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INCREASING PARENTAL AWARENESS AND MONITORING:
THE DEVELOPMENT AND EVALUATION OF A WEB-BASED PROGRAM TO
EMPOWER PARENTS TO REDUCE UNDERAGE ALCOHOL USE

by

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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of Psychology
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ABSTRACT

Parent attitudes about underage alcohol use and parent monitoring of the activities of their adolescent children have been found to be directly related to the likelihood of underage alcohol use. Unfortunately, there are relatively few programs or resources available to parents to assist them to reduce their children's potential for early and problematic alcohol involvement. In an effort to address this need, the present project entailed the development and evaluation of a web-based psychoeducational program entitled, Increasing Parental Awareness and Monitoring (*iPAM*). This online program begins to fill the gap in effective and convenient programming focused on development of parent skills and awareness. The content of the program is based on parenting factors that have been consistently found to correspond to underage alcohol use. The format includes engaging and interactive components that function to promote increased parent knowledge of the problem of underage drinking. In addition, the program is designed to alter permissive or ambivalent attitudes regarding underage alcohol use, and increase parental behaviors that have shown to be effective in reducing youth alcohol involvement.

A randomized controlled trial was conducted ($n = 34$ control; $n = 33$ experimental) with parents of adolescents in Central Florida who were asked to complete measures before exposure to the program and again approximately one month later. Findings revealed significant differences between the *iPAM* group and the control group. Specifically, an increase in parent knowledge about underage alcohol use and increased parental monitoring of their adolescent children was revealed. There was also a main effect for time with regard to increased parent-child communication about alcohol. While both groups revealed increased communication, the experimental group revealed greater frequency of communication about alcohol, although not significantly.

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INTRODUCTION

A review of research findings regarding the impact of alcohol use in youth that was conducted by the U. S. Surgeon General's office concluded that underage alcohol use contributes to negative consequences that affect a vast proportion of young people in the United States and is associated with deleterious effects that impede healthy physical, psychological, and social development. The review resulted in a *Call to Action to Prevent and Reduce Underage Drinking* issued by the United States Surgeon General in 2007. The *Call to Action* petitions the nation to recognize the severity and scope of underage drinking and conveys a sense of urgency for a shift away from the current culture of acceptance regarding early alcohol use (U.S. Department of Health and Human Services [USDHHS], 2007). Initiating a coordinated effort among agencies, communities, and individuals to reduce adolescent drinking and its consequences is among one of the important goals of the *Call to Action* (USDHHS, 2007).

Unfortunately, the culture of alcohol and cigarette use and normative perceptions about their use has been slow to change. Despite the scrutiny, negative publicity, and advertising restrictions experienced by the tobacco companies nearly two decades ago, smoking remains a serious concern as close to half (45%) of all students have smoked by their senior year in high school and 20% of seniors identify themselves as current smokers (Johnston, O'Malley, Bachman, & Schulenberg, 2009). To contribute to the problem, smoking and alcohol use is often glamorized in the media, especially in cinema, on television, and in magazines where young women and ethnic groups are often targeted (Warner, Goldenhar, & McLaughlin, 2006).

Beyond the influence of the media, another obstacle to creating a culture shift sought by the U. S. Surgeon General is the Amethyst Initiative. The minimum legal drinking age law, identified as the most effective strategy to date to reduce injuries from automobile crashes and traffic fatalities associated with alcohol use (Wagenaar & Toomey, 2002), is being challenged by

some college and university administrators. These individuals believe that the current restrictions placed on alcohol lead underage college students to clandestine problematic drinking (Amethyst Initiative, 2008). Unfortunately, alcohol is being consumed by millions of underage youth prior to college. Current findings from *Monitoring the Future*, a national annual survey on adolescent drug use, reveal that 72% of all students through grade 12 report they have consumed an alcoholic beverage, and that close to 40% of all students drink alcohol by the time they reach the 8th grade. Furthermore, about one in five eighth grade students, and over half of twelfth grade students report drinking to the point of intoxication (Johnston, O'Malley, Bachman, & Schulenberg, 2009). The National Survey of Drug Use and Health (NSDUH) revealed that over 10 million individuals between the ages of 12 and 20 reports drinking at least 1 alcoholic drink in the past month, which reflects over 25% of all individuals in the U. S. under the legal minimum age to drink. Of those, almost 20% engaged in binge drinking behavior, (drinking ≥ 5 drinks during one drinking occasion) and close to 6% were heavy drinkers (drinking ≥ 5 drinks on five occasions over the last month) (Substance Abuse and Mental Health Services Administration [SAMHSA], 2009). Furthermore, the NSDUH reveals that with each advancing year of age during adolescence, there is an increase in all levels of drinking (e.g., any use, binge drinking, and heavy drinking) and an increase in the frequency of binge drinking (SAMHSA, 2009; USDHHS, 2007).

Factors that impact the rising levels of underage alcohol use include the media's influence and the influence of alcohol advertising, which are revealed to contribute to the development of normative perceptions about underage drinking, and favorable expectancies or beliefs about the outcome effects of alcohol (Dunn & Yniguez, 1999; Fleming, Thorson, & Atkin, 2004). Unlike tobacco, legislation has not been enacted to restrict alcohol advertising in

the various media channels that are popular with adolescents such as magazines, radio, music videos, television programming, sports broadcasts, in cinema, and movie theaters (Austin & Hust, 2005; Austin, Pinkleton, & Fujioka, 2000; Robinson, Chen, & Killen, 1998). Additionally, research conducted at Georgetown University's Center for Alcohol Marketing and Youth suggests that adolescents view far more alcohol advertisements than adults (CAMY, 2007). The impact of alcohol advertisements on youth has been evaluated in expectancy research and reveals alcohol advertisements activate expectancies in youth (Dunn & Yniguez, 1999) and promote positive perceptions and beliefs in young people that serve to influence underage drinking (Austin, Chen, & Grube, 2006; Komro, Stigler, & Perry, 2005; Smith & Goldman, 1994). Positive expectancies about the effects of alcohol are not only presented through media, but are established within the context of the family through parents and family members who regularly rely on alcohol to cope with stressors, to socialize, and relax. The message that children receive through the vicarious experience of their family members, serves to establish and reinforce positive expectations about alcohol effects in children and adolescents. Since expectancies are predictive of future alcohol use in adolescence and are the likely mechanism that influences the initiation and continued use of alcohol by young people (Christiansen, Smith, Roehling, & Goldman, 1989), establishing programs for parents and families to address the issues of advertising and positive beliefs about the outcome of alcohol use could be instrumental in reducing underage alcohol use.

Historically, substance use prevention programs have been implemented within the community at schools and delivered to youth in abstinence-based, negative information campaigns that focused mainly on illicit drugs. These programs have been shown to have little impact on future use of substances in the students that completed them. Over time, federal funds

were allocated to school districts to implement research-based approaches to reduce drug abuse and violence among students, but most schools districts receive much less than is necessary to initiate and evaluate comprehensive and effective prevention programming (U. S. Office of Management and Budget and Federal Agencies, 2006) and the funding is disappearing. However, despite funding deficits, improvements in prevention programming have been recognized due to the integration of evidence-based practices, although there are only a few programs that have been evaluated, replicated, and peer reviewed.

A recent review of preventative interventions identified a dozen programs that were labeled “most promising” to delay the initiation of alcohol use or to reduce current adolescent alcohol use (Spoth, Greenberg, & Turrisi, 2008). Nine of these programs were identified as being developed either for children less than ten years of age (Catalano et al., 2003; Eddy, Reid, & Fetro, 2000; Hawkins et al., 1992; Hecht et al., 2003; Tremblay, Mâsse, Pagani, & Vitaro, 1996) or were developed for youth ten to fifteen years of age (Komro et al., 2004; Pentz et al., 1990; Spoth, Redmond, & Shin, 2001; Olds et al., 1998). The remaining three programs were delivered to older high school students or participants who were at least 16 years of age; one of these was school-based and the other two were community interventions conducted with DUI offenders, or delivered in the workplace (Sussman, Dent, & Stacy, 2002; Snow, Swan, & Wilton, 2002, Wells-Parker & Williams, 2002). None of the 12 interventions was identified as having “strong evidence” of efficacy due to the lack of replication or consistent findings of alcohol effects at follow-up. Three of the programs were multimodal and included components that were delivered at school, in the home, and within the community. Other programs were combined family and school programs, and only two were solely family-based (see Spoth et al., 2008). A common component of the programs identified as “most promising” to reduce alcohol use was parent

involvement (Eddy, Reid, & Fetro, 2000; Catalano et al, 2003; Hawkins et al., 1992; Tremblay, Mâsse, Pagani, & Vitaro, 1996; Pentz et al., 1990; Komro et al., 2004; Spoth, Redmond, & Shin, 2001). Specifically, parent information and skills training was offered to educate parents and encourage them to utilize effective approaches to communicate expectations about abstinence from alcohol and other substances with their child, in addition to building other strategies identified to prevent and reduce underage alcohol use. For example, each program provided parents with information about risk factors that promote underage drinking and provided role playing opportunities to build positive communication skills. The programs also provided parents, through homework assignments, opportunities to speak with their child about an assigned topic related to substance use to be completed together with their child. Furthermore, family factors that are considered essential in prevention or reduction of substance use were highlighted, such as identifying parents as role models, child (or teen) monitoring, and family rules and expectations about alcohol and substance use (Komro et al., 2004; Pentz et al., 1990; Spoth, Redmond, & Shin, 2001).

The few programs that implemented an additional parent component to the school-based substance abuse programming have revealed important findings. Results show that parents' perceived influence to alter or prevent their child's alcohol and other substance use is significantly improved after participation in the prevention program and subsequent declines in alcohol use and alcohol use initiation are reported (Komro et al., 2004; Pentz et al., 1990; Riggs, Elfenbaum, & Pentz, 2006; Spoth, Redmond, & Shin, 2001; Olds et al., 1998).

Although positive results have emerged from youth-targeted programs with parent-directed components, recruitment and retention of parents to participate are common problems that have been cited in the research (Beatty & Cross, 2006; Sanders, 2000; Spoth, Redman, &

Shin, 1998; Williams et al., 1995). At the recruitment level, perceived time commitment, scheduling conflicts, issues related to family privacy and social stigma, poor health, and transportation problems are among factors that contribute to poor rates of parental involvement (Beatty & Cross, 2006; Dishion, Kavanaugh, & Keisner, 1998; Hahn, Simpson, & Kidd, 1996; Spoth, Redmond, Hockaday, & Shin, 1996; Williams & Perry, 1998). The programs typically enlist parents to travel to attend weekly trainings that are one to two hours in duration, and are conducted in group format over several weeks. While data from parent evaluations and focus groups associated with these programs are able to identify these multiple barriers to parent participation, they also underscore the parents' desires, which include the desire for programming that assists them to communicate practically and effectively with their child about drug and alcohol use.

Exploratory data from the evaluations of family-based and school-delivered multicomponent substance abuse awareness programs reveal that parents desire current and accurate information about underage substance use and the best approach to raising the subject of substance and alcohol use with their children. The data indicate that parents request up-to-date information that is easily understood by them and free of medical jargon. Parents also desire programming that assists them to cope with situations that might arise in terms of their child's substance use, and they don't want to feel judged (Beatty & Cross, 2006; Hahn et al, 1996; Mallick, Evans, & Stein, 1998; Paxton, Finniga, Haddow, Allott, & Leonard, 1998).

Additionally, parents report that interventions of this nature would be best received if they were completed in their own home, were easy to use, time-efficient, colorful, and interactive. (Beatty & Cross, 2006; Hahn et al, 1996; Mallick, Evans, & Stein, 1998; Paxton, Finniga, Haddow, Allott, & Leonard, 1998). To date, existing alcohol and other substance use prevention

programming does not have the capacity or flexibility to garner wide appeal or participation due to the time commitment necessary for participation and logistic concerns such as travel, time, and childcare. In addition, the existing programs tend to assume that all parents begin with a similar knowledge-base and parenting skill, and fail to meet parents 'where-they-are,' nor do they establish a fund of information from which parents can easily transition as their children enter new developmental levels.

Utilizing online resources to broaden the accessibility of parent programming for prevention and family intervention is an approach that can be used within the home and revisited as necessary. Close to 75% of households in the United States currently possess Internet access and the vast majority (65%) utilizes broadband or cable technologies as opposed to dial-up (Internet World Stats, 2008; 2009). Furthermore, these households often have more than one operating computer with online capability (Center for the Digital Future [CDF], 2008). The Center for the Digital Future at the University of Southern California conducts longitudinal research regarding online trends in the United States. Their seventh annual report (2008) indicates that 80% of Internet users over the age of 17 perceive the Internet to be a more important source of information than television, radio, and newspapers (CDF, 2008). Additionally, the desire to seek out health information is cited among the foremost reasons for Internet use (CDF, 2004) which has become increasingly important in the delivery of web-based psychoeducational interventions for self and family care (Wantland, Portillo, Holzemer, Slaughter, & McGhee, 2004).

