Journal of Leisure Research
2012, Vol. 44, No. 3, pp. 285-307

The Relationship between Media in the Home and Family Functioning in Context of Leisure

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Abstract

The purpose of the study was to examine the relationship between media-based family leisure and family functioning. Because the sample (n = 500) included responses from parents and children (ages 11 to 16) from each family, mixed models were used to account for family-level and individual-level variance. Findings indicated a negative relationship between media use and family functioning; media connection and parental media monitoring were positively related to family functioning. This was stable over time even when accounting for variance explained by depression, anxiety, conflict, and other demographic variables. The mixed linear model analysis and use of longitudinal data add to existing research. Current findings suggest parental involvement in adolescent media use is the most important factor in explaining variance in family functioning.

KEYWORDS: *Family functioning, media use, parental media monitoring, mixed model analysis*

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The authors gratefully acknowledge the support of the Flourishing Families Project and its donors and funding agencies: School of Family Life Endowment Fund, Family Studies Center Endowment Fund, Marjorie Pay Hinckley Endowed Chair Fund (College of Family, Home and Social Sciences, BYU), Mentoring Environment Grant (BYU), Fulton Endowment Fund (College of Family, Home and Social Sciences, BYU), LB and LW Smith and Family Foundation, Kreutzkamp Family Trust, Brent and Cheri Andrus Family Trust, Mary Lou Fulton Endowed Chair in the Social Sciences, and James W. and Carolyn O. Ritchie Supporting Organization. Additionally, the authors thank the editors and reviewers for their feedback and comments.

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Research has established a positive relationship between family leisure, family health and well-being, family functioning, and family life satisfaction (Agate, Zabriskie, Agate, & Poff, 2009; Mactavish & Schleien, 2004; Orthner & Mancini, 1990; Poff, Zabriskie, & Townsend, 2010; Zabriskie & McCormick, 2001). Family, couple, and individual leisure are increasingly media-based (Brock, 2002; Daly, 1996; Rideout, Foehr, & Roberts, 2010). Jeffres, Neuendorf, and Atkin (2003), for example, estimated that about half of people's free time is spent in media consumption. Specifically, young people between the ages of 8 and 18 consume more than 7.5 hours of media each day (Rideout et al., 2010) and adults ages 18 and older spend approximately 8.5 hours in front of a screen each day (Council for Research Excellence, 2009). The relationship between media use as family leisure and family functioning, however, is still largely unclear even though media use represents a significant proportion of family leisure activity.

Because research has demonstrated that family leisure involvement is related to family functioning, and media is one of the most common leisure activities, further studies are needed to understand the relationship between family leisure media use patterns and family functioning. Furthermore, because much of family leisure research has been limited to individual-level analyses, there is a need to use statistical methods that appropriately account for family as well as individual variability. Therefore, the purpose of this study was to examine the relationship between media as family leisure and family functioning among families with at least one adolescent child. Specifically, this study examined the relationship between family functioning and media use, media connection, and parental media monitoring over time. Furthermore, because the data were nested in families, this study used a mixed model statistical approach to account for both family-level and individual-level variance.

Review of Literature

Family Functioning

The construct of family functioning is a common measureable outcome used in leisure research (Agate, Zabriskie, & Eggett, 2007; Poff et al., 2010; Zabriskie & McCormick, 2001; Zabriskie & Freeman, 2004). Measuring family functioning, however, is complex because it can be assessed in many ways (Epstein, Baldwin, & Bishop, 1983). For the purposes of this research, family functioning was assessed using the McMaster Family Assessment Device (FAD), which originates from the McMaster Model of Family Functioning. The McMaster Model of Family Functioning and the FAD are grounded in family systems theory (Day et al., 2010; Georgiades, Boyle, Jenkins, and Sanford 2008; Miller, Ryan, Keitner, Bishop, &, Epstein, 2000). Of further importance to this study, Georgiades et al. established the validity of the FAD when measuring family functioning as reported by multiple family members. The current study also assessed family functioning from the perspective of multiple family members. Therefore, the FAD was deemed appropriate to the scope of this study.

Family systems theory. Family systems theory is commonly used to interpret and understand family functioning. This theory suggests "all parts of the

system are interconnected" and "understanding is only possible by viewing the whole," and therefore, families are "greater than just a collection of individuals" because of the way they interact and how those interactions provide feedback (White & Klein, 2008, p. 156).

The critical components of systems framework include: (a) system, or the relations between a set of objects and their attributes, meaning the system is separate from its environment but has an effect on it; (b) boundaries, which affect the flow of information and energy between the system and its environment; (c) rules of transformation; (d) feedback, or the input and output of the system; (e) variety, or the ability to adapt to a changing environment; (f) equilibrium, or how a system achieves balance between input and output; (g) system levels, the varying degrees of prioritized goals; and (h) subsystems, various levels in a system such as parents and children (White & Klein, 2008).

McMaster Model of Family Functioning. The McMaster Model of Family Functioning is a theoretical model grounded in family systems theory. The model assesses family functioning through an examination of individual family members, subgroups of family members, influence of family structure and organization, and the impact of family interaction patterns (Miller et al., 2000). To meet those criteria, the McMaster Model focuses on six dimensions of family life to accurately assess family functioning. These six dimensions are problem solving, communication, roles, affective responsiveness, affective involvement, and behavior control (Miller et al.). Problem solving measures the ability of the family to resolve conflict and problems in such a way that maintains family functioning. Communication focuses on verbal exchanges in examining how information is shared within a family. Roles are the behavior patterns family members engage in to preserve and fulfill family functions. Affective responsiveness is the emotional ability of families to appropriately respond to stimuli while affective involvement is the degree to which the family values and takes interest in the activities of other family members. Finally, behavior control is the manner in which a family addresses physically dangerous situations, psychological needs, and interpersonal socializing behavior (Miller et al.).

