown. Future research may be directed at identifying variables affecting the distribution of no-shows across sessions.

Total attrition rates for parents in second and third-time enrollment in the series favor the System 1 series; however, the smaller n sizes in these samples largely discount them as supporting evidence for that system (n = 35, 3). Of interest in these results is the marked dropout rate. More than half of the total parents who had dropped out of their first presentation of the System 2 series dropped out of second-time enrollment. Sixty-seven percent of second-time dropouts dropped out of their third-time enrollment as well. In the System 1 series, 35% of those in second-time enrollment dropped out. None joined a third series.

Finally, as indicated by the streamlining seen between the staff's procedural steps depicted of the System 1 series in Figures 2 and 3 and of the System 2 series in Figure 5, the System 2 class series required less staff time and effort and eliminated the need for coordinating the schedules of graduate student staff (who attended classes at night) and parents (who often worked during the day). Additionally, the System 2 series reduced the response cost required of parents (Table 1).

An important drawback to the System 2 series is it slows the pace at which students earning course credit can complete the requirements for university practica. Students who complete practica in the BMAPS system must perform duties of escalating skill complexity across 3 series of classes. Under the System 1 series, at optimum speed, students can complete the requirements in 15 weeks, the equivalent of one semester. In the revised system, a minimum of 21 weeks (which exceeds the length of a single semester) is required. Despite this disadvantage, the number of students participating in BMAPS practica increased during the course of the study.

An evaluation of attendance, attrition, and staffing issues across the 5 and System 2 series indicates that the System 2 series was more effective, overall, in addressing these issues. System 2 resulted in higher completion rates for parents and more efficiently utilized available staff resources.

Although completion percentages showed improvements in the System 2 class series, a comparison with the Florida BASP class series revealed that a higher percentage of caregivers completed 5 sessions at BASP. Differences in attendance to the BMAPS versus the BASP series may be due to a variety of factors. First, as indicated by the bar graph in Figure 11, participants in the BASP project included a variety of caregivers, including biological, foster, and adoptive parents, as well as staff and non-staff caregivers. Results indicated that biological parents had the poorest attendance records of all non-staff caregivers. Hence, an analysis of the BASP's biological parents alone may be most comparable to the population using BMAPS services. Second, and also in contrast to the BMAPS class series, all parents in the BASP series who missed a class (or classes) were offered an in-home make-up session

and allowed to attend the following class in the series. Additionally, parents in the BASP series received in-home training from a behavior analyst between class sessions. Parents in the BMAPS class series were offered a make-up session on-site (rather than in the caregiver's home) under the condition that the parent provided advance notice of a class date to be missed, or when the request for a make-up session could be accommodated by a staff member prior to the next session in the series. No in-home services were provided, in part because few among the parent population served by BMAPS had children in the home. Third, the Department of Children and Families of Florida provided incentives and imposed requirements for some of the caregivers in their parenting class series. For example, some participants received $45 per class attended, babysitting money for the time spent in class, both $45 and babysitting money, or combinations of incentives and required enrollment in the class series. Future research in BMAPS should examine the effects of various incentives on attendance and attrition in the class series.

Limitations

There were several limitations to measurement in the current study. Most importantly, no data were collected on attendance or attrition at preassessments. No-shows to the preassessment or between preassessment and session 1 are unknown. This issue makes it impossible to identify at least two potential effects of the systems. First, during the System 1 series, BMAPS encountered difficulty scheduling class series due to unpredictable class sizes. Anecdotally, an optimal number of parents were pre-assessed for each series of classes, but only a subset of parents who attended

preassessments also attended the first class session. Attendance records for the preassessment would have indicated the number of parents actually failing to show to the assessment. Second, during System 2, classes of optimal size were scheduled, but only a percentage of those signed up arrived to the group preassessment session. Attendance records for preassessments in the both systems would have permitted an analysis of no-shows at preassessments. The information may also have suggested reasons why the distribution of no-shows was different between Systems 1 and 2.

Failure to record call reminders is another measurement limitation in this study. BMAPS staff members were instructed to call all parents signed up for a class series on the day prior to the preassessment in System 2. Although the staff trainer and project manager followed up with staff to ensure calls were made, no records were kept for call reminders. Those data would have provided confirmation that calls were made and permitted analyses of the number of parents with whom staff spoke, number of parents for whom voicemails were left or unavailable, the number of incorrect or disconnected phone numbers, and the effectiveness of these contacts in increasing attendance at the class.

A potential confound in the study involves differences in personnel style in conducting the parenting class series. Two members of the BMAPS staff were designated as lead trainer or co-trainer for each class series, according to their point of progress in the staff-training sequence and the status of the staff with which each was working. Seasoned staff were paired with staff-in-training so that at least one highly experienced person participated in each class. Thus, lead trainers and co-trainers were consistent within a single series, but varied across series. It is possible that trainer

characteristics could have had an effect on the number of no-shows to a series (e.g., parents may have preferred experienced trainers, leading to a high number of drop outs in classes with less experienced trainers).