Wantland and colleagues (2004) conducted a meta-analysis that evaluated effectiveness of web-based interventions which revealed positive outcomes for the individuals that utilized the programs. The web-based interventions significantly increased knowledge and induced

behavioral changes for health related issues such as asthma, weight loss maintenance, nutrition, HIV/AIDS, tinnitus, and others. The findings revealed that web-based interventions increased healthcare participation, reduced health decline, improved asthma treatment, improved body shape perception and weight loss maintenance, and increased knowledge related to nutrition. Riper (2007) and colleagues showed that their web-based cognitive behavioral intervention for adult problem drinkers was effective to alter behavioral outcomes. Results from this intervention showed that almost 20% of participants moderated their high-risk alcohol use to the low-risk use category. While attrition was not reported in the meta-analysis, attrition was cited as a problem in the alcohol use intervention. The web-based cognitive behavioral study exposed a 42% non-completion rate distributed evenly across condition (Riper, Kramer, Smit, Conijn, Schippers, & Cuijpers, 2007) and attrition rates for online interventions have been reported as high as 99%, as was reported in an online, longitudinal, cognitive behavioral therapy study, which is an important factor to consider when conducting web-based research (Farvolden, P., Denisoff, E., Selby, P., Bagby, R. M., & Rudy, L., 2005).

Cognitive behavioral interventions have long been used in therapy to alter long held maladaptive or unproductive thoughts and thought patterns. The theory of cognitive behavioral therapy proposes that unhelpful thoughts serve to diminish the possibility of behaving in ways that promote positive mental or physical health and actually serve to promote unhealthy behaviors that result in mental or physical health difficulties (Craske, 2010). Cognitive behavioral theory maintains that when the maladaptive thoughts are changed or challenged and replaced with thoughts that are more accurate and adaptive, individuals will possess an increased cognitive flexibility, which in turn, provides the foundation for exploration of alternate behaviors to navigate in a direction that is productive for them. Cognitive behavioral approaches assist

individuals to adopt a more adaptive process of thought for improved psychological factors and in turn, enhanced functioning. Cognitive behavioral approaches typically begin with psychoeducation as this is a means by which new information or knowledge can begin to replace incorrect knowledge held by the individual or add to the fund of knowledge that the individual possesses. The strategy is often introduced in the therapy process first, to begin to alter maladaptive or incorrect cognitions that have served to cement unhelpful or unwanted behaviors, and increases the opportunity for individuals to act in a different way.

Psychoeducation, as defined by the Arbeitsgruppe Psychoedukation, is an intervention that is focused primarily on relaying information relevant to a disorder and its treatment in addition to promoting increased coping or behavioral adjustment (Wiedemann, Klingberg & Pitschel-Walz, 2003). It has been demonstrated to be an effective stand-alone intervention to improve functioning in families and individuals of all ages with physical and mental health difficulties. Components of psychoeducation include practical information, such as prevalence of the health related issue, perpetuating factors, health risks and negative consequences, benefits of change, and implications for improvement, among other topics (Waller, Cordery, Corstorphine, Hinrichsen, Lawson, Mountford, et al., 2007). The presentation of information is integral and the primary element of the intervention and is often utilized with a behavioral component (Wiedemann, et al., 2003). The intervention is often utilized as a means by which cognitive elements are affected by providing relevant information to increase knowledge about the factors that impact the expression of a mental or physical health disorder, and to affect the trajectory of an existing physical or mental health problem. Psychoeducation has been demonstrated to reduce the likelihood of negative outcomes for numerous mental health issues, such as schizophrenia, mood disorders, anxiety related disorders, and eating disorders, (Fingeret,

Warren, Cepeda-Benito, & Gleaves, 2006; Lincoln, Wilhelm, & Nestoriuc, 2007; Mei-Feng, Moyle, Hsiu-Ju, Mei Hsien, & Mei-Chi, 2007) and to improve health outcomes due to medication adherence, post operative behavioral compliance, and pain and other symptom management (Nitzkin & Smith, 2004). This intervention is also used successfully to prevent recurrences of physical and mental health problems and to prevent initiation or onset of illness, such as HIV/AIDS, postpartum depression, and substance use disorders (Bower, Kemeny & Fawcett, 2002; Honey, Bennett & Morgan, 2002; Burrow-Sanchez & Hawken, 2007).

Psychoeducational programs offer a cost-effective solution to increase the likelihood of positive outcomes for a variety of disorders and in a diversity of patients. Furthermore, the training and skill necessary to present information and to offer strategies for coping is much less than that required to offer individual therapy as is conducted by a psychologist or psychiatrist or other medical professional (Wilson, Loeb, & Vitousek, 2000).

To achieve increased and improved parent involvement related to the problem of underage alcohol use in the United States, and to address the appeal of the 2007 *Call to Action* issued by the U.S. Surgeon General, the development of parent-targeted programming is needed to draw attention to and disseminate up-to-date information about underage alcohol use. By disseminating current information to parents about the alterable risk factors associated with underage alcohol use and offering strategies that are shown to be preventative, positive results could likely serve to reduce or prevent alcohol use and generalize to other substance use and risky behaviors in youth (Grant et al., 2006; McGue, Iacono, Legrand, & Elkins, 2001).

Research reveals that the first experience children have with alcohol is often within the context of their home and is influenced by parent modeling (Donovan & Molina, 2008). The home environment is frequently cited as the first location for early alcohol use opportunity and

taking alcohol from parent's liquor supply is the means by which many youth first obtain alcohol (SAMHSA, 2009). It is with advancing age, when an adolescent has established associations with older youth that they begin to obtain alcohol from friends and acquaintances (Smart, Adlaf, & Walsh, 1996). Therefore, parent programming that provides information about actions that can be adopted to deter future use or prevent the initiation of alcohol use will be an important aim to reduce underage alcohol use or initiation of use. Furthermore providing programming in a manner that is easily accessed, easy to use, and convenient will be critical to the success of parent-targeted initiatives.

To address the absence of effective parent programming focused on the problem of underage alcohol use, the present project was designed to meet several goals. First, a web-based psychoeducational program was developed to increase parent awareness and knowledge about the problem of underage alcohol use. The program is the vehicle by which parents are offered the ability to learn relatable information about the biopsychosocial effects of alcohol consumption in adolescence, and the negative outcomes related to underage alcohol use. The program also provides information to assist parents to monitor their child's activities and to communicate expectations regarding their child's alcohol use as these strategies are demonstrated to prevent and reduce underage alcohol use and equip parents to prevent their child from initiating or engaging in this behavior. The program design is interactive and engaging and the information presented focuses on altering permissive or ambivalent attitudes concerning underage alcohol use and increasing the use of parental strategies that lead to decreased alcohol consumption in adolescents.

Second, the utility and ease of use of the program was evaluated by obtaining feedback from parents. Third, effectiveness was assessed through measures of parent knowledge, parental

attitudes, and parenting behaviors before and after exposure to the program. Of particular interest were parent attitudes about underage alcohol use, parent awareness of the problems and negative consequences of underage drinking and generally, the information that parents have about underage drinking. Parenting behaviors of particular interest were active communication about alcohol and alcohol use with their child, and monitoring their child's activities. A group of Central Florida parents was recruited to facilitate the development of the *iPAM* (Increasing Parental Awareness and Monitoring) program and to evaluate effectiveness.

Hypotheses

- 1) Participants in the *iPAM* condition will exhibit increased knowledge about the problem of underage drinking as compared to the control group and as evidenced by increases in knowledge total scores on the Survey for Parents from time one to time two. Potential changes across treatment conditions on parent knowledge will be tested using a 2 (intervention group and control group), x 2 (pre-intervention, post-intervention) mixed analysis of variance (ANOVA).
- 2) Participants in the *iPAM* condition will exhibit less permissive attitudes about underage drinking compared to the control group and as evidenced by an increase in attitude scores on selected items of the Survey of Parent Perceptions, Attitudes, and Behaviors from time one to time two. Potential changes across treatment conditions on parent attitude will be tested using a 2 (intervention group and control group), x 2 (pre-intervention, post-intervention) mixed analysis of variance (ANOVA).
- 3) Participants in *iPAM* condition will report greater frequency of child monitoring behaviors as compared to the control group and as evidenced by an increase in scores on the Parent – Adolescent Monitoring Instrument from time one to time two. Potential

changes across treatment conditions on parent monitoring will be tested using a 2 (intervention group and control group), x 2 (pre-intervention, post-intervention) mixed analysis of variance (ANOVA).

- 4) Participants in *iPAM* condition will report greater frequency of communicating with their child about alcohol as compared to the control group and as evidenced by total scores on the frequency of communication about alcohol items from the Parent Involvement and Communication measure at follow up. Potential changes across treatment conditions on parent monitoring will be tested using a 2 (intervention group and control group), x 2 (pre-intervention, post-intervention) mixed analysis of variance (ANOVA).
- 5) Participants in *iPAM* condition will report satisfactory evaluations of the web-based program for information conveyance, ease of use, organization, and visual appeal.

METHOD

Parents of middle and high school students were recruited from a large school district in the southeast by placing a recruitment advertisement (Appendix A) with a printed web address in a mailed parent newsletter from 4 middle and 4 high schools. Recruitment was also conducted through Parent-Teacher-Student Association (PTSA) parent email lists utilizing the same recruitment statement and web-link that appeared in the parent newsletter. Other recruitment methods included emailing the recruitment statement and web-link through various community contacts from the metropolitan area in the Southeast. Institutional Review Board approval was obtained prior to recruitment of participants (see Appendix B).

Once parents visited the web-address, they were asked to acknowledge and indicate informed consent (see Appendix C) prior to their participation in the online survey. All participants were provided a debriefing form (Appendix D) to print out at the conclusion of their

participation in the research. Parents were randomly assigned to an experimental condition or wait list control condition thru randomization process in the Survey Monkey data manager. All parents in both conditions were asked to complete the survey of measures which consisted of the Demographics Questionnaire (Appendix E), Instructions for Creation of Unique Identifier (Appendix F), Survey of Parent Perceptions Attitudes and Behaviors (Appendix G), Survey for Parents (Appendix H), the Parental Awareness and Monitoring Inventory (Appendix I) and the Parent Involvement and Communication measure (Appendix J).

The parents who were randomized into the experimental condition completed the online survey of measures, and at the end of the survey, they were directed to a link which launched the iPAM program. At the conclusion of the program the parent was asked to click on another link taking them to a separate database, to provide contact information and to complete a 15-item program evaluation (see Appendix K). Approximately four weeks after the completion of the survey and participation in the parent program, the parents were sent a link to the posttest survey of measures.

Parents randomized to the control condition were asked to complete the survey of measures and then were directed to the link to the separate database where they asked to provide their contact information and email address. The control parents were asked to complete the posttest survey of measures approximately four weeks later, and were subsequently emailed the link to the iPAM within approximately one week of completion and were invited to view and participate in parent program. Parents were also asked to evaluate the program after they viewed it and were provided a link to the 15-item program evaluation.

Participants

A total of 134 parents were recruited for the study from a large school district in the southeastern United States to be randomized into the experimental or the wait-list control conditions of the study. Of the 134, 20 parents did not tolerate the pretest, therefore were not randomized to condition. There were a total of 114 parents that completed the first survey measure, 57 were assigned to the control condition, and 57 were assigned to the *iPAM* condition.

While 57 of the parents were assigned to the wait-list control condition, 23 either did not provide correct contact information so that they could be directed to complete the followup measure in four weeks, or did not respond to the request to complete the second survey measure. Similarly, of the 57 that were assigned to the *iPAM* experimental condition, 24 either did not provide correct contact information or did not respond to the request to complete the second survey measure. Sixteen of the 47 non-completing respondents were contacted a minimum of 3 occasions by email and once by phone (if a number was provided) to remind them to complete the second survey measure. Since each parents' participation was voluntary, no other attempts to contact them were made. In addition, parents' personal information (email address and phone number) could not be linked to their responses on the survey measure due to anonymity; therefore, it is unknown how many of the 16 were randomized to the wait-list control or experimental conditions.