In context of this study, if families engage in solitary leisure activity such as media use, then theoretically, the elements of communication and affective involvement as presented in the McMaster Model of Family Functioning, will decrease, contributing to an overall lower level of family functioning. Conversely, if families (a) engage in joint media activities that help them connect with each other and (b) if parents actively monitor and talk to their children about media, then theoretically, the elements of communication, affective involvement, and behavior control will increase, contributing to an overall increase in levels of family functioning.

Leisure and Family Functioning

As indicated by the family systems theory, communication, roles, and problem solving are important components of family functioning. Zabriskie and McCormick (2001) suggest family leisure reinforces and clarifies crucial components of systems theory by allowing families to explore and strengthen elements such as communication and roles. Zabriskie and McCormick further suggest family leisure

provides opportunities for families to adapt and interact within the family system. Subsequently, findings consistently indicate family leisure is positively related to family functioning, cohesiveness, satisfaction with family life, healthy couple relationships, healthy relationships between parents and their children, and family strength (Hawkes, 1991; Mactavish & Schleien, 2004; Orthner & Mancini, 1990; Poff et al., 2010; Zabriskie & McCormick, 2001). Townsend and Zabriskie (2010) reiterate family leisure involvement is related to higher levels of family functioning. Freeman and Zabriskie (2003) also stated "family leisure involvement was the strongest predictor of family functioning" and "families who participate in more family leisure also demonstrate higher levels of family functioning" (p. 86, p. 89). Furthermore, Zabriskie and McCormick asserted "besides family crisis, shared leisure may be one of the few experiences that bring family members together for any significant amount of time today" (p. 287). Additionally, the ability of media as leisure to produce positive outcomes such as increased family functioning remains in question.

Definition of Media and Trends in Use

To fully understand the relationship between media and family functioning, it is crucial to understand media and their trends. Media share four basic characteristics: (a) broad appeal, (b) speed, (c) availability, and (d) low unit cost (Stanton, 1949). Because of these characteristics as well as technological advances that have made media more accessible, consuming media has become a way of life for most Americans. In fact, Robinson (1969) stated "television has had a massive impact on American daily life, responsible for a greater rearrangement of time usage than the automobile" (p. 211). Media have caused a shift in cultural attitudes toward leisure (Brock, 2007).

Coffin (1948) first noted these shifts in leisure attitudes and he predicted that as television became "more accessible to increasing numbers in the population it may bring with it noticeable effects on the family's activities in and out of the home" (p. 558). To a certain extent, Coffin's (1948) predictions have come to fruition. Media increasingly claim the leisure and recreation time of adults and youth because "new technologies have increased the mass media menu from which people may select" (Jeffres et al., 2003, p. 169). As this menu expanded, adults, youth, and families began to rely more on media for leisure and recreation. Now, television is "America's number one recreational pursuit" (Brock, 2007, p. 3). In 2009, The Nielsen Company, a leading media research group, estimated there were 2.86 TV sets per household. The Nielsen Company (2010) also reported Americans watch more than 35 hours of TV per week.

In addition to increased television ownership and viewing, Internet use has increased exponentially since it hit popular culture in 1994 (Montgomery & Faloutsos, 2001). The number of Web users worldwide was approximately 2 billion in 2010 (Internet World Stats, 2010). Time spent online has also increased. In fact, adults use more computer-based media than any other except for television, spending more than two hours a day on a computer (Council for Research Excellence, 2009). Youth between the ages of 8 and 18 spend approximately an hour-and-half each day on a computer (Rideout, et al., 2010). Other forms of media have experienced similar growth trends. Online gaming and video games

are among the fastest growing forms of recreation (Roy, 2009; Ryan, Rigby, & Przybylski, 2006). Youth spend an hour and 13 minutes each day playing video games—an increase of nearly a half-hour since 2005 (Rideout, et al.).

Media Connection

Media are also increasingly used as a means of communication and as a way to connect with others. Social networking sites, text messages, e-mails, and Internet instant messaging all facilitate communication and increase family members' sense of connectedness (Pettigrew, 2009). E-mail, however, usually entails longer, more detailed communication that does not need an immediate response and has been characterized for less close relationships (Kim, Kim, Park, & Rice, 2007).

More traditional media such as television can also be used to connect with others, though it may not be as effective in building relationships. Daly (1996) reported television viewing is a passive experience. Csikszentmihalyi and Kubey (1981) corroborated this; however, they noted that challenge increased significantly when watching television as a family. Other research suggests television may be "linked to more frequent and positive family interactions" (Daly, p. 77) and that heavy viewing families spend more time together than light viewing families (Larson, Kubey, & Colletti, 1989).

Spending more time together, however, may not translate into an increase in family interaction. Kubey (1990) found family conversations decreased by 40% when watching TV as compared to all other non-television activities. Dempsey (2005) also reported that families interact more when engaged in activities other than watching TV, and that for every 1 hour increase in TV viewing, adolescents spend 6 minutes less in conversation with their parents. The impact media have on family communication and connection may therefore be an important factor in understanding the relationship between media and the family.