Implications of Findings in the Current Study

The majority of participants in this study were parents identified or at-risk for child maltreatment. For these parents, reunification of the biological unit is the preferred permanency goal of child welfare agencies (Wulczyn, 2004) and is the primary motivation for enrollment by most of the BMAPS clientele. Unfortunately, reunification often fails to be maintained (Wulczyn, 2004). In 1990, 30% of reunification cases failed within 10 years, and 70% of these children reentered the foster care system within just one year (Wulczyn, 2004). Problematic parenting skills have been cited as one reason for failed reunification (Jones, 1998). Hence, skill development and behavior change by this population is of social importance, and a primary target of services provided for this population by BMAPS.

Skill development resulting from the BMAPS class is measured by the pre- and post-assessments administered at the start and finish of the class series. Results of the current study indicated significant improvements in the ability of BMAPS' parents to demonstrate the use of skills learned in class during roleplay assessments (see also Berard, in press). BMAPS provides a participant involvement report (PIR) to the referring agency following an individual's completion of a post-assessment. This document reports the attendance, participation, and assessment scores of the referred individual and can be used by the agency or individual in court as proof of the

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individual's effort to make agency-prescribed changes and adherence to the case plan.

Individuals not completing the class are not provided with a report and may or may not

seek consent from their referring agency to enroll in another parenting series offered by

other community providers. Classes offered by other providers within the same

geographic region typically meet weekly for a series of weeks of similar duration (for

example, 5 or 10 weeks) and provide the individual with a certificate of participation

following the series. To date, no known measures of skill acquisition are documented by

other local providers. The relationship of competitors and outputs (i.e., other providers

and the PIR) for BMAPS can be seen on the supersystem map in Figure 1.

A study conducted by the Westat and Chapin Hall Center for Children (2001),

identified 4 issues most significant to caseworkers in determining if reunification should

occur. Participants included nine caseworkers working in three districts in the

Washington D.C. area. The issue most repeated by the caseworkers as a determining

factor in reunification was first, *parents' adherence to service referrals*, then,

participation in treatment, changes in behavior, freedom from prior substance abuse

problems, and involvement in planning the child's school and other activities. If

adherence to service referrals is, in fact, the foremost determining factor in reunification,

the center's findings raise a number of concerns for providers of mandated services,

such as BMAPS. For example, thorough reporting of services rendered and parent

outcomes, reliability of performance-change indicators, and attendance expectations

become of heightened ethical responsibility. Although the current study touches on each

of these (i.e., services rendered/outcomes, change indicators, and attendance

expectations), the current findings primarily address the sensitivity of attendance

outcomes to attendance expectation variables (discussed in this study as parent response cost).

In conclusion, this study compared 2 class system formats that varied by response costs to both members of the BMAPS staff and biological parents served. Behavior and systems analyses indicated the more pragmatic system for staff, which was also the most user-friendly for parents as indicated by a higher rate of completion. Given the organizational benefits for staff and the improvements in attendance shown for parents, BMAPS will employ this better system (System 2). Further, in light of the greater societal need to reduce and eliminate child maltreatment, the choice for a system providing the most contact with parents also provides us with the most opportunity to help.

Table 1

Change in Organizational Process

System 1	System 2
Pre/post-assessment by appointment	Group pre/post-assessment in class
Two locations	One location
Lag after appointment	Lag after call
	Call reminder

Table 2

Analysis of Variance for Percentage Correct on Assessment

Source	df	F	η^2	p
Class system, 5 or 7 (C)	1	3.29	0	.07
Assessment, pre or post (A)	1	904.56*	.59	.0001
C x A	1	1.14	0	.29
Error	269	(152.45)		

Note. Value in parentheses represents mean square error. *p < .0001

Texas Government   Economy   State of Social Work
Culture   Family Systems

BARC

BMAPS

Students

Staff

Practicum Training

Management

Behavior analysts

Markets/Receiving Systems

Labor Market

Parents

CPS

TX Court

Class
- Saturday
- Week nights
- Lewisville

Research

PIRs

CPS

Parenting class series

Parents

Counseling Centers

Grant

Office Hours (Admin)