In addition, due to the anonymity of the activities related to this experiment, it was impossible to discover whether parents chose not provide contact information, could not tolerate the time investment for pretest and program together, had technical difficulties, or simply chose to end their participation. No parent contacted the research team to indicate or report technical problems. Furthermore, regular tests were conducted on the *iPAM* website to ensure that

program integrity was maintained. Only one parent emailed the research team to report that they had completed the pretest and program twice but had neglected to provide contact information at which time the parent was provided support so that they could complete their participation. If parents were to have misplaced the informed consent or printed contact information of the researchers, they could return to the original web address to email or contact the researcher if a problem existed regarding the logistics, time investment, or technical difficulties related to the experiment.

Parents were also made aware in the informed consent, that they could contact the researcher to claim two movie tickets, regardless of their completion status, should they elect to disengage from the experiment. The value of the incentive (\$15) was believed appropriate and without the potential to interfere with a parents' ability to give informed consent, and was approved by the IRB. The incentive was a potential benefit of the research that all parents could elect to receive. 93% of the parents that completed the research received the incentive, as five parents elected not receive the movie tickets. None of the parents that withdrew prior to completing both survey measures exercised their right to request and receive the research incentive.

A total of 67 parents completed both online pretest and posttest survey measures and were included in the analyses. The sample included 64 females whose self-reported ages ranged 32 to 58, with a mean age of 46.75 (SD = 6.08) and 3 males whose self reported aged ranged from 39 to 53, with mean age of 47.67 (SD = 7.57). Self-reported race was 91% White, 1.5% Black, 1.5 % Asian, 3% Biracial, and 3% classified their race as "Other," furthermore 86.6% of the participants were self-identified non-Hispanic and 13.4% were self-identified as Hispanic. Marital status revealed that 76.1% were married, 3% were never married, 13.4% were divorced

and 7.5% were separated. Self-reported annual family income indicated 9% of participants below \$40,000; 34.3% from between \$40,001 to \$70,000; 26.9% from between \$70,001 to \$100,000; and 29.8% over \$100,001. Self-reported education revealed 1.5% of parents possessed a high school diploma or GED, 20.9% indicated, “some college,” 28.4% reported to have an AA or 2 year degree, 38.8% indicated they had a Bachelors or 4 year degree, 4.5% possessed a Masters degree, and 6% indicated they possessed a Doctor of Medicine or other professional degree. All of the parents identified themselves as the biological parent with the exception of one step-parent.

The sample distributions by condition were 33 participants (32 female, 1 male) in the experimental condition whose ages ranged from 32 to 57 years ($M = 47.24$, $SD = 6.48$), and 34 participants (32 female, 2 male) in the control condition whose ages ranged from 32 to 58 years ($M = 45.35$, $SD = 5.74$). Demographic information by group is provided in Table 1.

Measures

Demographics Questionnaire

Parents were asked to provide general information which was, their age, sex, ethnicity, race, household income, and education level. A sample of this questionnaire is provided in Appendix E.

Instructions for Creation of Unique Identifier

Parents were asked answer a series of four questions so that a unique alphanumeric code could be rendered that would allow data to be matched as responses to items on the survey measure were totally anonymous (see Appendix F). Specifically, the requested information was to indicate their astrological sign which they selected from a list, their height, which was also selected from a list, and to indicate the number of biological children they have, and their

biological mother and biological father's first initials. Alternate responses were provided should the biological mother or father information be unknown to the participant.

Survey of Parent Perceptions Attitudes, and Behaviors

The Survey of Parent Perceptions, Attitudes, and Behaviors (PPAB; see Appendix G) is a 20-item measure adapted from the Minnesota Community Readiness Survey (MCRS; Beebe, Harrison, Sharma, & Hedger, 2001) that utilizes a 4-point Likert scale with response choices that include, Strongly Agree, Somewhat Agree, Somewhat Disagree, and Strongly Disagree. Five selected items (Cronbach's $\alpha = .76$) that comprise parent attitudes toward alcohol use subscale of the MCRS were used to measure parents' attitude regarding underage use of alcohol.

Survey about Alcohol for Parents of Adolescents

The Survey about Alcohol for Parents of Adolescents (SAAPA) is a 36-item survey (see Appendix H) developed for this research that measures factual knowledge about information related to underage alcohol use. Items for the measure were obtained from online brochures provided by the National Institute of Alcohol Abuse and Alcoholism website, the web-based family guide from the Call to Action from the Office of the Surgeon General, and the website for the Florida legislature. All items for the measure were acquired from facts published in the parent brochures from the NIAAA and the U. S. Surgeon General's brochure for families, and are written on a 8 to 9th grade reading level as indicated by the Flesch-Kincaid reading level scale. Responses choices to the items on this measure are True, False, and Not Sure or Don't Know.

Parent - Adolescent Monitoring Inventory

The Parent - Adolescent Monitoring Inventory (P-AMI) is measure that was adapted from the Parental Monitoring Scale (PMI; Cottrell, Branstetter, Cottrell, Harris, Rishel, & Stanton,

2007) which measures parent monitoring behaviors on seven factors of monitoring. The factors of the PMI include, direct, indirect, school, health, computer, phone, and restrictive monitoring. The P-AMI is a 33-item, survey questionnaire that utilizes a 4-point Likert response scale and was found to be highly reliable (33 items; $\alpha = .90$) and which correspond to the factors of the PMI. Response choices include Never, Sometimes, Usually, and Always. Participant responses to items on this scale were utilized to discover changes in parent monitoring behaviors as these behaviors are revealed to be associated with underage alcohol use outcomes (an example is provided in Appendix I).

Frequency of Parent Communication about Alcohol

The items utilized to measure frequency of communication are included on the Parent Involvement and Communication measure (Appendix J). The items asked parents to indicate the number of times they communicated with their child about alcohol, alcohol advertising, and alcohol in media, within the past four weeks.

The individual measures were combined into one online survey using Survey Monkey, a web-based data management service, so that parents could quickly indicate their responses by clicking on the response choices. Completion of the survey and program was designed to be accomplished in one sitting as the anonymous nature of the study precluded the collection of the IP addresses that would allowed a login, or stop and resume component. Parents were able to begin again if interrupted on the first attempt.

iPAM Program Evaluation

A brief program evaluation survey was offered to participants after their participation in the iPAM to assess the appeal and utility of the program. Fifteen items were rated on a 4-point Likert scale that ranged from *strongly agree* to *strongly disagree*. The Program Evaluation was

revealed to be highly reliable (15 items; $\alpha = .97$). Questions asked were related to the organization of information presented, the website's visual appeal, relevance to the individual's family, whether participants found the program modules informative, and how the parents felt about the quality of the program, overall. An option for parents to offer comments or concerns was also provided (see Appendix J).

Intervention

iPAM Psychoeducational Program

The iPAM (Increasing Parental Awareness and Monitoring) is a web-based program containing three modules which provide parents current information from the National Institutes on Alcohol Abuse and Alcoholism, and the U. S. Surgeon General's office about the risks associated with underage alcohol use. The program also presents information related to parental monitoring of adolescent children and parent communication about the risk factors that correspond with underage alcohol use with adolescents. The program provides examples of parent-child communication and monitoring which are specific protective strategies that have been revealed to prevent or reduce underage alcohol use. The web-based program was completed by parents in approximately 20 - 30 minutes by following modules in a linear manner.

The modules included:

- Just the Facts – An audio-visual interactive quiz that 'tests' participant knowledge about underage alcohol use. Once an answer response is indicated, immediate feedback about the correctness of the participant response is provided which included additional information related to the fact.

- Real People, Real Strategies – Provides examples of communication strategies delivered by parents using embedded digital audio-visual media. Additional factual information related to underage alcohol use is also provided.
- Parent Monitoring Checklist – Provides a single page, printable, guide for parents to assist them to monitor their adolescent children. Parents were also informed that the page could be saved as a document to their computers.

An additional page of links to web-based brochures from the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and the Substance Abuse and Mental Health Services Administration (SAMHSA) were provided. A link to local referral sources and resources for alcohol use problems (adults and adolescents) was provided, as were several links to parent resources regarding online social networking and the state statutes pertaining to underage alcohol use.

Measures- only Wait-list Control Condition

The wait-list control condition included completion of two surveys, the first to be completed on the day the informed consent was acknowledged, and the second, approximately 4 weeks later.

Procedure

Parents were recruited to participate in the study through an advertisement that provided them a link to the research study either in a mailed parent newsletter from their child's school, or by receiving an online announcement which provided them a link to the research study. Parents were advised at the time of recruitment (see Appendix A) and again, within the informed consent (see Appendix B), that they could elect to receive two movie tickets for their participation in the research which entailed two online sessions that equaled approximately 30 to 45 minutes. Each

session was approximately 15 to 30 minutes in duration and two online sessions were required to complete participate in the online program. Parents were informed that they would be eligible to receive movie tickets regardless of their completion status, by completing a brief form online or by contacting the research team. The tickets were forwarded to all participants that provided the necessary information.

Parents clicked on the provided web-link if they received an online announcement, or typed the web address into their browser's address bar. The link directed them to a survey management program where they read the informed consent and were instructed to print the informed consent. If the parents desired to proceed as participants in this research, they were asked to select the response indicating they were willing participants and were at least 18 years of age.

The informed consent provided information to make parents aware of the approximate time investment to complete the survey and *iPAM* program, prior to beginning the survey. Parents were informed that all of the data collected would be retained in a secure database that would be accessed only by the researcher or data management provider and would contain no identifying information, with the exception of an alphanumeric code that could not be traced to the participant. After providing online consent, a survey of measures was completed by all participants. At the end of the survey, each participant responded to a prompt that randomized them to *iPAM* condition or the waitlist control condition. Randomization was accomplished through the survey management program and was based on the first letter of their last name, which was alternated every other week.

After randomization, parents were automatically directed to either the experimental condition or the control condition. The experimental condition involved immediately

participating in the *iPAM* program, and at the conclusion of the program, clicking a link to a separate database to exit the program. The control condition involved completion of the survey only and then clicking on a link to a separate database. Once the parents arrived at the new link destination, parents from both groups provided an email address and an alternate means of contact so that they could be sent an email to complete the 20 to 30 minute follow up survey approximately four weeks later. Parents were reminded that their information was secure and that there was no possibility that the contact information they provided, could or would be linked to their participation in the program.

After approximately three and a half weeks an email was sent to all parents asking them to complete the second and final survey within two to three days. Upon completion of the posttest measures, participants clicked on a link exiting from the survey to a separate secure database where they provided an a home address to receive the incentive. All participants that provided addresses were sent 2 adult admission movie tickets within a week for their participation in the research study.

RESULTS

Power

On average, previous studies that implemented web-based psychoeducational or cognitive behavioral interventions found medium effects for information gain and behavioral outcomes (Wantland, et al., 2004). Using the electronic power analysis program GPOWER (Erdfelder, Faul, & Buchner, 1996), a total sample size of 66, or 33 parents per condition, was needed to demonstrate a statistically significant change in knowledge, attitude, and behavior given a medium effect size and two treatment conditions.

Descriptive Statistics

All outcome variables were examined for skewness and kurtosis for the total sample ($n = 67$). Means, standard deviations, and measures of skew and kurtosis were computed for measures of attitude, communication, monitoring, and knowledge. Nonnormality of distribution was observed in the dependent variables, attitude and communication (see Table 2). Square-root and logarithmic transformations were utilized on these variables, with no meaningful differences noted in subsequent analyses, therefore, the results reported are on the untransformed data for ease of interpretation. Multivariate normality was assessed using Mahalanobis distances and no substantial outliers were noted.

A chi-square goodness of fit test indicated that there were significant differences in the proportion of males identified in the current sample (4%) compared with the area demographic for sex (49%), there were differences in race (White 91%) compared with the area demographic (White 68%), and for ethnicity (non-Hispanic 87%) as compared to the area demographic for non-Hispanic ethnicity (68%) (U. S. Census, 2008). The participant demographic for this research study was predominantly female, non-Hispanic, and White.

Baseline Participant Differences

Chi square tests were performed to determine if the participants in the two group conditions (*iPAM*, $n = 33$; wait-list control, $n = 34$) differed as a function of age, race, ethnicity and income. No significant differences were found in the groups with regard to age, $\chi^2 (2) = 3.58, p = .167$, with regard to race, $\chi^2 (1) = .001, p = .969$, with regard to ethnicity, $\chi^2 (2) = .165, p = .684$ or for income, $\chi^2 (6) = 1.58, p = .954$.