Parental Media Monitoring

The way parents monitor their children's media use patterns may also be an important element to painting a clear picture of the relationship between media and family outcomes. Parental media monitoring involves specific monitoring behavior such as limiting or forbidding certain types of media and discussing with children the behaviors and themes demonstrated by characters in the media (Day et al., 2010; Nikken & Jansz, 2006). Research indicates how parents communicate about the media with their children can block potentially negative media effects (Kennedy, Chen, & Charlesworth, 2007). Warren, Gerke, & Kelly (2002) further suggest children are best able to resist negative media effects when they obtain critical viewing skills—skills parents can teach their children.

In spite of empirical evidence suggesting the effectiveness of parental media monitoring, media monitoring practices are not universally employed (Warren et al., 2002). Parental involvement, parents' attitudes toward media, and certain demographic indicators like child age predict parental media monitoring (Nikken & Jansz, 2006; Warren et al.). Maternal fatigue levels are also related to less media monitoring and increased media time (Kennedy et al., 2007).

Much to the detriment of media effects research, most studies have dealt with media effects on the individual level, or micro-level, only. It is a mistake,

however, "to assume that all media effects are accumulations of individual-level effects" (Perse, 2001, p. 18). The most important effects may lie under-studied and undiscovered at the "societal, institutional, or cultural level" (Perse, p. 18). There is clearly a need for media effects research that extends beyond individual-level analysis.

Leisure research has also historically ignored family-level grouping effects in statistical explanations of variance in family functioning. This represents a significant gap in the literature. Scholars have also clearly established a positive relationship between leisure and positive outcomes such as family functioning, but have overlooked media use as family leisure even though media use represents a significant proportion of leisure activity.

Therefore, the purpose of this study was to examine the relationship between media as family leisure and family functioning among families with at least one adolescent child. Specifically, this study examined the relationship between family functioning and media use, media connection, and media monitoring. Based on the McMaster Model of Family Functioning, it was hypothesized there would be (a) a negative relationship between media use and family functioning, (b) a positive relationship between media connection and family functioning, and (c) a positive relationship between parental media monitoring and family functioning. Furthermore, because data were collected from multiple individuals in families, mixed models were assessed to appropriately account for family-level and individual-level variance.

Methods

Sample

Participants for this study were taken from waves three and four of the Flourishing Families Project (FFP). These waves included media data of interest whereas waves one and two did not. The FFP is a longitudinal study of inner-family life involving families with a child between the ages of 11 and 16. In an effort to approach a family systems perspective data were collected from multiple family members. Families with at least one adolescent child were specifically chosen because as demonstrated by Rideout et al. (2010), adolescents are engaging in nearly eight hours of media each day. Media exert an immense socializing influence on the behaviors and attitudes of adolescents who are beginning to practice greater autonomy and define their identity (Fisherkeller, 2007). Media use in the home is a behavior parents regulate and monitor, and given the volume of media adolescents use, this population is of particular interest from a research perspective (Bachen, 2007; Rideout et al.). Therefore, this sample focused specifically on families with at least one adolescent child.

The sample was taken from a large northwestern city and consisted of 500 families (91.8% retention from wave 1) with a child within the target range (330 two-parent families and 139 single-parent families). At wave four, participant children averaged 14.3 years of age, while mothers averaged 47.1 years and fathers averaged 49.3 years in age. Two hundred ninety-eight families (64.9%) were of European American ethnicity, 56 (12.2%) were African American, with a smaller number for Hispanics (1) and Asian Americans (4). Eighty-nine families (19.3%)

were categorized as multiethnic, based on a combination of two or more ethnicities among family members. In terms of parental education, 60.9% of mothers and approximately 69.7% of fathers had a bachelor's degree or higher. Related to yearly family income, 22.6% of families reported making less than $59,000; 32.8% reported income in the $60,000-99,000 range; 29.9% reported income in the $100,000-149,000 range, with another 14.7% making $150,000 or more per year. Approximately 32% of single parents had never been married, 8.7% were separated, 49.3% were divorced, and 4.3% were widowed (Day et al., 2010).

Data Collection Procedures

Participant families were interviewed during the first eight months of 2007. Families were primarily recruited using a purchased national telephone survey database (Polk Directories/InfoUSA). This database claims to contain 82 million households across the United States and has detailed information about each household, including presence and age of children. Families identified using the Polk Directory were selected from targeted census tracts that mirrored the socio-economic and racial stratification of reports of local school districts. All families with a child between the ages of 10 and 14 at the time of recruitment living within target census tracts were deemed eligible to participate.

Eligible families were subsequently contacted directly using a multistage recruitment protocol. First, a letter of introduction was sent to potentially eligible families. Second, interviewers made home visits and phone calls to confirm eligibility and willingness to participate in the study. Once eligibility and consent were established, interviewers made an appointment to come to the family's home to conduct an assessment interview.

In addition to the random selection protocol used with the survey database, families were recruited through family referral. At the conclusion of their in-home interviews, families were invited to identify two additional families in the recruitment area that matched study eligibility. This type of limited-referral approach permitted researchers to identify eligible families in the targeted area that were not found in the Polk Directory. The Polk Directory national database was generated using telephone, magazine, and Internet subscription reports; therefore, by broadening our approach and allowing for some limited referrals, we were able to increase the social-economic and ethnic diversity of the sample. Data were collected from both parents (in the case of a two-parent household) and from one child. Additionally, data were collected in waves with one year between each wave. Because there were multiple data points per family (i.e., parent one, parent two, and child) the data were considered nested, or in other words, the data had more than one source of variation. In this case, the data had both family or group-level variation and individual-level variation. The presence of family-level variation violated the assumption of independence of observations in the sample as required by OLS regression. Furthermore, because data were collected in waves (i.e., repeated measures), there were multiple data points per individual (i.e., repeated measures) which also violated the assumption of independence of observations. Therefore, mixed models were assessed to appropriately address the nested structure of the data.