Internal Feedback
Practicum Requirements
Trainer Feedback
BARCs

Job training

Counseling Centers

Students

Society

Competition

Other Schools | Other Labs | Other Classes

Feedback
Demand for parent training, job training, client outcomes

TX Court Sys

Denton County

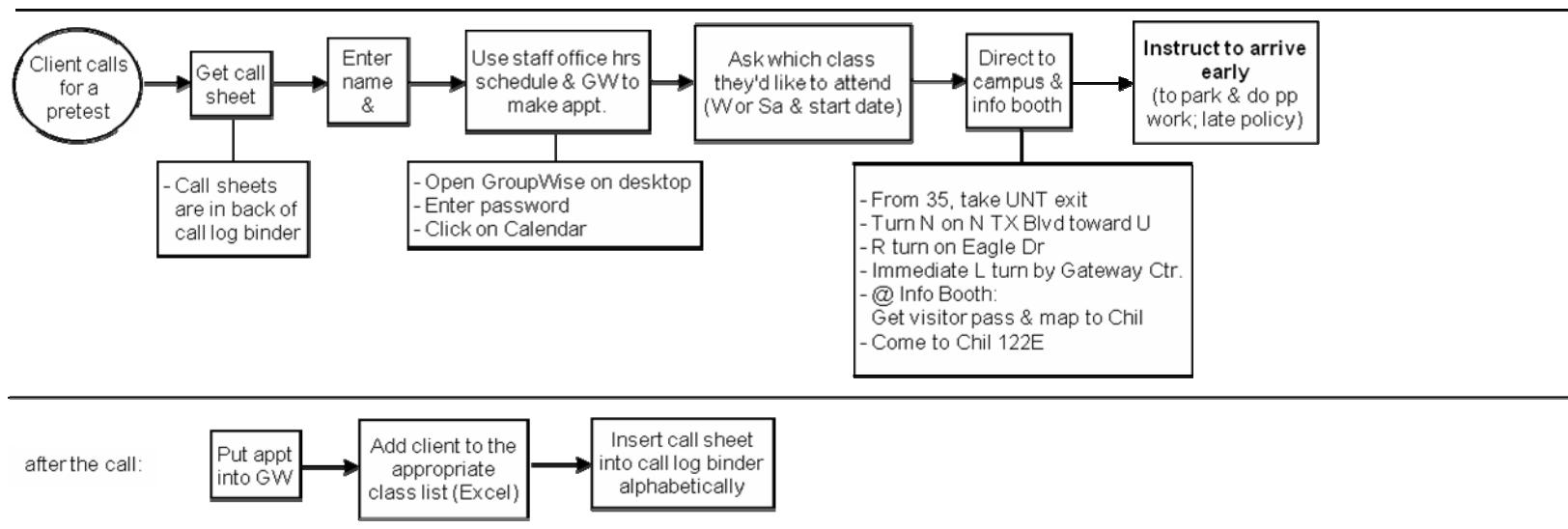*Figure 1*. A systems view of BMAPS displaying inputs and outputs of the organization.

Figure 2. Procedural steps conducted by BMAPS staff when clients called to enroll in the parenting series under System 1.
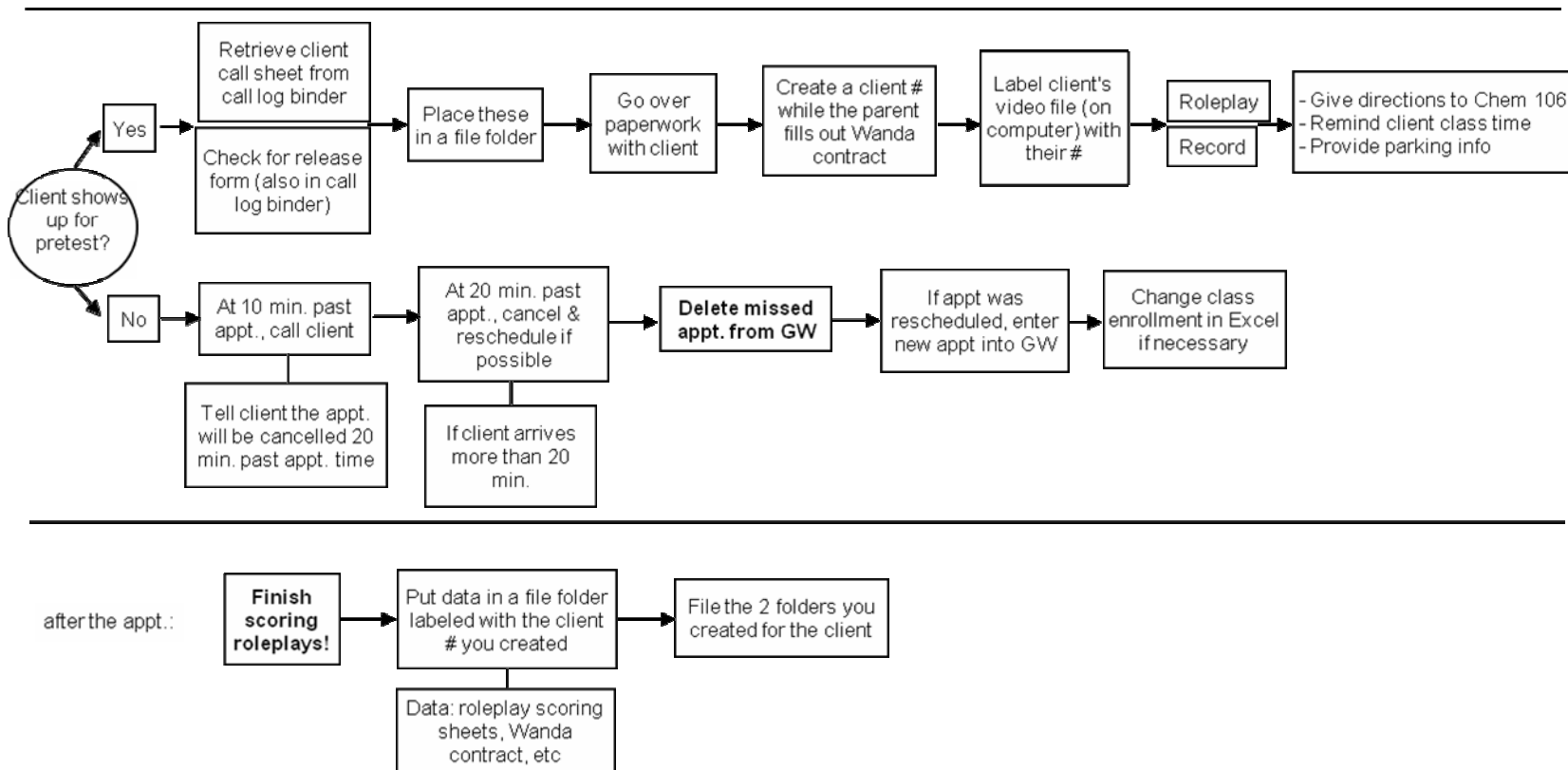
Figure 3. Procedural steps BMAPS staff engaged in when clients came for individual preassessment appointments under the System 1 series.