Multivariate analysis of variance (MANOVA) procedures were conducted across the two conditions (*iPAM*, $n = 33$; wait-list control, $n = 34$) on the four dependent variables of interest. Dependent variables were Attitude which was calculated as the mean scores on the Parent

Attitude items of the Parent Perceptions, Attitudes, and Behaviors measure (PPAB) (*iPAM*, $M = 3.73$, $SD = .39$; wait-list control, $M = 3.56$, $SD = .46$), Communication about alcohol which was calculated using the total frequency of communication items on the Parent Involvement and Communication Survey (PICS) (*iPAM*, $M = 2.42$, $SD = 2.48$; wait-list control, $M = 1.91$, $SD = 2.27$), Parental Monitoring, which was the calculated mean score of the Parent-Adolescent Monitoring Inventory (P-AMI) (*iPAM*, $M = 47.21$, $SD = 13.75$; wait-list control, $M = 48.88$, $SD = 12.80$), and Knowledge about underage alcohol which was the calculated total score on the Survey About Alcohol for Parents of Adolescents (SAAPA) (*iPAM*, $M = 25.42$, $SD = 5.32$; wait-list control, $M = 26.35$, $SD = 5.06$). The independent variables included, age, race, ethnicity, and income. Prior to MANOVA, descriptive statistics were examined and it was determined that the independent variables race and age would be redefined to assure that the cases in each cell would exceed the number of dependent variables. Thus, race was redefined and included two levels, White, and All Other, and age was defined by separating ages into decades which included three levels (e.g., 30s, 40s, 50s). Additionally, the participants were predominantly female; therefore a MANOVA could not be conducted on the dependent variables with regard to sex as the cell size requirement for male participants did not exceed the number of dependent variables.

A 3 x 2 multivariate analysis of variance (MANOVA; age by group) was performed to assess baseline group differences of age with regard to the dependent variables of interest, parent attitude about underage alcohol use, communication about alcohol, parental monitoring, and knowledge about underage alcohol use. Using Pillai's trace, no difference was found for group $V = .164$, $F(8, 118) = 1.31$, $p = .243$. A 2 x 2 (race by group) MANOVA was conducted to investigate baseline group differences of race on the dependent variables. No difference was found on the combined dependent variables, using Pillai's trace, $V = .044$, $F(4, 60) = .69$, $p =$

.602. Additionally, a 2 x 2 (ethnicity by group) MANOVA was performed to assess baseline group differences of ethnicity on the combined dependent variables with no differences revealed $V = .066$, $F(4, 60) = .89$, $p = .477$, and for baseline group differences of income on the combined dependent variables, there were also no differences discovered, $V = .297$, $F(20, 216) = .87$, $p = .629$.

Changes in Dependent Variables

Changes across treatment conditions on parent's attitude about underage alcohol use, communication about alcohol, knowledge about underage alcohol use, and parental monitoring over a 4 week period were investigated using a 2 (intervention group and control group), x 2 (pre-intervention, post-intervention) mixed model analysis of variance (ANOVA). All effects are reported as significant at $p < .05$ (See Table 4). A significant interaction effect between group and time, Wilks' $\Lambda = .73$, $F(4, 62) = 5.87$, $p < .001$, partial $\eta^2 = .275$, indicated that there were significant differences between *iPAM* group ($n = 33$) and the control group ($n = 34$) with regard to the dependent variables over time. Specifically, as hypothesized, the *iPAM* group revealed increased knowledge regarding underage alcohol use [$F(1, 65) = 14.56$, $p = .000$, partial $\eta^2 = .183$] (Hypothesis 1; see Figure 1), and increased monitoring [$F(1, 65) = 4.22$, $p = .034$, partial $\eta^2 = .239$] (Hypothesis 3) over a four week period as compared to the control group. Furthermore, when examining the subscale indices of the Parent-Adolescent Monitoring Inventory, it was revealed that phone monitoring group differences were significant [$F(1, 65) = 1.12$, $p < .01$, partial $\eta^2 = .133$] (see Figure 2) and that group differences for indirect monitoring approached significance [$F(1, 65) = 3.36$, $p = .055$, partial $\eta^2 = .056$] (see Figure 3) as did total monitoring [$F(1, 65) = 3.36$, $p = .071$, partial $\eta^2 = .049$] (see Figure 4). The hypotheses that permissive attitudes would decrease in the *iPAM* participant group as compared to the control

group was not met (Hypothesis 2; see Figure 5). However, the hypothesis that communication would increase over time was met, but due to lack of group differences, did not support hypothesis four fully. Increased communication about underage alcohol use was noted in parents regardless of group affiliation [$F(1, 65) = 4.37, p = .041, \text{partial } \eta^2 = .063$], and increased knowledge about underage alcohol use increased in parents over time [$F(1, 65) = 19.79, p = .000, \text{partial } \eta^2 = .233$] (see Figure 6).

Program Evaluation

The iPAM web-based parent program was evaluated to gain information about parents' perceptions about the capacity of the program to convey relevant information to them about underage alcohol use. Responses to the program evaluation questions regarding the specific informational modules, the overall visual appeal of the program, organization of information, and whether parents found the information helpful, obtained positive ratings, overall (Table 5).

DISCUSSION

Alcohol is the most pervasive and accessible mood altering substance in the United States and it can be easily obtained by all who desire it, regardless of age (SAMHSA, 2009). For individuals who have tried alcohol, it is most often reported that their first use was either obtained from a parents' alcohol supply or with the permission of parents, while in their presence (Johnston, O'Malley, Bachman & Schulenberg, 2009). Research findings that have been amassed over the past two decades reveal numerous harms and potential for negative consequences exist with early alcohol use initiation, regular use, and heavy use in adolescence that can follow individuals through the course of their life. Problems such as, depression and increased risk of suicide, risk for injuries and fatalities, potential for sexual assault either as the perpetrator or victim, alterations in brain function and structure, and the likelihood of future

substance dependence problems, are among the problems associated with early alcohol use (USDHHS, 2007).

The present study was conducted to fill the need for accessible evidence-based parent programming to convey information related to the prevalence and problems of underage drinking to parents. It was believed that by disseminating understandable information that is informed by current and ongoing research, parents' thoughts about underage drinking would be altered. Thus, parents would have an informed understanding of the potential that exists for their children to use alcohol and develop alcohol related problems, and the opportunity to learn parenting behaviors that will assist them to prevent initiation of their child's use or future use of alcohol.

Specifically, the present study entailed the development of a web-based program, the *iPAM*, (Increasing Parental Awareness and Monitoring) and the subsequent evaluation of the program's effectiveness. The majority of the content for the *iPAM* program was provided by online resources from The National Institute on Alcohol Abuse and Alcoholism (NIAAA) and by the United States Surgeon General's *Call to Action* (2007), which can be found on these agencies associated websites. The *iPAM* parent program utilized an interactive web-based framework to present information for the purpose of increasing parent knowledge about the prevalence of, and the problems related to, adolescent alcohol use, which was the first hypothesis. The *iPAM* also sought to alter permissive attitudes about underage drinking, which was hypothesis two. The *iPAM* provided modeling and information to increase the likelihood and the frequency of communication between parent and child about alcohol, which was hypothesis three, and sought to increase parent monitoring of their adolescent children by providing guidelines and modeling, which was the fourth hypothesis.

The program provides a novel means to facilitate learning in a brief (less than 30 minutes) online format that can be accessed from home. Current parent programming is typically school-based and a part of the school curriculum for substance use awareness, that parents are instructed to follow. This programming often requires a significant time allotment that results in parent attrition, due to time constraints, transportation or health difficulties, and even the program's inability to sustain the parent's attention. Feedback from parent reviews of this type of programming suggests that parent's would like programs that are non-judgmental, can be completed at home, that are interesting and hold their attention, and that help them to communicate with their children about alcohol and other substance use (Beatty & Cross, 2006). Parents report that they desire practical, easy to use, programming that provides information that is relevant to them, and their families. To that end, the fifth hypothesis was that parents would rate the web-based program favorably based on their scores on an evaluation survey collected immediately after program participation.

Findings from the evaluation of this randomized controlled trial and from parent evaluations of the program are encouraging. Significant differences were noted across time between the two groups, in terms of parent knowledge, revealing that the parents that participated in the program gained and retained relevant information about the problems of underage drinking after four weeks, which supported hypothesis one. The information gained from the program included the biopsychosocial factors regarding adolescent alcohol use that were presented within the 25 minute program. Moreover, the three brief program modules included information on the risks of underage alcohol use, negative consequences, parenting factors related to underage drinking, media influences, the biological impact of early alcohol abuse, prevalence rates, and legal issues related to underage drinking.

Additionally, significant parent monitoring behavior differences were discovered across time within the two groups, supporting hypothesis three. The parents who participated in the experimental condition increased their level of monitoring, while the parents within the control condition revealed a decline in monitoring. This seems to indicate that the information provided in the program served to not only maintain the monitoring behaviors of the parents that participated, but also to possibly instigate an adjustment toward increased monitoring of their child's plans, whereabouts, and their child's friends.

The findings regarding parent's attitudes about underage alcohol use did not support the hypothesis that parents would report less permissive attitudes about underage drinking compared to the control group over time. Both groups reported fairly conservative attitudes regarding underage alcohol use at time one and time two, with the *iPAM* group being somewhat more conservative or less permissive, although not significantly so. Over time, there was a slight increase in the permissiveness of the control group parents while the *iPAM* parent scores remained stable.

Parent communication about alcohol use was significantly increased over time by parents although no significant group differences were found. The survey measure questions regarding alcohol related communication, which asks parents to indicate the number of times they have spoken with their child about alcohol in the past 4 weeks, could have influenced communication and offered a platform from which parents began to have a dialogue with their child about alcohol use. While all parents increased communication about alcohol with their adolescent child over four weeks, the *iPAM* parents increased communication to a greater extent, however not reaching significance; therefore, hypothesis four was partially supported. Additionally, an increase in knowledge about underage alcohol use was noted in the control group over time. The

completion of the survey measure, while it seemed to have stimulated conversation, might also have served to stimulate the desire to learn information related to underage drinking. It is plausible that parents gained information through their communications with their adolescent children or families, or by seeking information online or elsewhere. Nevertheless, the control group parents were able to gain a relatively small increase in knowledge with regard to the problems and risks associated with adolescent alcohol use.

The parent evaluation of the *iPAM* program yielded encouraging results. The majority of parents strongly agreed or agreed that the program modules were informative, that the program overall was informative, that the program was relevant to their family, easy to use and visually appealing, logical and organized. All but three parents indicated that they would visit the website again and recommend the website to other parents. Therefore, hypothesis five was supported.

Limitations and future directions

Attrition was a limitation in this study as 41% of the parents ended their participation in the research after randomization to the *iPAM* experimental condition or the wait-list control condition of the study, and prior to the completion of the second survey measure. About one third of the participants that discontinued participation failed to provide information so that they could be emailed the link to the second follow up survey. It is not known whether this was intentional. Because the participants in this research were provided anonymity, our ability to follow up with participants to discover the reason for ending participation was limited. While anonymity might have decreased the potential for socially appropriate responding or demand characteristics to influence outcomes, the ability to discover the reasons for early termination from the study and to learn about potential differences in the groups (those who complete and those who do not complete) would be important for future web-based research. In addition,

parents were instructed that they could *elect* to receive 2 movie tickets for their participation in the program and might have not provided contact information because they were “electing” not to receive the tickets, and therefore were not able to be contacted to complete the followup survey measure. Many of the participants were revealed to be of a higher socioeconomic status and at least one parent provided feedback declining the tickets, and three other parents did not provide addresses so that the tickets could be sent to them after completing the second survey measure.

Another limitation was the lack of reliable measures for use in this research. While measures were created specifically for use in this research, they have not been tested for reliability. It will be important to investigate these measures’ reliability through appropriate parametric techniques prior to their use in subsequent research. Also, the demographic of the participants in this study is a limitation. The participant recruitment within the school system was extended to selected middle and high schools that have a fairly diverse demographic. Our sample demographic was predominantly White and non-Hispanic, thereby limiting the ability to generalize these findings to the population. Clearly, this sample does not represent the area demographics and it will be important to attempt to enroll a more diverse participant pool for future research with the *iPAM*. Additionally, the use of convenience sampling is a limitation with potential to influence the research findings. It is difficult to know whether parents who self-select to engage in parent-focused research, after responding to an online prompt or printed recruitment statement, are unlike the population at large.

Finally, data provided by parents of older adolescents, 17 and 18 years of age, were included in the analysis due to attrition and recruitment limitations in the school system. It is believed that the findings might have been more robust, had the results been derived from only

the responses of parents whose adolescents were younger and most likely to spend more time at home (i.e., not have their own transportation or outside employment). Future implementation and replication of this research could benefit from a more rigorous recruitment and program dissemination and to gain participant diversity and to target parents with young to mid-adolescents, that are 12 to 15 years of age. It would also be interesting for future studies that utilize the *iPAM* to measure parent reports of alcohol related incidences experienced by their adolescent children and evaluate the utility of the program to reduce these problems over time.