Instrumentation

The McMaster Family Assessment Device (FAD) was used to measure family functioning (Epstein et al., 1983). The Media in the Home scale was developed specifically for the FFP and was used to measure media connection from both a parent and youth perspective, and media use from a youth perspective. The parental media monitoring scale measured parent and youth estimations of parental engagement in youth media regulation. Finally, demographic and other variables of interest identified below were collected.

FAD. Elements of family functioning were measured using the FAD, which consists of seven subscales with a total of 53 items (Epstein et al., 1983). A revised version of the FAD was used consisting of 20 items, including the entire General Functioning and Affective Responsiveness subscales and two items from the Affective Involvement subscale for the sake of questionnaire brevity. Respondents answered how much they agreed or disagreed with statements about their family using a four-point Likert scale ranging from *strongly disagree* to *strongly agree*, with higher scores indicating better family functioning (Day et al., 2010).

Initial evidence of construct validity was established in other studies. Reliabilities have been found to range from .73 to .83 for the three subscales from which items were taken (Kabacoff, Miller, & Bishop, 1990). For this sample, Cronbach's alpha coefficients are as follows: (a) parent one (P1) .893, parent two (P2) .903, and child .890 (Day et al., 2010).

Media connection. This scale was used with parents and children to determine how often they used media or technology to connect and communicate with each other. Parents and children responded to a 5-item measure using a 6-point Likert scale ranging from 1 (*never*) to 6 (*more than once a day*). Items measured "How often do you email your parent/child," "How often do you use social networking sites (such as Facebook) to connect with your parent/child," "How often do you text or call your child on a cell phone," and "How often do you watch TV or movies with your parent/child?" Items were analyzed individually for frequency of use (Day et al., 2010).

Media use. Youth respondents noted how many hours they spend in a typical day watching TV programs, using the Internet, playing video games, using social networking sites, reading books or magazines, and texting on a cell phone. Response categories ranged from 1 (*none*) to 9 (*more than 8 hours*; Day et al., 2010). Responses were totaled to estimate total time spent using media.

Parental media monitoring. Parent self-reports were used to assess parental monitoring of children's media exposure using a 7-item measure based on past assessments of child media use (Nikken & Jansz, 2006; Warren et al., 2002). Participants responded by rating how often they engaged in specific monitoring behaviors using a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). Higher scores reflect greater monitoring of children's media exposure and sample items included, "Tell your child to turn off media when you think it is inappropriate," and "Explain reasons why media characters do what they do." For the current sample, Cronbach's alpha reliability coefficients were found to be .663 (P1) and .670 (P2).

Youth were also asked to report parental media monitoring using a similar scale. Participants responded to seven items, rating how often their parents engaged in specific monitoring behaviors, using a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). Higher scores reflect greater perceived monitoring of children's media exposure. Sample items included, "tell you to turn off media when they think it is inappropriate," "try to help you understand what you see in the media" and, "explain reasons why media characters do what they do." For the current sample, the reliability coefficient (Cronbach's alpha) for the entire scale was .820.

Demographic and other variables of interest. Research has indicated family well-being is significantly related to family functioning (Georgiades et al., 2008). The variables of (a) family conflict, (b) depression, and (c) anxiety were included in this study to approximate the measure of family well-being. To assess family conflict all three family members (where applicable) were asked to rate conflict topics in terms of how often they are an issue for the family. Responses were based on a 5-point Likert scale ranging from 1 (*never an issue*) to 5 (*always an issue*). The Cronbach's alpha coefficient for this sample was found to be .899 (P1), .900 (P2), and .867 (child). Parental depression-related symptoms were assessed using 11 items from the Center for Epidemiologic Studies-Depression scale (CES-D, Radloff, 1977). Children's depression was assessed using the 20-item self-report CES-DC (Center for Epidemiological Studies Depression Scale for Children (Weissman, Orvaschel, & Padian, 1980). Parental anxiety was assessed using an eight-item self-report measure, based on the Burns Anxiety Inventory (Burns, 1989). Children's anxiety was assessed using the six-item generalized anxiety disorder subscale from the Spence Child Anxiety Inventory (Spence, 1998).

Research also indicates that family functioning varies across demographic information such as income, ethnicity, age, marital status, and gender (Georgiades et al., 2008). Therefore, we included these variables to avoid underspecifying the model. The passing of time was also included as a variable of interest, because as indicated in the literature review, media use behaviors change over time to match the introduction of new technologies and media (Rideout et al., 2010; Stanton, 1949). This suggests any study of the relationship between media and family functioning must employ a longitudinal approach and measure variables of interest over time.

Analysis

Data were analyzed using the Statistical Package for Social Sciences (SPSS) Version 18.0 computer software and R version 11.1 (R Development Core Team, 2010). The lme4 library was loaded in R so the lmer( ) function could be used to analyze the linear mixed effects models (Pinheiro & Bates, 1996).