From First Call to First Class: Client Pretest Process

Staff Initials:

Client calls to schedule a pretest:
Get out call log sheet
Enter name and phone # of client
Make appt using office hours schedule and GW calendar
Ask which class they'd like to attend
Direct to campus information booth
From 35, take UNT exit, turn N toward campus. R on Eagle Dr. Make an immediate L in front of the Gateway Ctr. Get a visitor's pass at the Info Booth. Ask for a map to Chilton Hall. Go to rm 122E
Instruct to come early

After call:
Put appt into groupwise
Write participant on class list
Put call log sheet away in call log book

Pretest:
Client shows up -
Take out call log sheet
Check for a release form in the call log
Put call log into a file folder
Go over paperwork
Create a client number
Set up video with number
Do role plays
Give directions, remind class time, parking info

No show -
After 10 min - call
After 20 min - cancel appt.
Delete appt from groupwise
Rescheule appt/change their class enrollment if necessary

After Pretest
FINISH SCORING
Put data into a file folder labeled with client #
File 2 folders

Time:

Figure 4. Staff training checklist used to ensure all staff had the necessary knowledge and skills to engage in the procedural steps shown in Figures 3 and 4.
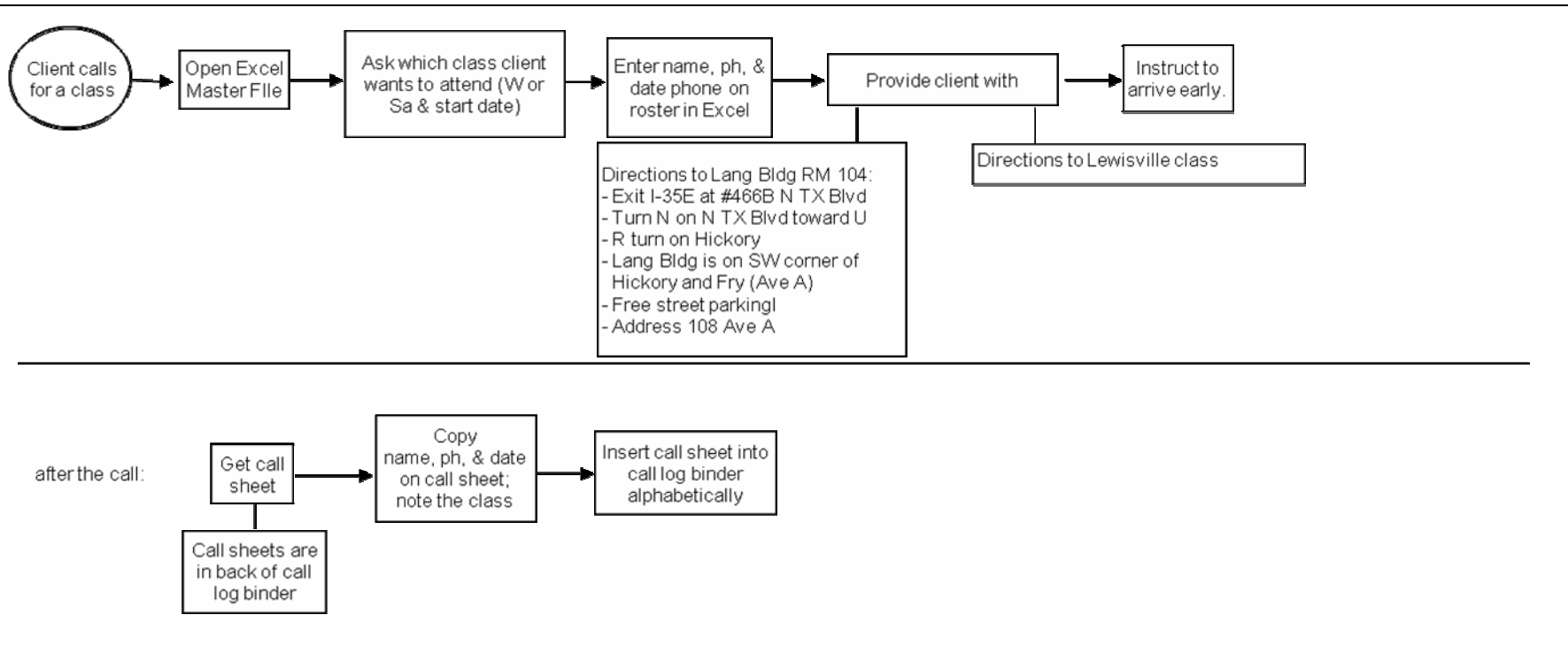
Client calls for a class → Open Excel Master File → Ask which class client wants to attend (W or Sa & start date) → Enter name, ph, & date phone on roster in Excel → Provide client with → Instruct to arrive early.