Conclusion

The present project was spawned from a need in the community to provide parents with brief and convenient programming to empower them to reduce and prevent underage alcohol use. The *iPAM* is a good beginning, as the program was demonstrated to provide parents the opportunity to learn information related to the prevalence of underage alcohol abuse and the problems that arise when adolescents use alcohol. In addition, other important issues that parents learned included the influence of the media to promote adolescent drinking and the development of positive beliefs about the outcome of alcohol use and that can influence children and adolescents to drink alcohol. These issues, among others were found to be relevant to the families that utilized the program. Additionally the *iPAM* modeled strategies that assisted parents to initiate dialogue with their adolescent child about the problems and risks associated with underage use of alcohol. The *iPAM* has begun to fill the need for convenient and effective parent programming by focusing on development of knowledge, parent skills, and communication in an appealing, interactive, web-based program.

APPENDIX A: BRIEF RECRUITMENT STATEMENT

Recruitment advertisement of the research study for the Parent Page of your school's website or newsletter:

Attention Parents and Guardians:

As part of a current research study, we are asking that you complete a brief survey and participate in a program that could help parents connect with teens and communicate expectations about health-related behaviors. You will be eligible to receive 2 adult admission movie theater tickets for this opportunity to learn important information. To participate, you must be a parent or guardian of a middle or high school student.

Please visit (or click) this link to participate in the parent program:

APPENDIX B: IRB APPROVAL



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901, 407-882-2012 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Notice of Exempt Review Status

From: UCF Institutional Review Board
FWA00000381, Exp. 10/8/11, IRB00001138

To: Pamela Brown

Date: May 12, 2009

IRB Number: SBE-09-06204

Study Title: The development and evaluation of a web-based psychoeducational program for parents to reduce underage alcohol use

Dear Researcher:

Your research protocol was reviewed by the IRB Chair on 5/8/2009. Per federal regulations, 45 CFR 46.101, your study has been determined to be minimal risk for human subjects and exempt from 45 CFR 46 federal regulations and further IRB review or renewal unless you later wish to add the use of identifiers or change the protocol procedures in a way that might increase risk to participants. Before making any changes to your study, call the IRB office to discuss the changes. A change which incorporates the use of identifiers may mean the study is no longer exempt, thus requiring the submission of a new application to change the classification to expedited if the risk is still minimal. Please submit the Termination/Final Report form when the study has been completed. All forms may be completed and submitted online at <https://iris.research.ucf.edu>.

The category for which exempt status has been determined for this protocol is as follows:

2. Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey or interview procedures, or the observation of public behavior, so long as confidentiality is maintained.
- (i) Information obtained is recorded in such a manner that the subject cannot be identified, directly or through identifiers linked to the subject, and/or
 - (ii) Subject's responses, if known outside the research would not reasonably place the subject at risk of criminal or civil liability or be damaging to the subject's financial standing or employability or reputation.

The IRB has approved a waiver of documentation of consent for all subjects. Participants do not have to sign a consent form, but the IRB requires that you give participants a copy of the IRB-approved consent form, letter, information sheet. For online surveys, please advise participants to print out the consent document for their files.

All data, which may include signed consent form documents, must be retained in a locked file cabinet for a minimum of three years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained on a password-protected computer if electronic information is used. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

On behalf of Tracy Dietz, Ph.D., UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 05/12/2009 09:48:11 AM EDT

IRB Coordinator

APPENDIX C: INFORMED CONSENT

Dear Parent:

Researchers at the University of Central Florida (UCF) study many topics. To do this, we need the help of people who agree to take part in a research study. You are being invited to take part in a research study which will include about 200 people. You can read this form and agree to take part right now, or study the content of the form before you decide and log on later. You can ask questions about the research and you will be told if any new information is learned which may affect your willingness to continue taking part in this study.

You have been asked to take part in this research study because you are the parent of an adolescent child. You must be at least 18 years of age and must indicate your consent on this form to be included in the research study.

The person doing this research is Pamela Brown, M.S. of the University of Central Florida, Department of Psychology. Because the researcher is a masters student she is being guided by Michael Dunn, Ph.D., a UCF faculty supervisor in the Clinical Psychology Doctoral Program, Department of Psychology, UCF.

Study title: The development and evaluation of a web-based program for parents

Purpose of the research study: The purpose of this study is to develop and test web-based programming for parents of adolescents.

What you will be asked to do in the study: Parents will learn about the research through reading this informed consent form. After a parent acknowledges that he/she agrees to participate, the parent will be assigned to one of two conditions. In the first condition the parent will ANONYMOUSLY answer a series of questions and then will participate in the web-based parent program which will take approximately 30 minutes. About 4 weeks later, the parent will be asked to complete the last portion of the study (approximately 15 minutes). Another possible scenario is that a parent will be asked to ANONYMOUSLY answer survey questions and about 4 weeks later will be asked to complete the last portion of the study (approximately 30 minutes).

Two adult admission movie tickets will be mailed to you for your participation in the study.

Voluntary participation: You should take part in this study only because you want to. There is no penalty for not taking part, and you will not lose any benefits. You have the right to stop at any time. Just contact the researcher or a member of the research team using their contact information below and let them know that you want to stop. You will be told if any new information is learned which may affect your willingness to continue taking part in this study.

Location: All aspects of your participation will be conducted online

Time required: Two online sessions are required for participation. The sessions will range from approximately 15 to 30 minutes. You will complete one session today and another in approximately 4 weeks.

Risks: Because your responses to questions and your participation in the program is **TOTALLY ANONYMOUS**, there are no expected risks for taking part in this study. You do not have to answer every question or complete every task. You will not lose any benefits if you skip questions or tasks. You do not have to answer any questions that make you feel uncomfortable. There are no physical, psychological, and social risks associated with this study as all information is anonymous and cannot be traced to your identity or name. After you exit from the program you will be directed to a separate link and database and asked to provide contact information (e.g., name, email address, address and phone number) so that you can be notified to participate in the last portion of the study and receive compensation. The database where this information is stored will be password protected by the researcher.

Benefits: As a research participant you will benefit and potentially learn from information presented in the program about parent perceptions, attitudes and behaviors regarding adolescent children. You will also benefit from learning more about the research process, particularly web-based research.

Compensation or payment: For participation today and again in about 4 weeks, **participants may elect to receive 2 movie tickets**. The total time they will spend is approximately 30 to 45 minutes. The sessions are approximately 30 minutes and 15 minutes in duration to participate in the online program. These tickets will be forwarded to all participants regardless of completion status by completing a brief form online or by contacting the research team.

Anonymous research: Your participation in answering questions and participating in the parent program is **TOTALLY ANONYMOUS**, which means your identity or name cannot be associated with the information you provide while answering questions or participating in the program.

Study contact for questions about the study or to report a problem: Pamela Brown, M.S. Clinical Psychology Doctoral Program, University of Central Florida, College of Sciences, by phone 407-451-1086, or email, pamela.brown@knights.ucf.edu or contact Dr. Michael Dunn, Faculty Supervisor, Department of Psychology, 407-823-3083 or by email at mdunn@mail.ucf.edu

IRB contact about your rights in the study or to report a complaint: Research at the University of Central Florida involving human participants is carried out under the oversight of the Institutional Review Board (UCF IRB).

For information about the rights of people who take part in research, please contact: Institutional Review Board, University of Central Florida, Office of Research & Commercialization, 12201 Research Parkway, Suite 501, Orlando, FL 32826-3246 or by telephone at (407) 823-2901.

How to acknowledge that you understand and agree to participate in this research: Please indicate checking the box on the next screen, that you are at least 18 years of age and that you wish to participate in this research.

****Please depress Ctrl and P to print this information for your records.**

APPENDIX D: DEBRIEFING

Parent Debriefing Form

Dear Parent,

Thank you for your participation!

The purpose of the study was to explore the utility of a web-based program to offer parents up-to-date information about underage alcohol use and to offer parents strategies that have been revealed to be helpful to prevent or reduce underage drinking. The results of this investigation will be used to inform preventative programs to deter and reduce underage alcohol use.

All of the information gathered throughout this project has been and will be kept anonymous to protect participants. If you wish to receive a summary of the research findings, you may contact us at 407-823-2522, and upon completion of the study we can provide you with a summary of the findings.

Once again, thank you very much for your participation in this project!

Pamela Brown, M.S.
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or

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Orlando, FL 32816-1390
Voice: (407) 823-3083

Please PRINT (Control+P) for your records

APPENDIX E: DEMOGRAPHIC QUESTIONNAIRE

Questionnaire

Gender: M F

Age: _____

Ethnicity: Hispanic/Latino Non-Hispanic/Latino

Race: (select one) White Black/African American Biracial/Multiracial Asian
Pacific Islander/Alaskan Other: _____

What is your current marital status? (select one)

- Married
- Not Married
- Divorced
- Separated
- Widowed

What is your current work status? (select one)

- I am employed 35 hrs or more outside of the home
- I am employed part-time
- I am not employed at this time
- I work from/or at home

Occupation: _____

Annual Family Income: (select one)

- | | | |
|---------------------|--------------------|---------------------|
| \$25,000 or less | \$25,001 to 40,000 | \$40,001 to 55,000 |
| \$55,001 to 70,000 | \$70,001 to 85,000 | \$85,001 to 100,000 |
| \$100,001 and above | | |

What is your highest level of education? (select one)

- Less than high school
- High School/GED
- Some College
- 2-Year College Degree (Associates)
- 4-Year College Degree (BA, BS)
- Master's Degree (MA, MS)
- Professional Degree (MD, JD)
- Doctoral Degree (PhD)

Your relationship to your middle or high school age child/children (select those that apply)

- | | |
|---------------------------|-------------------------|
| Biological Mother | Biological Father |
| Step Mother | Step Father |
| Female Guardian/Caretaker | Male Guardian/Caretaker |

Number of children that live in your home _____

APPENDIX F: UNIQUE IDENTIFIER CREATION

Please answer the following questions in order to generate a **UNIQUE CODE** as your identifier for this survey. This is done with the purpose of keeping your responses anonymous. Please check the box with the answer for each question below.

1. What is your **ZODIAC SIGN**?

Aries (Mar. 21 – Apr. 20)	Leo (July 23 – Aug. 21)	Sagittarius (Nov. 23 – Dec. 22)
Taurus (Apr. 21 – May 21)	Virgo (Aug. 22 – Sept. 23)	Capricorn (Dec. 23 – Jan. 20)
Gemini (May 22 – June 21)	Libra (Sept. 24 – Oct. 23)	Aquarius (Jan. 21 – Feb. 19)
Cancer (June 22 – July 22)	Scorpio (Oct. 24 – Nov. 22)	Pisces (Feb. 20 – Mar. 20)

2. Select your **HEIGHT** (feet and inches)

4ft 6in or less	4ft 11in	5ft 4in	5ft 9in	6ft 2in	6ft 7in
4ft 7in	5ft 0in	5ft 5in	5ft 10in	6ft 3in	6ft 8in
4ft 8in	5ft 1in	5ft 6in	5ft 11in	6ft 4in	6ft 9in
4ft 9in	5ft 2in	5ft 7in	6ft 0in	6ft 5in	6ft 10in
4ft 10in	5ft 3in	5ft 8in	6ft 1in	6ft 6in	6ft 11in
					7ft or over

3. How many **BIOLOGICAL** children do you have? (do not include step-children)

0 1 2 3 4 5 6 or more

4. What is the **FIRST LETTER** of your **MOTHER'S FIRST NAME**?

A	C	E	G	I	K	M	O	Q	S	U	W	Y
B	D	F	H	J	L	N	P	R	T	V	X	Z

5. What is the **FIRST LETTER** of your **FATHER'S FIRST NAME**?

A	C	E	G	I	K	M	O	Q	S	U	W	Y
B	D	F	H	J	L	N	P	R	T	V	X	Z

APPENDIX G: SURVEY OF PARENT PERCEPTIONS, ATTITUDES, AND BEHAVIORS

Survey of Parent Perceptions, Attitudes, and Behaviors

Young people can obtain alcohol in many different ways.
In general, how difficult is it for underage youth to

1. Buy beer, wine or hard liquor at a store themselves.

- A. Not at all difficult
- B. Somewhat difficult
- C. Quite difficult
- D. Very difficult

2. Get an older person to buy alcohol for them

- A. Not at all difficult
- B. Somewhat difficult
- C. Quite difficult
- D. Very difficult

3. Order an alcoholic drink in a bar or restaurant

- A. Not at all difficult
- B. Somewhat difficult
- C. Quite difficult
- D. Very difficult

4. Sneak alcohol from their home or a friend's home

- A. Not at all difficult
- B. Somewhat difficult
- C. Quite difficult
- D. Very difficult

5. Get their parents to give alcohol to them

- A. Not at all difficult
- B. Somewhat difficult
- C. Quite difficult
- D. Very difficult

People have different beliefs and rules about the use of alcohol by teenagers. How much do you agree or disagree with each of these statements?