First, the FAD, depression, anxiety, family conflict, media connection, parental media monitoring, and media use indices were scored and totaled. Dummy variables for each of the six ethnicity categories were coded. Then, descriptive statistics of the data were calculated in SPSS, including the mean and median values of the dependent and independent variables. A paired sample t-test was used to assess the significance of the increase in media use from wave three to wave four. Then, because the data were nested in families, we employed a mixed

model to account for both individual and family variance. Researchers have noted the need for models that account for family-level variance (Poff et al., 2010). Family functioning was the dependent variable. Independent variables of particular interest were parental media monitoring and media connection. The model included other independent variables such as family conflict, depression, anxiety, and demographics to better partition out the variance explained by the model. This allowed us to determine the nature of the relationship between the media variables and family functioning. We also created a variable to represent the passing of time since the data were collected in waves. We chronologically assigned values (1 and 2) to each wave of data, 1 representing wave 3 of the FFP, and 2 representing wave 4 of the FFP. The time variable was used in the mixed model to assess how the passage of time contributed to the explanation of variance in family functioning. Statistical significance was assessed using the likelihood ratio test paradigm as implemented in R (R Development Core Team, 2010).

The relationship of one additional independent variable to the outcome variable of family functioning was analyzed separately. The relationship between media use and family functioning did not require mixed model because the data only existed for youth. The relationship between media use and family functioning, however, was of particular interest to this study, and therefore was included in the analysis. This relationship was analyzed using a blocked multiple regression model that accounted for the other independent and demographic variables. These multiple regression models were developed using SPSS.

Findings

The following descriptive statistics were calculated for parent one, parent two, and child at waves three and four: (a) family functioning, (b) media connection, and (c) parental media monitoring. Scores for these scales for both waves fell within normal parameters (see Table 1). Descriptive statistics were calculated for media use among child respondents at waves three and four (see Table 1).

Media use. Initial descriptive statistics indicated there was an increase in media use from wave three to wave four. A paired-sample t-test indicated the increase was statistically significant $t(449) = 8.86$, $p < .001$, $r^2 = .149$. Then, because media use data were only collected from child respondents, a multiple regression model was used to ascertain the relationship between media use and family functioning. In the first model, family functioning was regressed on the independent variables of ethnicity, family conflict, depression, and anxiety. Of the ethnicity categories, only the Asian American category was a significant predictor of family functioning from a youth perspective. Overall, this model explained a significant amount of variance ($R^2 = .303$, $p < .001$). In the second model, when the media use, media connection, and parental media monitoring variables were added, there was a significant change in the variance explained by the model ($\Delta R^2 = .043$. $p < .001$), and media use became a significant predictor of family functioning from a youth perspective ($B = -.065$, $p = .010$). Media connection ($B = .264$, $p < .001$), and parental media monitoring ($B = .113$, $p = .005$) were also significant predictors of family functioning (see Table 2). There were no significant interaction effects between the independent variables in predicting family functioning.

Table 1

Descriptive Statistics by Wave

Variable		*Respondent*	*Mean*	*Std. Dev.*
Wave 3				
	Family Functioning	Parent 1	39.70	5.15
		Parent 2	39.28	4.75
		Child	37.55	5.55
	Media Connection	Parent 1	13.19	3.21
		Parent 2	12.48	3.14
		Child	12.95	3.68
	Parental Media Monitoring	Parent 1	24.46	4.49
		Parent 2	22.99	4.45
		Child	18.80	6.15
	Adolescent Media Use	Child	28.88	9.76
Wave 4				
	Family Functioning	Parent 1	39.52	5.08
		Parent 2	39.24	5.43
		Child	37.29	5.68
	Media Connection	Parent 1	13.62	3.14
		Parent 2	12.96	3.24
		Child	13.61	3.62
	Parental Media Monitoring	Parent 1	23.47	4.34
		Parent 2	22.15	4.20
		Child	17.29	5.86
	Adolescent Media Use	Child	31.97	10.29

Note: Wave 4 was collected 12 months after wave 3.
Parent 1: Wave 3 $n = 459$; Wave 4 $n = 469$.
Parent 2: Wave 3 $n = 294$; Wave 4 $n = 304$.
Child: Wave 3 $n = 450$; Wave 4 $n = 450$

Table 2

The Relationship between Adolescent Media Use and Family Functioning

Predictor		*Family Functioning*	
	Std. B	Std. Error	β
Block 1 R^2		.303**	
Asian American	5.837	2.405	.098*
Family Conflict	-.174	.022	-.338**
Depression	-.178	.024	-.315**
Block 2 ΔR^2		.043**	
Asian American	5.20	2.341	.088*
Family Conflict	-.179	.022	-.348**
Depression	-.156	.024	-.275**
Media Use	-.065	.025	-.117*
Media Connection	.264	.067	.168**
Parental Media Monitoring	.113	.040	.117**

Note. *$p < .05$; **$p < .01$; $n = 429$.

Media connection and parental media monitoring. The relationship between parental media monitoring, media connection, and family functioning was assessed using a mixed model which appropriately accounted for the multiple sources of variance inherent in this data: individual-level variance, and family-level variance. The Intraclass Correlation Coefficient (ICC) (the ratio of between vs. total variation) was approximately 34.9% [7.30/20.94 = var(family)/(var(family)+var(error))] and represents shared variance in the ratings of family, or in other words, how strongly individuals in the same family resemble each other. When accounting for the variance explained by gender, age, depression, anxiety, and family conflict, the restricted maximum likelihood mixed model indicated parental media monitoring was a significant predictor of family functioning ($t = 7.10$, $t_{crit} = 1.96$, $df = 470$); there was a positive relationship between parental media monitoring and family functioning ($\beta = 0.129$). Media connection was also a significant predictor of family functioning ($t = 2.16$, $t_{crit} = 1.96$, $df = 470$); the relationship between media connection and family functioning was positive ($\beta = 0.063$).