Directions to Lang Bldg RM 104:
- Exit I-35E at #466B N TX Blvd
- Turn N on N TX Blvd toward U
- R turn on Hickory
- Lang Bldg is on SW corner of Hickory and Fry (Ave A)
- Free street parkingl
- Address 108 Ave A

Directions to Lewisville class

after the call: → Get call sheet → Copy name, ph, & date on call sheet; note the class → Insert call sheet into call log binder alphabetically

Call sheets are in back of call log binder

Figure 5. Procedural steps conducted by BMAPS staff when clients called to enroll in the parenting series under System 2.
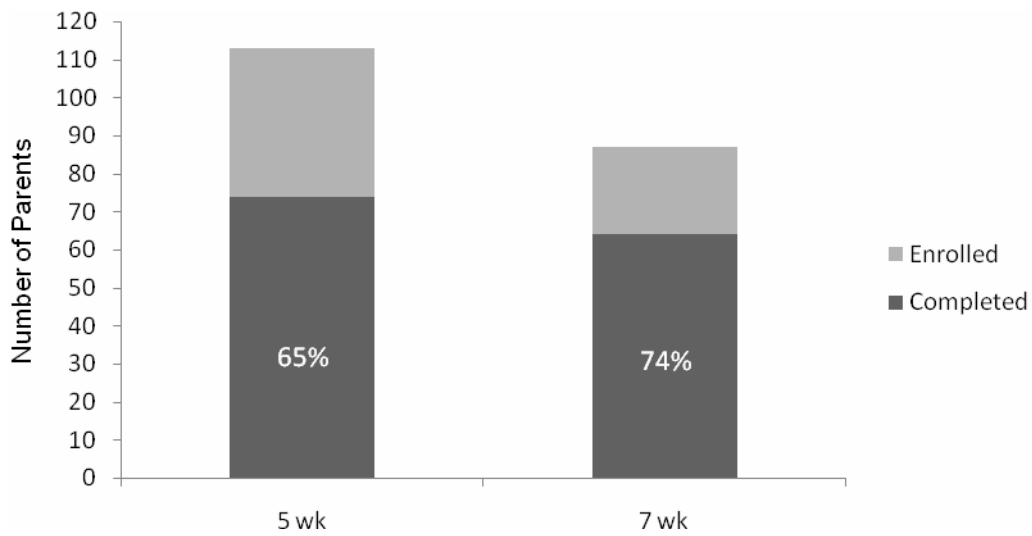
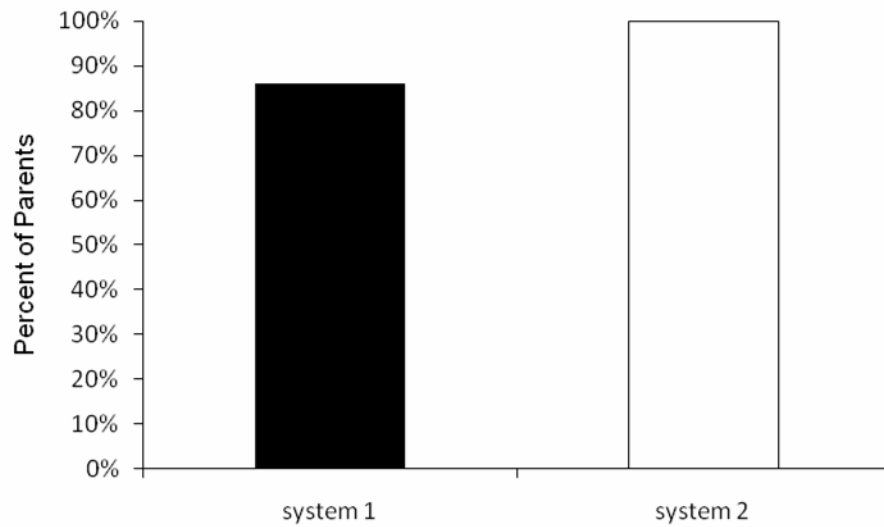*Figure 6.* Number and percentage of parents who completed the BMAPS class series out of the total number enrolled.