6. It is acceptable for teenagers under the age of 18 to drink at parties if they don't get drunk.

- A. Strongly agree
- B. Somewhat agree
- C. Somewhat disagree
- D. Strongly disagree

7. It is acceptable for teenagers under the age of 18 to drink as long as they don't drive afterwards.

- A. Strongly agree
- B. Somewhat agree
- C. Somewhat disagree
- D. Strongly disagree

8. Adults' use of alcohol has no influence on teenagers' use of alcohol.

- A. Strongly agree
- B. Somewhat agree

- C. Somewhat disagree
- D. Strongly disagree

9. Drinking alcohol is acceptable for people that are ages 18, 19, or 20 years of age.

- A. Strongly agree
- B. Somewhat agree
- C. Somewhat disagree
- D. Strongly disagree

10. If adults age 21 or older use alcohol, it's their business and nobody else's.

- A. Strongly agree
- B. Somewhat agree
- C. Somewhat disagree
- D. Strongly disagree

11. It's okay for parents to offer their children under the age of 21, alcoholic drinks in their own home

- A. Strongly agree
- B. Somewhat agree
- C. Somewhat disagree
- D. Strongly disagree

12. It is okay for parents to offer alcoholic drinks in their home to people under the age of 21, that are not their own children.

- A. Strongly agree
- B. Somewhat agree
- C. Somewhat disagree
- D. Strongly disagree

13. Any time teenagers, under the age of 18 are attending a party, parents should check to see if there will be a responsible adult present.

- A. Strongly agree
- B. Somewhat agree
- C. Somewhat disagree
- D. Strongly disagree

14. There is alcohol in my home.

- A. Yes
- B. No

15. I know how much alcohol there is in my home all the time.

- A. Yes
- B. No

16. When there is alcohol in my home, it is stored in an unlocked cabinet or refrigerator.

- A. Yes
- B. No

APPENDIX H: SURVEY ABOUT ALCOHOL FOR PARENTS OF ADOLESCENTS

SURVEY ABOUT ALCOHOL FOR PARENTS

Please answer all of the questions below by circling the correct answer, "Yes" or "No," or if you are not sure or do not know the answer, please circle "Not Sure or Don't Know".

1. The development of the brain continues into young adulthood.

- Yes
- No
- Not Sure or Don't Know

2. When parents talk about irresponsible drinking and the problems that can occur from alcohol use, it doesn't really help their teens resist drinking alcohol.

- Yes
- No
- Not Sure or Don't Know

3. Having a party with alcohol for your teen and his/her friends is an effective way to keep them from using alcohol away from home.

- Yes
- No
- Not Sure or Don't Know

4. Teens who eat dinner one or two times a week with their families are more likely to use alcohol and other drugs than teens who eat dinner frequently with their families.

- Yes
- No
- Not Sure or Don't Know

5. Underage alcohol use is influenced by the positive messages and cues that teens get from their environment about alcohol.

- Yes
- No
- Not Sure or Don't Know

6. Alcohol use has been discovered to interfere with memory in adolescents.

- Yes
- No
- Not Sure or Don't Know

7. The penalties for underage (under 21) possession of alcohol in Florida can include jail time, driver's license suspension, mandatory fine, and community service.

- Yes
- No
- Not Sure or Don't Know

8. Adolescent girls who use alcohol are no more likely to suffer from depression than girls who do not drink.

- Yes
- No
- Not Sure or Don't Know

9. Twenty-five percent of the total alcohol purchased in the United States is consumed by underage youth.

- Yes
- No
- Not Sure or Don't Know

10. Teaching children ways to manage stress can help keep them from using alcohol and other drugs.

- Yes
- No
- Not Sure or Don't Know

11. In a national survey, 80% of 10th-grade students reported that alcohol is readily available for them to drink.

- Yes
- No
- Not Sure or Don't Know

12. The likelihood of an adolescent being a victim or initiator of physical and sexual violence is increased when young people use alcohol.

- Yes
- No
- Not Sure or Don't Know

13. Some children seem to have a greater "need" for risk-taking behaviors.

- Yes
- No
- Not Sure or Don't Know

14. In Florida, parents who host parties can legally serve their teenagers and their teens' friends in their home if they don't let anyone drive drunk.

- Yes
- No
- Not Sure or Don't Know

15. A 12 oz. beer contains the same amount of alcohol as a shot (1.5 ozs.) of 80 proof whiskey.

- Yes
- No
- Not Sure or Don't Know

16. Setting rules and providing consequences for breaking rules doesn't really do any good when the child is an adolescent.

- Yes
- No
- Not Sure or Don't Know

17. When teens drink alcohol, they often drink more than adults in a social drinking setting.

- Yes
- No
- Not Sure or Don't Know

18. Parents have the greatest influence in preventing children from using alcohol.

- Yes
- No
- Not Sure or Don't Know

19. Young people who begin drinking in their mid-teens or younger are at an increased risk to become alcohol dependent in adulthood than people who begin drinking at 21 years of age.

- Yes
- No
- Not Sure or Don't Know

20. In Florida, parents or adults 21 and over, who provide alcohol in a social setting to anyone under the age of 21 can be arrested and imprisoned up to 60 days.

- Yes
- No
- Not Sure or Don't Know

21. The U.S. Surgeon General has identified that underage alcohol use is significant problem in the United States.

- Yes
- No
- Not Sure or Don't Know

22. Talking with teens about their plans for the day and checking in with them regularly is one good way to monitor teens.

- Yes
- No
- Not Sure or Don't Know

23. Beliefs about the effects of alcohol are learned before a person actually uses alcohol.

- Yes
- No
- Not Sure or Don't Know

24. Children and teens beliefs about the effects of alcohol are influenced by some television shows.

- Yes
- No
- Not Sure or Don't Know

25. Teaching teens to drink alcohol is effective when done at home under parental supervision.

- Yes
- No
- Not Sure or Don't Know

26. Teens drink less and have fewer alcohol-related problems when their parents discipline them consistently and set clear expectations.

- Yes
- No
- Not Sure or Don't Know

27. Each year in the United States, almost 1.5 million adolescents ages 12 to 17 need treatment for an alcohol problem.

- Yes
- No
- Not Sure or Don't Know

28. Teen alcohol use is one of the leading causes of injuries each year in young people.

- Yes
- No
- Not Sure or Don't Know

29. Almost half of the teens that began drinking before age 14 became dependent in their lifetime.

- Yes
- No
- Not Sure or Don't Know

30. Alcohol has been shown to alter brain development in adolescents.

- Yes
- No
- Not Sure or Don't Know

31. More than 1 in 3 ninth grade students report drinking in the past month.

- Yes
- No
- Not Sure or Don't Know

32. Parent drinking behaviors and attitudes about drinking are associated with teens' heavy drinking.

- Yes
- No
- Not Sure or Don't Know

33. The likelihood of a teen drinking alcohol is about the same in teens who feel close and involved with their families and in teens who do not.

- Yes
- No
- Not Sure or Don't Know

34. Older siblings' alcohol use can influence alcohol use among younger siblings in the family.

- Yes
- No
- Not Sure or Don't Know

35. Adolescents who abuse alcohol may remember less of what they have learned than peers who don't drink.

- Yes
- No
- Not Sure or Don't Know

36. Young people between the ages of 12 and 17, who reported alcohol in the past year, were more than twice as likely to be at risk for suicide as youth who did not use alcohol.

- Yes
- No
- Not Sure or Don't Know

APPENDIX I: PARENT – ADOLESCENT MONITORING INVENTORY

Parent – Adolescent Monitoring Instrument

Please indicate the appropriate response by circling the answer that best describes your experience.

1. In the past 4 weeks:

How often have you been aware when your teen has made a new friend?

- Never
- Sometimes
- Usually
- Always

2. In the past 4 weeks:

How often have you asked to meet his or her new friends?

- Never
- Sometimes
- Usually
- Always

3. In the past 4 weeks:

How often have you asked to meet your teen's friends' parent(s)?

- Never
- Sometimes
- Usually
- Always

4. In the past 4 weeks:

How often have you contacted your teen's friends' parent(s) to talk to them about an activity that your teens are doing together?

- Never
- Sometimes
- Usually
- Always

5. In the past 4 weeks:

How often have you contacted other parents to find out information about your teen's new or existing friends?

- Never
- Sometimes
- Usually
- Always

6. In the past 4 weeks:

How often have you asked the friends of your teen about the activity(ies) they did with your child?

- Never
- Sometimes
- Usually
- Always

7. In the past 4 weeks:

When your teen participates in an activity with his or her friends, how often do you talk with other parents about the activity?

- Never
- Sometimes
- Usually
- Always

8. In the past 4 weeks:

How often have you talked with your neighbors about teen activities that they might have observed around your home while you were away?

- Never
- Sometimes
- Usually
- Always

9. In the past 4 weeks:

How often have you checked to see if another parent or adult is supervising activities when your teen is participating in an activity away from home?

- Never
- Sometimes
- Usually
- Always

10. In the past 4 weeks:

How often have you talked to your teen about their plans for their free time?

- Never
- Sometimes
- Usually
- Always

11. In the past 4 weeks:

How often have you asked your teen about the details of planned activities before they participate in the activity?

- Never
- Sometimes
- Usually
- Always

12. In the past 4 weeks:

How often have you asked your teen for details once the planned activity is over?

- Never
- Sometimes
- Usually
- Always

13. In the past 4 weeks:

How often have you checked to make sure they completed homework?

- Never
- Sometimes
- Usually
- Always

14. In the past 4 weeks:

How often have you talked or emailed teachers about your teen's schoolwork?

- Never
- Sometimes
- Usually
- Always

15. In the past 4 weeks:

How often have you looked at their homework?

- Never
- Sometimes
- Usually
- Always

16. In the past 4 weeks:

How often have you talked with your teen about their grades and schoolwork?

- Never
- Sometimes
- Usually
- Always

17. In the past 4 weeks:

How often have you checked on what your teen is eating?

- Never
- Sometimes
- Usually
- Always

18. In the past 4 weeks:

How often have you checked on their exercise routines?

- Never
- Sometimes
- Usually
- Always

19. In the past 4 weeks:

How often have you talked with them about changes in their mood?

- Never
- Sometimes
- Usually
- Always

20. In the past 4 weeks:

How often have you talked with them about eating habits and nutrition?

- Never
- Sometimes
- Usually
- Always

21. In the past 4 weeks:

How often has the computer with internet access been placed in an open area where it can be observed?

- Never
- Sometimes
- Usually
- Always

22. In the past 4 weeks:

How often have you limited the amount of time your teen spends on the internet?

- Never
- Sometimes
- Usually
- Always

23. In the past 4 weeks:

How often have you used software to block certain Web pages?

- Never
- Sometimes
- Usually
- Always

24. In the past 4 weeks:

How often have you checked the websites your teen viewed through the browser history or another method

- Never
- Sometimes
- Usually
- Always

25. In the past 4 weeks:

How often have you read your teen's Instant Messenger (IM) chats on the computer through the IM History?

- Never
- Sometimes
- Usually
- Always

26. In the past 4 weeks:

How often have you monitored the time they spend on phone calls?

- Never
- Sometimes
- Usually
- Always

27. In the past 4 weeks:

How often have you asked to read the texts that they have sent or received on the cell phone?

- Never
- Sometimes
- Usually
- Always

28. In the past 4 weeks:

How often have you read texts that they have sent or received on the cell phone?

- Never
- Sometimes
- Usually
- Always

29. In the past 4 weeks:

How often have you set limits to texts or time spent on the cell phone?

- Never
- Sometimes
- Usually
- Always

30. In the past 4 weeks:

How often have you told them to end phone conversations?

- Never
- Sometimes
- Usually
- Always

31. In the past 4 weeks:

How often have you listened to their phone conversations?

- Never
- Sometimes
- Usually
- Always

32. In the past 4 weeks:

How often have you looked through your teens drawers or closets?

- Never
- Sometimes
- Usually
- Always

33. In the past 4 weeks:

How often have you read their personal notes or diary/journal?