A second model was developed to assess any interaction effects between the independent variables in estimating family functioning. With interaction effects, the second model's ICC was also approximately 34.9% [7.26/20.80 = var(family)/(var(family)+var(error))]. The interaction between gender and age was the only statistically significant predictor of family functioning ($t = -3.121$, $t_{crit} = 1.96$, $df = 470$, $\beta = -.032$).

A third and final model estimated family functioning using the independent variables of wave (representing the passage of time), gender, age, depression, anxiety, family conflict, media connection, parental media monitoring, and the gender-age interaction (see Table 3). This model reported an ICC of 35% [7.30/20.87 = var(family)/(var(family)+var(error)]. The restricted maximum likelihood mixed model indicated parental media monitoring was a positive and significant predictor of family functioning ($t = 7.29$, $t_{crit} = 1.96$, $df = 470$, $\beta = 0.132$). Media connection was also a significant positive predictor of family functioning ($t = 2.11$, $t_{crit} = 1.96$, $df = 470$, $\beta = 0.061$) (see Table 3). The gender-age interaction was also significant ($t = -3.46$, $t_{crit} = 1.96$, $df = 470$, $\beta = -0.03$). Wave was not a significant variable in the model.

Table 3

The Relationship between Media Connection and Parental Media Monitoring, and Family Functioning

Variable	*Estimate Std.*	*Error*	*t value*
(Intercept)	43.91	1.12	39.38
Wave	-0.08	0.15	-.049
Gender	1.98	0.42	4.76
Age	0.02	0.02	1.35
Depression	-0.16	0.01	-10.96
Anxiety	-0.11	0.03	-3.39
Conflict	-0.13	0.01	-14.22
Media Connection	0.06	0.03	2.11
Parental Media Monitoring	0.13	0.02	7.29
Gender-age Interaction	-0.03	0.01	-3.46

t-crit = 1.96, *df* = 470

Discussion

The intent of this study was to examine the relationship between media as family leisure and family functioning among families with at least one adolescent child. Specifically, this study examined the relationship between family functioning and media use, media connection, and parental media monitoring. There were several key findings from this study. First, media use and youth perceptions of family functioning were negatively associated. Second, media connection and family functioning were positively related, and that relationship was stable across time. Finally, parental media monitoring and family functioning were positively related, and the relationship was also stable across time.

Media Use and Family Functioning

The multiple regression model indicated the relationship between media use and family functioning was statistically significant and negative. The relationship was small to moderate, but when interpreted in context of the magnitude of the adolescent media audience these effects become quite meaningful. This finding

supported our hypothesis that media use would negatively correlate with family functioning. We hypothesized this relationship because researchers suggest media use like TV viewing is a solitary activity that when engaged in as a family creates a passive experience, and is associated with a decrease in family conversations (Bovill & Livingstone, 2001; Brock, 2007; Daly, 1996; Dempsey, 2005; Kubey, 1990).

Interestingly, the negative relationship between media use and family functioning was revealed only after adjusting for demographic variables, depression, family conflict, anxiety, parental media monitoring, and media connection. Depression, family conflict, and anxiety were all negatively related to family functioning. In contrast there was a positive relationship between family functioning, media connection, and parental media monitoring. After accounting for the positive relationships (between media connection, parental media monitoring, and family functioning) the negative relationship between media use and family functioning was revealed. These findings indicate higher levels of youth media use were associated with significantly lower levels of family functioning. In other words, youth who use high levels of media are less likely to report high levels of family functioning—suggesting individual youth media use as opposed to family media use (i.e., media connection) does not facilitate family functioning.

This relationship between media use and family functioning has not been reported in previous research. Youth media use has been analyzed in context of physical health, time children spend with parents, family violence, psychological well-being, learning processes, aggressive behaviors, youth adjustment, and youth identity development, but has not been addressed in relationship with a direct measure family functioning (Anderson et al., 2003; Christakis et al., 2004; Dworak, Schierl, & Struder, 2007; Hawks, 1991; Mesch, 2006; Neuman, 1986; as cited in Perse, 2001; Robinson & Godbey, 1999; Shaw, Kleiber, & Caldwell, 1995; Tucker & Friedman, 1989). Overall family functioning in context of media needs to be addressed because media use is the most engaged in form of leisure and entertainment, and leisure has the potential to influence family and individual well-being (Agate et al., 2009; Brock, 2007; Mactavish & Schleien, 2004; Orthner & Mancini, 1990; Poff, et al., 2010; Robinson, 1969; Zabriskie & McCormick, 2001). Therefore, this study adds to existing leisure and media effects literature by identifying the nature of the relationship between media use and family functioning in this sample, suggesting when youth use media by themselves they are more likely to report lower levels of family functioning.