Figure 7. Percentage of parents who attended the post-assessment out of the number of parents who completed Session 5.
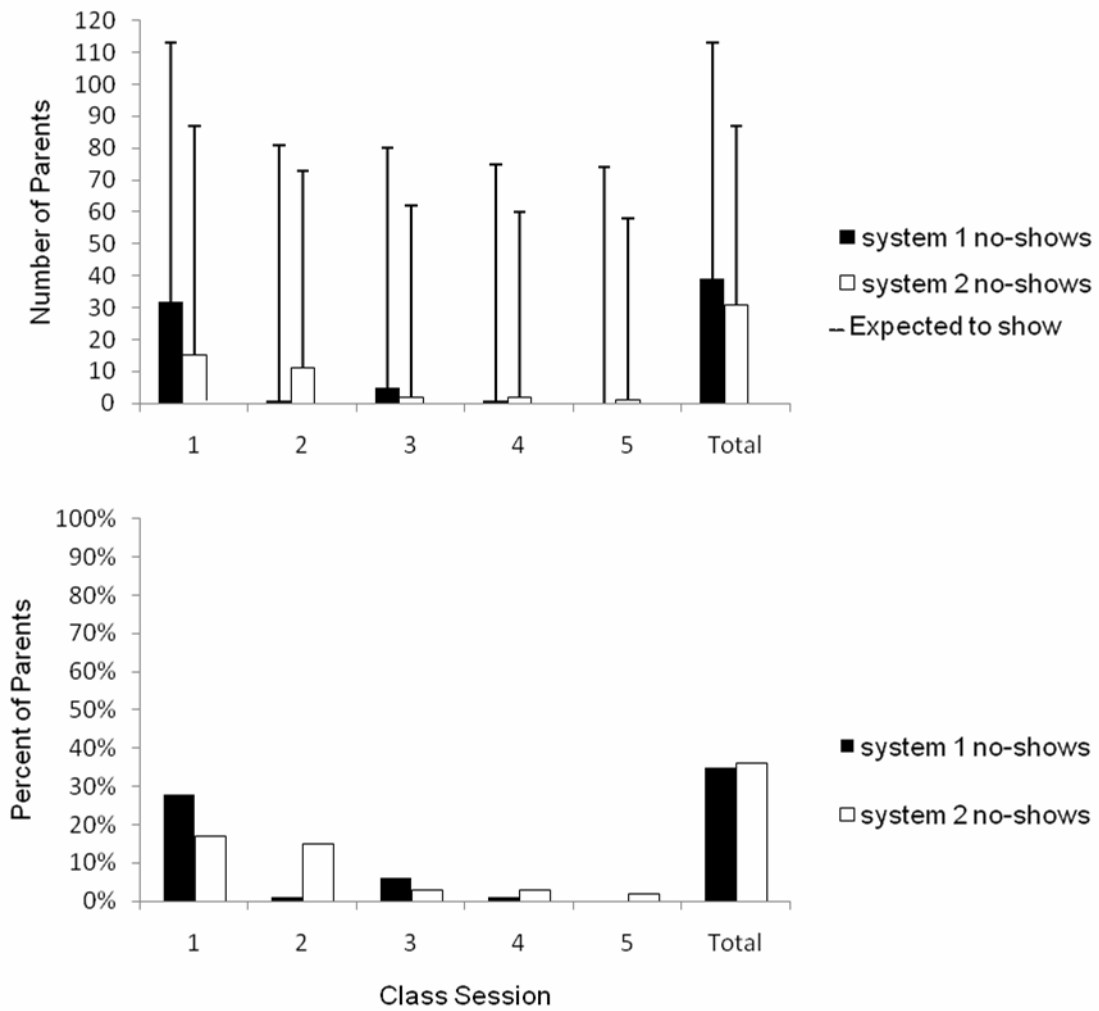
Figure 8. The upper graph displays the number of no-shows out of the total number of parents expected to attend each session in first enrollment. The lower graph displays the percentage of parents enrolled for the first time who were no-shows.
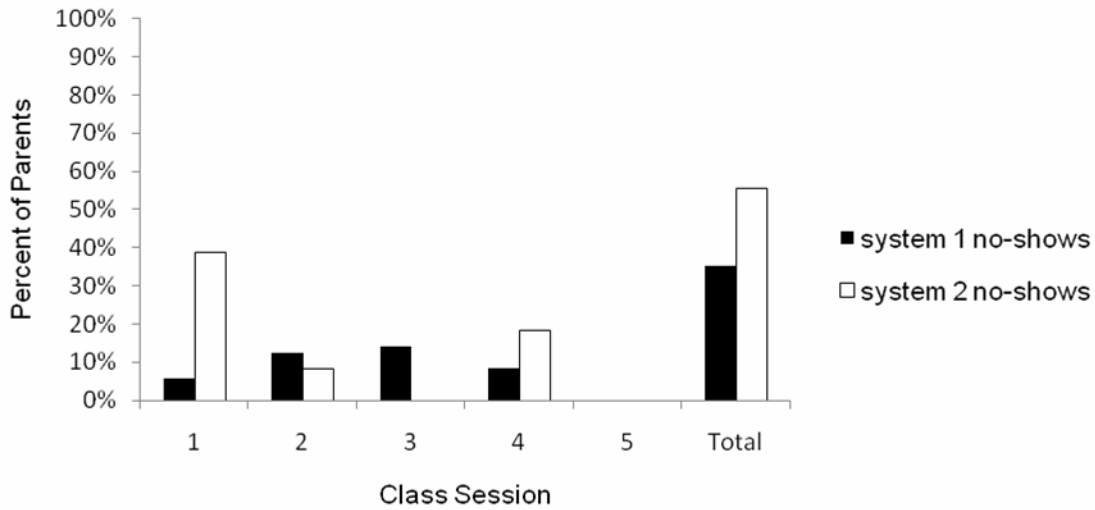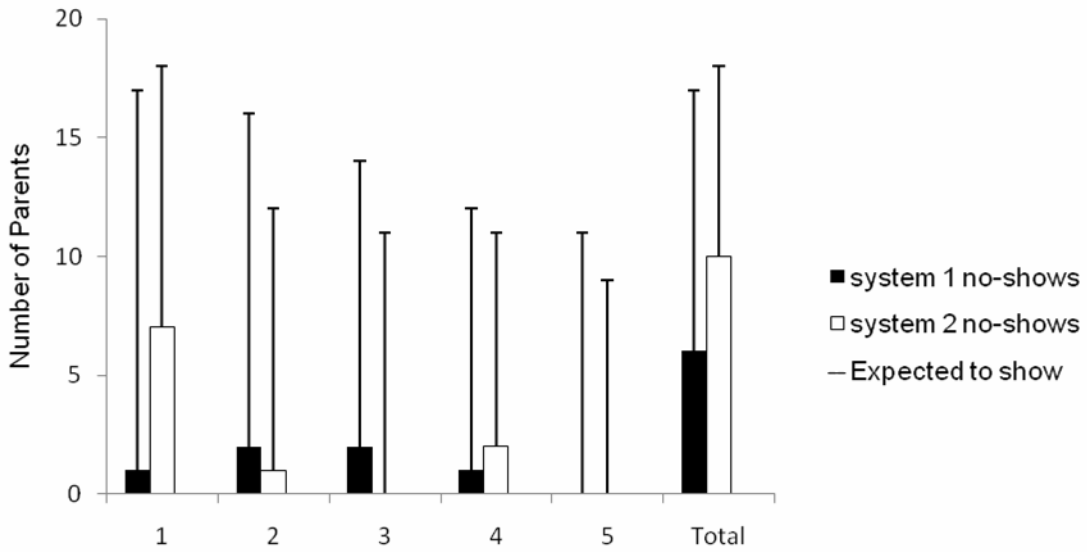
Figure 9. The upper graph displays the number of no-shows out of the total number of parents expected to attend each session in second