- Never
- Sometimes
- Usually
- Always

APPENDIX J: PARENT INVOLVEMENT AND COMMUNICATION SURVEY

Parent Involvement and Communication

1. Please answer these questions based on only one adolescent child. Please indicate this child's grade level. He/she is:

- in the seventh grade
- in the eighth grade
- in the ninth grade
- in the tenth grade
- other

Other (please specify)

2. The child that I am thinking of when answering these questions is:

- 13 years old
- 14 years old
- 15 years old
- 16 years old
- other

Other (please specify)

3. This child has his/her own computer with internet access

- Yes
- No

4. How often do you look at his/her social network activity (e.g., their MySpace or Facebook profile page)?

- I don't know if my child has a MySpace or Facebook Profile Page
- I know they have one, but I have not seen it
- I see it about once a month
- I look at it 2-3 times during the month
- I see it once a week or more

5. How often do you have a conversation with this child's closest friend?

- I don't talk with them
- I speak with them less than once a week
- I speak with 1-2 times a week
- I speak with them a few times a week

6. How often do you have a conversation with the parents of this child's closest friend?

- I don't talk with them
- I speak with them less than once a week
- I speak with 1-2 times a week
- I speak with them a few times a week

7. Now think about the PAST 4 WEEKS through today. Please recall the number of times you talked with this child about the problems or negative consequences associated with the use of ALCOHOL (Type number of times in the space below - if you have not talked with them about alcohol then type 0)

8. Now think about the PAST 4 WEEKS through today. Please recall the number of times you talked with this child about alcohol advertising or alcohol use in movies and television (Type number of times in the space below - if you have not talked with them about these subjects then type 0)

57. How many meals do you eat with this child during the week? Think about breakfast, lunch, and dinner during the typical school year.

58. How many times do you eat DINNER with this child during the week (during the typical school year)?

APPENDIX K: PARENT PROGRAM EVALUATION

Parent Evaluation of iPAM program for Parents

Please place an X in the appropriate square

	Strongly Agree	Agree	Disagree	Strongly Disagree
The information from Module 1 Interactive Quiz was informative				
The information from Module 2 Real People, Real Strategies Video was informative				
The information from Module 3 Parent Checklist was informative				
The information from the links was helpful				
Links on the website worked				
The author has expertise in the area				
The website is visually appealing				
The pages were well organized				
The website has a logical layout and sequence				
The information appears accurate and well researched				
The information was relevant to my family				
The website was easy to use				
The website was informative				
I would visit this website again				
I would recommend this website to other parents				

If you can take a moment, please provide additional comments:

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Mean Knowledge Scores

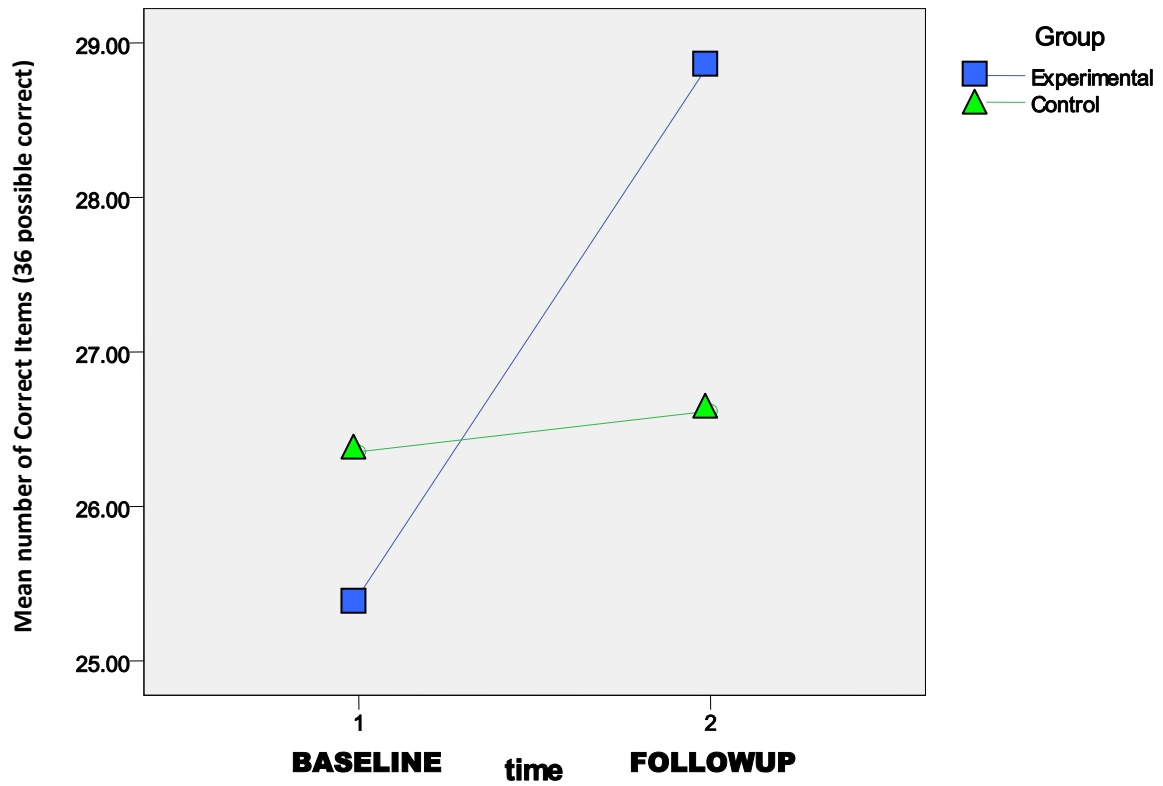


Figure 1. Mean knowledge scores by time and condition

Mean Phone Monitoring Scores

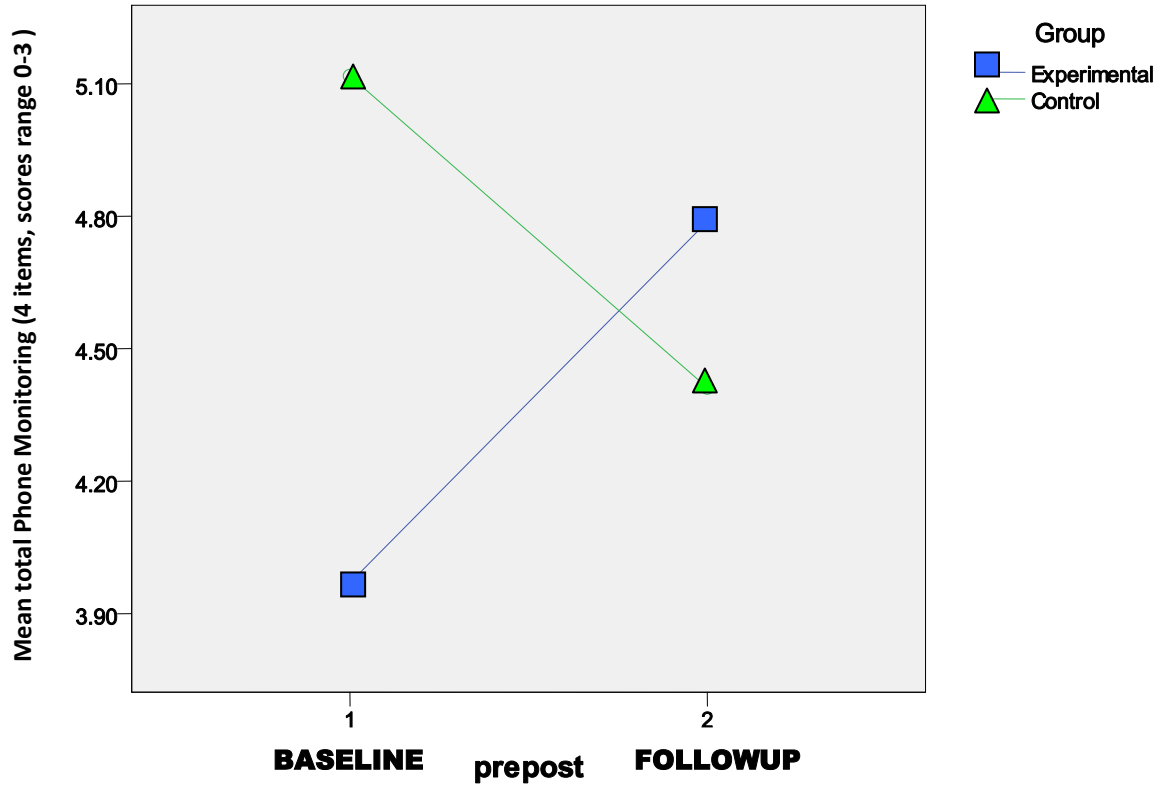


Figure 2. Mean phone monitoring scores by time and condition

Mean Indirect Monitoring Scores

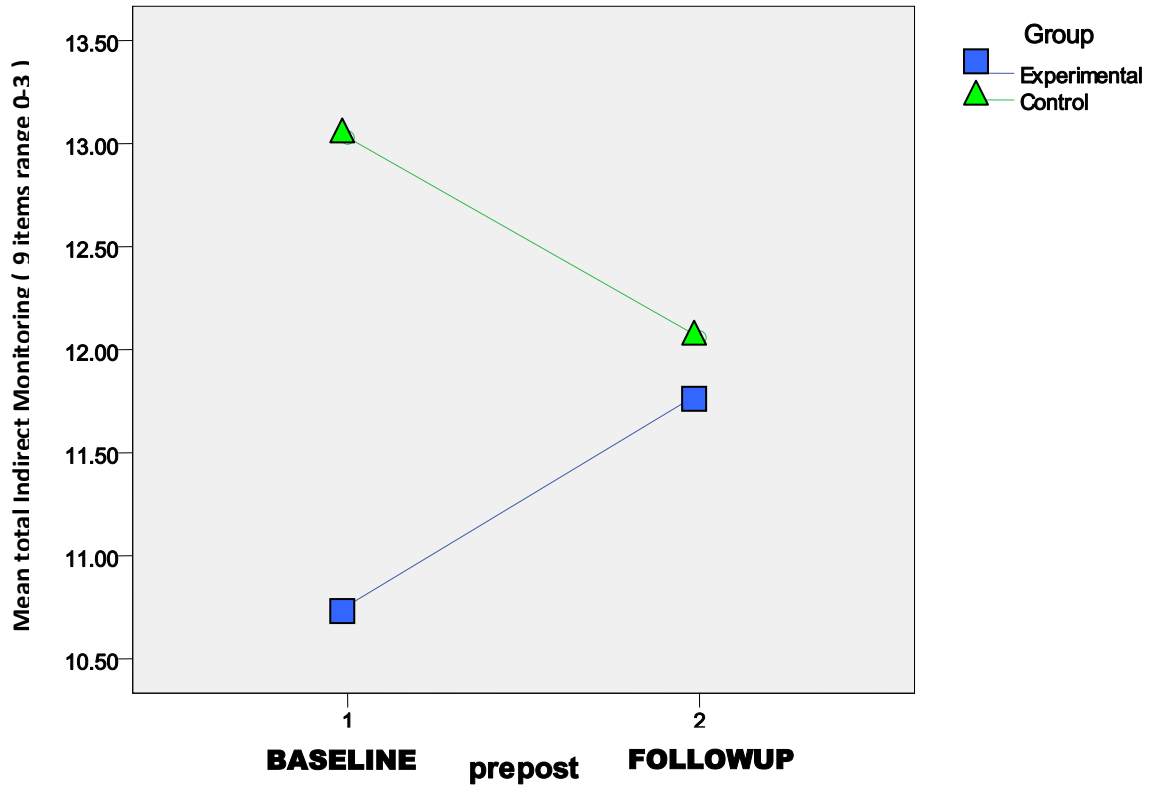


Figure 3. Mean indirect monitoring scores by time and condition

Mean Total Monitoring Scores

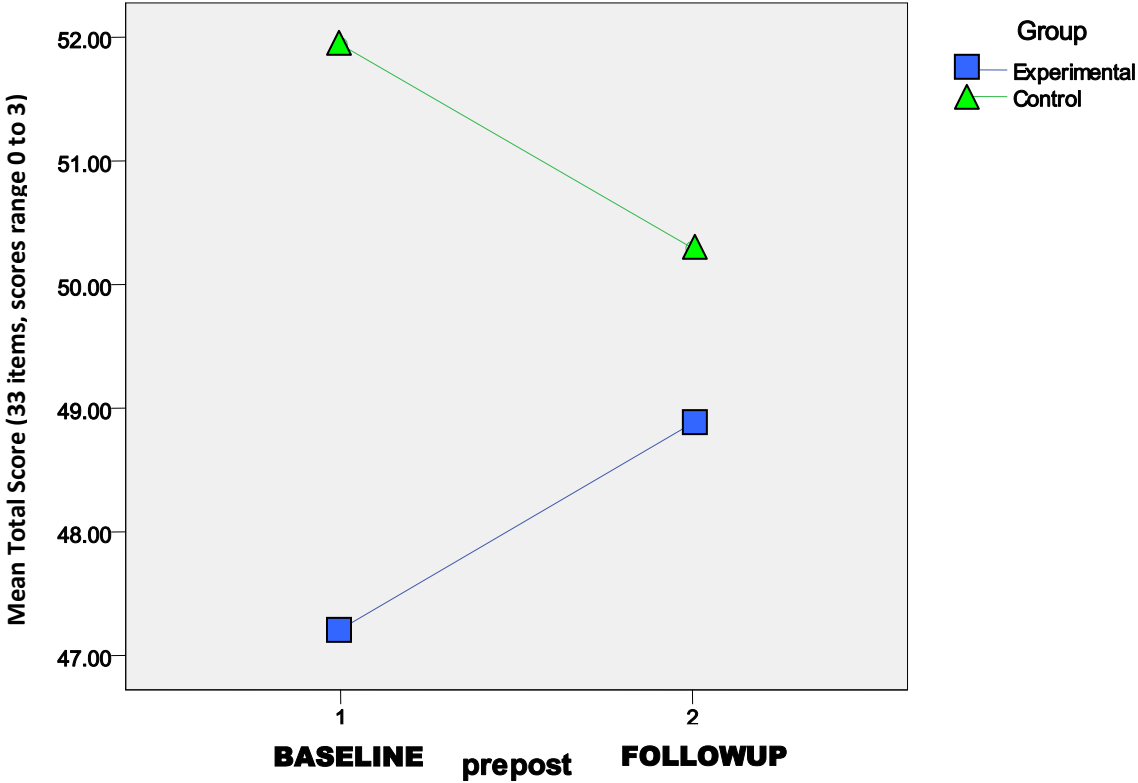


Figure 4. Mean total monitoring scores by time and condition

Mean Attitude About Underage Alcohol Use Scores

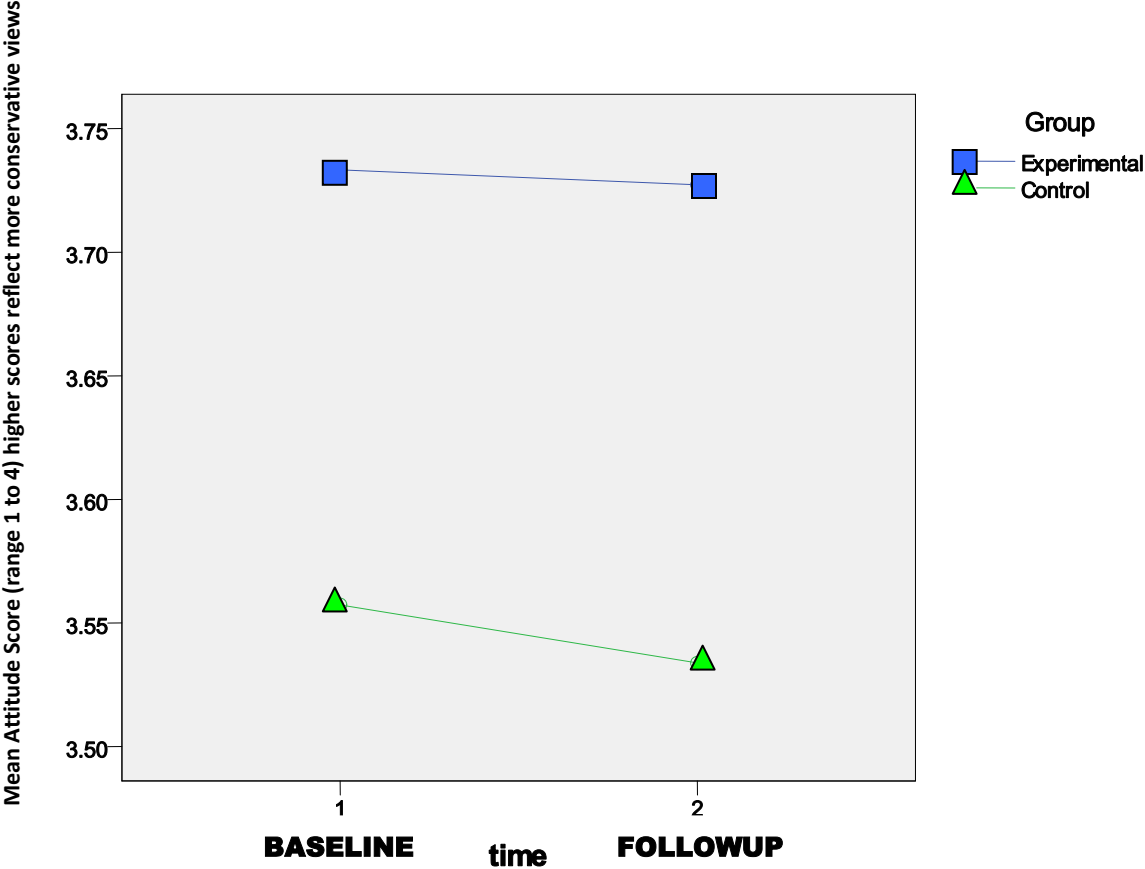


Figure 5. Mean attitude scores by time and condition

Mean Communication Scores

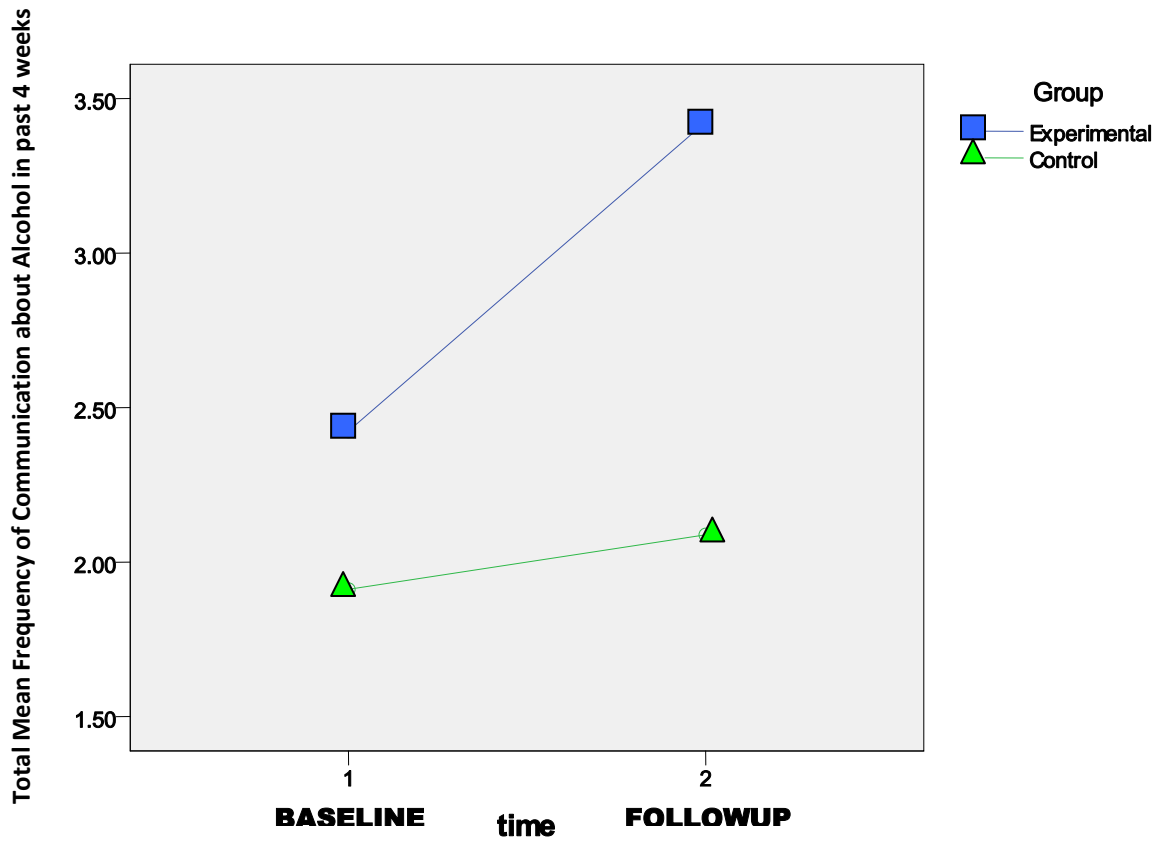


Figure 6. Mean communication scores by time and condition

Table 1. *Participant demographics*

	iPAM Condition		Control Condition	
	% / \bar{X} (SD)	<i>n</i>	% / \bar{X} (SD)	<i>n</i>
Age	47.24 (6.48)	33	46.35 (5.74)	34
Sex				
Male	3	1	6	2
Female	97	32	94	32
Ethnicity				
Non-Hispanic	85	28	88	30
Hispanic	15	5	12	4
Race				
Pacific Islander/Alaskan	0	0	0	0
Asian	3	1	3	1
Black	3	1	0	0
White	91	30	91	31
Biracial/Multiracial	0	0	6	2
Other	3	1	0	0
Parent Status				
Biological Parent	97	31	100	32
Step Parent	3	1	0	0
Income				
\$25,000-40,000	6	2	3	1
\$40,001-55,000	12	4	9	3
\$55,001-70,000	24	8	15	5
\$70,001-85,000	9	3	9	3
\$85,001-100K	18	6	18	6
Over \$100K	31	10	30	10

Table 2. *Outcome variable skewness and kurtosis*

Measures	time	<i>n</i>	M	SD	Skew	Kurtosis
Communication	1	67	2.16	(2.37)	1.35	2.05
	2	67	2.75	(2.89)	1.37	1.51
P-AMI	1	67	49.61	(13.85)	0.06	0.49
	2	67	49.60	(13.25)	0.29	0.28
Attitude	1	67	3.64	(0.43)	-1.43	1.77
	2	67	3.63	(0.41)	-0.99	0.28
SAAP	1	67	25.90	(5.17)	-0.36	0.26
	2	67	27.73	(5.51)	-0.77	0.89

Note. P-AMI = Parent-Adolescent Monitoring Inventory, SAAP = Survey About Alcohol for Parents (measure of knowledge about adolescent alcohol use)

Table 3. *Group means and standard deviations at baseline and 4-week followup*

	iPAM Condition (n = 33)		Control Condition (n = 34)	
	Time 1	Time 2	Time 1	Time 2
Frequency Communication	2.42 (2.48)	3.42 (3.03)	1.91 (2.27)	2.09 (2.62)
Attitude	3.73 (.39)	3.72 (.37)	3.56 (.46)	3.53 (.43)
Monitoring	47.21 (13.75)	51.94 (13.75)	48.88 (12.80)	50.29 (13.82)
Knowledge	25.42 (5.32)	28.88 (4.68)	26.35 (5.06)	26.62 (6.08)

Table 4. Findings for iPAM program efficacy

	<i>F</i>	df	<i>p</i>	partial η^2
time*group	5.87	4, 62	.000**	.275
Communication	2.14	1, 65	.148	.032
Monitoring	4.22	1, 65	.034*	.239
Attitude	0.06	1, 65	.809	.001
Knowledge	14.58	1, 65	.000**	.183
time				
Communication	4.37	1	.041*	.063
Monitoring	0.02	1	.900	.000
Attitude	0.17	1	.682	.003
Knowledge	19.79	1	.000**	.233
group				
Communication	2.60	1, 65	.112	.038
Monitoring	0.88	1, 65	.352	.013
Attitude	3.77	1, 65	.057	.055
Knowledge	0.29	1, 65	.590	.004

* significant at $p < .05$, **significant at $p < .001$

Table 5. *iPAM parent program evaluation*

<i>iPAM Evaluation</i>	<i>n</i>	Strongly Agree %	Agree %	Disagree %	Strongly Disagree %
Module 1 Interactive Quiz was informative	46	58.7	41.3	0.0	0.0
Module 2 Real People, Real Strategies Video was informative	44	54.5	45.5	0.0	0.0
Module 3 Parent Checklist was informative	44	61.4	38.6	0.0	0.0
The information from the links was helpful	43	44.2	53.2	2.3	0.0
Links on the website worked	43	44.2	53.5	2.3	0.0
The author has expertise in the area	43	48.8	51.2	0.0	0.0
The website is visually appealing	43	46.5	51.2	2.3	0.0
The pages were well organized	42	45.2	52.4	2.4	0.0
The website has a logical layout and sequence	42	45.2	52.4	2.4	0.0
The information appears accurate and well researched	43	53.5	46.5	0.0	0.0
The information was relevant to my family	43	37.2	48.8	14.0	0.0
The website was easy to use	42	50.0	47.6	2.4	0.0
The website was informative	42	52.4	47.6	0.0	0.0
I would visit this website again	43	37.2	58.1	2.3	2.3
I would recommend this website to other parents	44	45.5	52.3	2.3	0.0