This negative relationship held constant even when adjusting for media connection and parental media monitoring, suggesting the way in which media is used (i.e., jointly or individually) may be an important factor in understanding the relationship between media and family functioning. Because parental media monitoring was also positively related to family functioning, findings suggest the way in which a parent monitors, engages in behavior control, and communicates with a child about media is crucial to understanding the overall relationship between media and family functioning. This relationship may reflect the concept of parents socializing children through leisure. Still, as evidenced by current findings and in existing literature, media use and its effects remain unclear; the nature of the relationship is both positive (as illustrated by the relationship between media

connection and parental media monitoring) and negative (as illustrated by the relationship between media use and family functioning from a youth perspective).

Media Connection and Family Functioning

The relationship between media connection and family functioning was assessed using a mixed model. In assessing this model, the relationship between media connection and family functioning was determined to be statistically significant and positive. This finding confirmed our initial hypothesis that media connection would positively correlate with family functioning for families with at least one adolescent child. This conclusion was indicated by the significance of the variance explained by media connection in the mixed model which accounted for gender, age, depression, anxiety, family conflict, the gender-age interaction, and parental media monitoring. Furthermore, this trend was stable across time; the positive relationship remained consistent and significant between waves three and four of data collection. The stability of the relationship between media connection and family functioning over a one-year time period suggests that despite a constantly changing media landscape, joint family media use and mediated family communication (i.e., media connection) may continue to be an important consideration in understanding family functioning in context of media-based family leisure.

Media connection was defined as the ways in which parents and children use media or technology to connect with each other, including communicating through media or technology, or using media or technology conjointly (Day et al., 2010). The media connection instrument included items such as "How often do you play video games with your child/parent," "How often do you use social networking sites (such as Facebook) to connect with your child/parent," "How often do you email your child/parent," and "How often do you watch TV or movies with your child/parent" (Day et al.). The media connection variable questions were separate from other items in the FFP that asked parents, for example, "how many hours a day do you spend on the Internet (work)?" thereby specifying a difference between leisure and work-related media use (Day et al.) Existing research has established the activities listed in the media connection variable as leisure activities. For example, television is commonly referenced as a home-based leisure activity that has been associated with family functioning, identity development, and adjusting family leisure in the case of severe illness (Radina, 2009; Shaw et al., 1995; Zabriskie & McCormick, 2001).

Existing research also suggests communication is an inherent element of family leisure (Wells, Widmer, & McCoy 2004; Zabriskie & McCormick, 2001). Mediated communication such as texting has been shown to increase a sense of connectedness by allowing family members to communicate in environments and situations that do not allow voice communication (Pettigrew, 2009). Furthermore, shared leisure such as watching television together can become a ritualized family activity that facilitates connection (Silverstone, 1993). Additionally, Internet use has been shown to provide increased opportunities for family interaction, communication, and collaboration, thereby potentially influencing family functioning (Mesch, 2006). Finally, daughters who play age-appropriate video games with their fathers report stronger mental health, a stronger sense of family connectedness, and exhibit better behavior (Coyne et al., 2011).

Consistent with those findings, this study demonstrated a positive relationship between media connection and higher levels of family functioning. In context of the McMaster Model of Family Functioning, the degree to which the family exhibits "interest in and values the activities and interests of individual family members," known as affective involvement, is a key measure of family functioning (Miller et al., 2000, p. 171). Thus, when considered as affective involvement, these findings suggest media connection (the degree to which family members share media-based leisure) should theoretically be associated with higher levels of family functioning. Overall, findings clearly indicated families in this sample who shared media-based activities and used media as a communication tool were more likely to report higher overall family functioning.

Parental Media Monitoring and Family Functioning

The final key finding from this study was the positive relationship between parental media monitoring and family functioning. This finding confirmed our initial hypothesis that parental media monitoring would be positively related to family functioning. Of particular importance was the size of the relationship between parental media monitoring and family functioning (see Table 3). Even after adjusting for gender, age, depression, anxiety, family conflict, the gender-age interaction, and media connection, parental media monitoring was still statistically significant. Furthermore, the strength of the relationship remained stable and consistent across time.

Existing literature has indicated parent-child communication about media can provide a certain level of protection and even deterrence from delinquent child behavior and can block negative viewing effects (Kennedy et al., 2007; Warren et al., 2002). In this study, parental media monitoring was defined as how often parents engaged in specific monitoring behaviors to regulate their children's exposure to media (Day et al., 2010). For example, parent and child respondents were asked to report how often they discussed why some things media characters do are good or bad, reasons why media characters do what they do, and tried to help the child understand what he or she saw in the media (Day et al.). As stated earlier, communication is a key construct of family functioning (Miller et al., 2000). Therefore, parents and children who communicate more about the media they use are expected to report higher levels of family functioning.

Behavior control, another key component of family functioning, is the manner in which a family addresses physically dangerous situations, psychological needs, and interpersonal socializing behavior (Miller et al., 2000). Socialization "refers to the way in which individuals are assisted in becoming members of one or more social groups" (Grusec & Hastings, 2007, p. 1). While the measure of parental media monitoring in the current study is not a leisure-specific measure, it does offer potentially important insight into socialization via family leisure. Kleiber (1999) stated parents "often take advantage of leisure opportunities and activities to teach children important skills and values" (p. 66). In terms of media, research indicates parents socialize their children to their media attitudes, beliefs, practices, and habits (Neuman, 1986). Similarly, parents in the current study who employed media monitoring to mediated family leisure behaviors were likely to

have engaged in similar socialization processes possibly facilitating the reported positive family outcomes.