enrollment. The lower graph displays the percentage of parents enrolled for the second time who were no-shows.
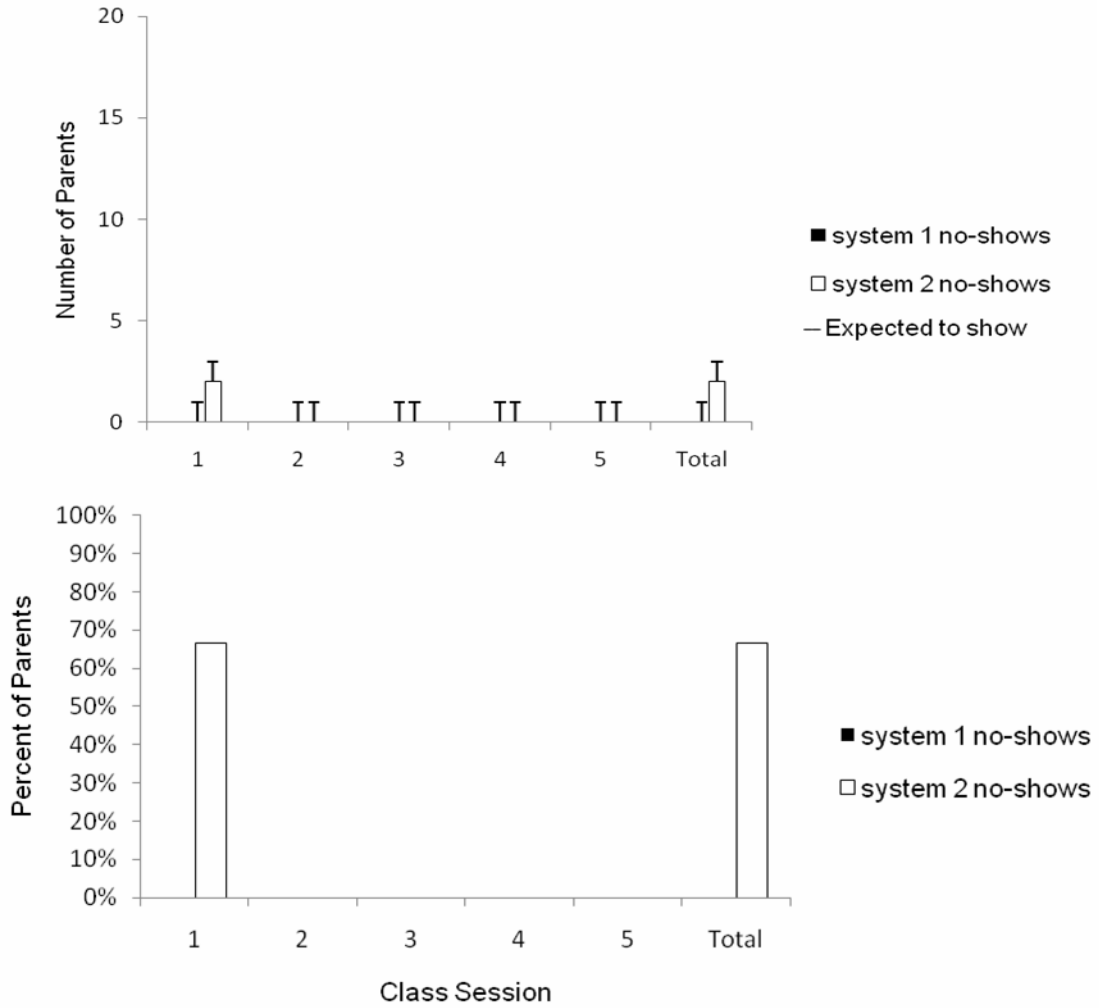
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Figure 10. The upper graph displays the number of no-shows out of the total number of parents expected to attend each session in third enrollment. The lower graph displays the percentage of parents enrolled for the third time who were no-shows.
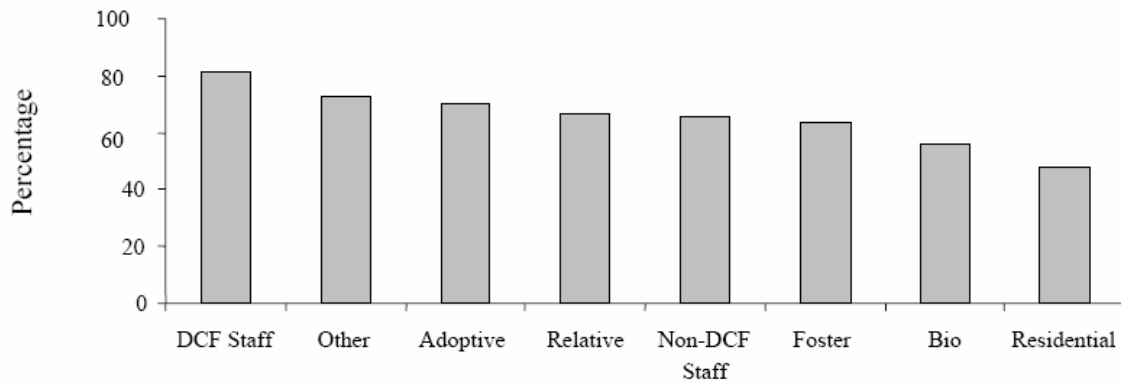
Figure 11. Average percentage of classes attended by caregiver types to the BASP parenting series.
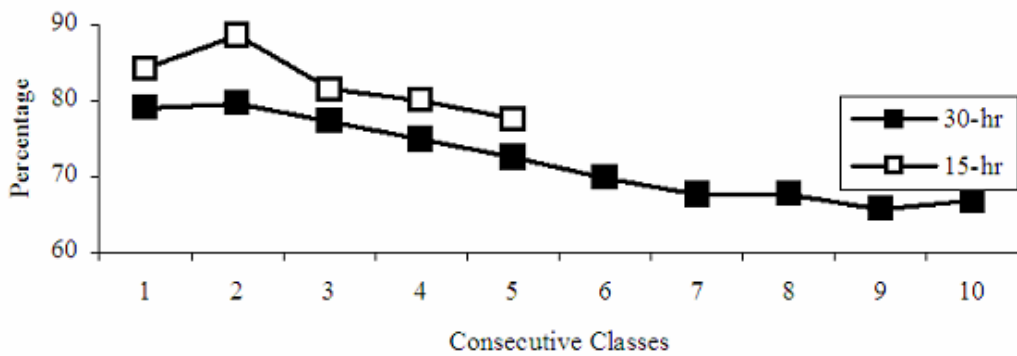

Figure 12. Percentage of caregivers who attended each class session out of the total enrolled in the first class of the BASP class series.
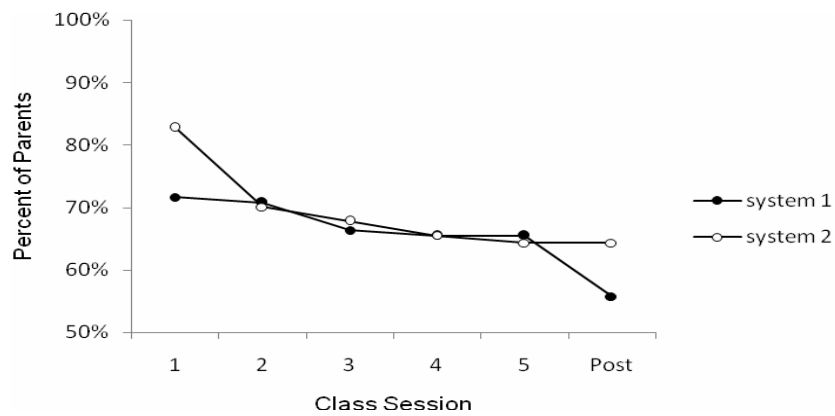

Figure 13. Percentage of parents who attended each class session and the post-assessment out of the total enrolled in the first class of the BMAPS class series.

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