Parental media monitoring also included limiting the amount of media a child watched, telling a child to turn off inappropriate media, and forbidding certain types of media. These media monitoring habits are analogous to not only leisure-based socialization but also the behavior control component of family functioning based on the McMaster Model. Thus, according to this study, moderating negative viewing effects and engaging in behavior control via parental media monitoring is associated with higher levels of family functioning. The size and stability of the relationship between parental media monitoring and family functioning suggests the degree to which parents regulate their children's media habits is perhaps the single most important media-related factor associated with family functioning.

Practical Implications

Findings from this study have important implications for families, practitioners, and family leisure and media effects scholars. This study provided empirical evidence that certain types of media-based leisure activities and behaviors are associated with higher levels of family functioning, while others are associated with lower levels of family functioning. Additionally, findings suggest the way in which families use media is an important consideration when analyzing the relationship between media use and family functioning.

Findings, however, go beyond much of the existing family leisure and media effects research because the statistical analysis accounted for family-level variance when estimating family functioning. Family leisure and media effects researchers have called for research that accounts for group or macro-level variance in addition to individual or micro-level variance. Perse (2001) argued a focus on individual-level effects in media effects research was obscuring larger, societal level effects. Furthermore, media effects on families as a whole have been examined only on a limited basis, and this study demonstrates mixed models can be effectively employed to explain the variance of family functioning at a group-level. Poff et al. (2010) has also noted the lack of family leisure research that accounts for family-level variance, and has called for studies that incorporate such multilevel methods. By accounting for family level variance, the model in this study begins to fill the gap in both disciplines.

In addition to building upon existing statistical methods, this study also analyzed the relationship between media connection and parental media monitoring over time. By incorporating two different waves of data collected a year apart, this model illustrates the stability of the relationship between media connection, parental media monitoring, and family functioning. This suggests to family leisure and media effects researchers the importance of longitudinal studies in understanding the relationship between media variables and family outcomes. Stability across time indicates higher levels of parental media monitoring and media connection are expected to be consistently related to higher levels of overall family functioning among families with at least one adolescent child.

According to current findings, using media such as cell phones, texting, and social networks as communication channels between parents and children is associated with higher family functioning. Moreover, parents and youth who

engage in media use together (i.e., affective involvement), are more likely to report higher levels of family functioning, and therefore similar media-based family leisure behaviors should be encouraged. Furthermore, parents who involve themselves in the types of media their children use and monitor their media behaviors and activities, are also more likely to report higher family functioning. This knowledge may aid parents as well as family therapists. Family therapists could discuss ways in which adolescents and parents use media to connect with each other. For example, parents could use text to let their children know that they love and care for them, even when they are away from the home. Parents who are concerned that their children are playing too many video games or watching too much TV could engage in these activities with their children. Media literacy education could be taught in counseling sessions or in parenting classes. Therapists might advise parents to discuss some of the themes and behaviors that occur in these games and programs. Such discussion may provide a starting point for serious conversations between parents and their children about relationships, peers, problem behaviors, or more. This would enable parents to teach media literacy directly to their children. Media literacy could then also be incorporated into school-based health curriculum.

Limitations and Recommendations for Future Research

Overall, findings from this study indicated a negative relationship between media use and family functioning from a youth perspective, and conversely, a positive relationship between media connection and parental media monitoring, and family functioning. Limitations, however, must be recognized. First, because the sample was limited to families with adolescent children between the ages of 11 and 16, generalizability is limited to families with similar structures. Future research should consider examining the nature of media use in relation to family functioning at various life stages and child respondent ages (Davies & Gentile, 2011).

Second, because the data relied on memory recall in an uncontrolled setting, the media use measurement may have been imprecise and subject to considerable random error (Perse, 2001; Council for Research Excellence, 2009). Future research should consider incorporating other measurement techniques such as time diaries to more accurately estimate media use.

Third, though the sample accurately modeled ethnicity distribution in the United States in most cases, Hispanic families were underrepresented in this sample. Furthermore, the sample was geographically exclusive to a large northwestern city, and some families were not selected randomly, rather by referral, which also limits generalizability. Future research should incorporate random sampling techniques, a more ethnically representative sample, and expand the sample to include families with children in other life stages.

Fourth, though this study found a positive relationship between media connection, parental media monitoring, and family functioning, whether this relationship can be wholly attributed to the established benefits of family leisure remains unclear. Future research should focus on the benefits specifically associated with media-based family leisure by incorporating more specific family leisure measures. Future research should also examine the relationship between

media use, media connection, the parental media monitoring subscales (restrictive and active), and the subscales of the FAD, such as Affective Responsiveness and Affective Involvement.

Based on current findings, it is recommended family leisure and media effects scholars dedicate more resources to examining and understanding the relationship between media as leisure and family functioning. Ever-changing technologies that make media more accessible and the corresponding increase in use will continue to impact media behaviors, attitudes, and family leisure behaviors. Family leisure scholars must begin to include media-based leisure in their research because it represent the fastest growing, and most popular forms of entertainment and leisure (Brock, 2007; Rideout et al., 2010; Roy, 2009; Ryan et al., 2006). Future research should also use appropriate statistical methods when measuring family-level variables. These methods must include hierarchical and multilevel models. Furthermore, future research should analyze the relationship between media connection and family outcomes by individual media types. Additionally, the relationship between parental media monitoring and family outcomes should be assessed by the subscales of parental media monitoring: restrictive and instructive, or active monitoring. Overall, it is clear that media will continue to play an increasingly significant role in understanding the evolution of today's families and therefore, family leisure scholars and parents alike cannot afford to overlook the impact of media-based family leisure.

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