Of Rules and Role Models:

How Perceptions of Parents' Mediation and Modelling

Contribute to Individuals' Media Innovativeness

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Abstract

Parental mediation and modelling are important factors in the development of media-related behaviors. This study explores their role for media innovation adoption. Results of a representative CATI survey ($n = 434$) show that perceived parental media innovativeness and mediation are related to media innovativeness at later life stages. The amount of time spent on media innovations follows the parental role-model—but only if parents also engaged in active mediation. Restrictive mediation contributes to a greater investment of money in media innovations. Individuals spend particularly little money on new media if parents were conservative media users and did not make restrictions.

Keywords: New Media, Media Socialization, Innovation, Parents, Mediation, Learning.

The media environment is constantly evolving. New devices and technological platforms as well as new media formats and outlets are continuously being developed by media organizations and adopted and appropriated by users (see, e.g., Pavlik, 1998; Siapera, 2012; Thorburn & Jenkins, 2003). Research has shown that people differ in their readiness to adopt innovations—their *innovativeness*. Individuals who are open to innovations enjoy spending time with novelties and are eager to invest money in new products or services (for an overview, see Bartels & Reinders, 2011; Roehrich, 2004). In consumer research, it is widely discussed which aspects determine innovativeness as a trait (e.g., Cotte & Wood, 2004; Goldsmith, Freiden, & Eastman, 1995; Hirunyawipada & Paswan, 2006; Jacoby, 1971; Midgley & Dowling, 1978; Moore, Wilkie, & Lutz, 2002). This is relevant not only from a business perspective, but also from a societal point of view: Media users' readiness to adopt media content or technology innovations is an important driving force behind all changes of communication processes within societies. Understanding factors that contribute to users' media innovativeness contributes to a better understanding of the social dynamics of media change and innovation in general.

Previous research on innovativeness in the media sector has mostly been conducted within the framework of diffusion theory (for an overview, Rogers, 2003). While these studies have mainly investigated factors that predict the adoption of specific media products, research on media innovativeness as a general trait is scarce. Existing studies that do consider innovativeness of media users as a trait (e.g., Busselle, Reagan, Pinkleton, & Jackson, 1999; Chan-Olmsted & Chang, 2006; Lin, 1998, 2004) do not explore the antecedents of this trait. However, only by exploring the factors underlying media innovativeness in individuals it is possible to understand how this trait is being developed and what it actually stands for. The present study addresses this research gap.

We investigate how media socialization through parent–child dynamics contributes to individuals’ media innovativeness.

Since innovativeness is often defined as a relatively stable trait (Midgley & Dowling, 1978), social influences at earlier life stages should play a crucial role for its development. Apart from school, parents are the most relevant agents for children’s socialization in general (Maccoby, 1992)—and for media socialization in particular (Notten & Kraaykamp, 2010). Therefore, media socialization through the parents could be an important, yet unexplored, factor in the development of media innovativeness in individuals. This is, of course, not to say that children’s behavior is not also contributing to parental media innovativeness. Children are important influencers of their family’s consumer behaviors (Buijzen & Valkenburg, 2008). However, the present research approaches the parent–child relationship from the children’s perspective: In a representative telephone survey of the German population, we investigate how individuals perceived their parents’ media innovativeness and mediation and how these perceptions are related to their own media innovativeness at later life stages.

The Concept of Media Innovativeness

Existing research on the willingness to adopt media innovations often concentrates on specific new media technologies or media formats. These studies stand in the tradition of diffusion theory (see, e.g., Mahajan & Peterson, 1985; Markus, 1987; Rogers, 1986, 2003; Rogers & Shoemaker, 1971) and investigate the different factors that influence innovation diffusion. In this context, many studies concentrate on features of the specific innovation and on the social dynamics of diffusion processes (for an overview, see von Pape, 2009). However, to understand innovation diffusion, it is also important to look at characteristics of the individuals who are making adoption decisions. Rogers (2003) has argued that individuals differ regarding their willingness to adopt innovations. Along this line, he defines innovativeness as “the degree to which

an individual [...] is relatively earlier in adopting an innovation than other members of a social system” (Rogers, 2003, p. 22).

This definition has been heavily criticized for not grasping the underlying latent construct of innovativeness, but rather its consequences, i.e., the point in time of the adoption-decision (Hurt, Joseph, & Cook, 1977; Midgley & Dowling, 1978). Instead, Midgley and Dowling (1978, p. 236) define innovativeness as “the degree to which an individual is receptive to new ideas and makes innovation decisions independently of the communicated experience of others.” They differentiate between what they call “innate” and “actualized innovativeness.” While the former conceptualizes innovative behavior as a trait, the latter describes its occurrence in a given situation (also, see Bartels & Reinders, 2011). In the present study, we follow the concept of *trait innovativeness*. However, we refrain from calling it innate since we consider it to be, at least in parts, a product of socialization.

Trait innovativeness has been widely discussed in consumer research (e.g., Cotte & Wood, 2004; Goldsmith et al., 1995; Hirunyawipada & Paswan, 2006; Jacoby, 1971; Midgley & Dowling, 1978; Moore et al., 2002; Roehrich, 2004). It has been defined as “inherent novelty seeking” and a “predisposition to buy new products” (Roehrich, 2004). Goldsmith and Hofacker (1991) came up with the idea that innovativeness may vary between different domains of products and services. Several studies have found evidence for such domain-specific trait innovativeness (Flynn & Goldsmith, 1993; Goldsmith, 2001; Goldsmith et al., 1995; Goldsmith & Hofacker, 1991).

Against this backdrop, it seems surprising that trait innovativeness is only occasionally considered in media innovation research. However, Lin (1998, 2004) has repeatedly demonstrated the value of trait innovativeness in predicting adoption of computer technologies. Busselle et al. (1999) found a positive correlation between innovativeness and early Internet adoption. Chan-Olmsted and Chang (2006) observed a

relationship between innovativeness and the intention to adopt digital television.

Moreover, Agarwal and Prasad (1998) have transferred the notion of domain-specific innovativeness to the media sector. They developed a measure for innovativeness in the area of information technology and validated it as a predictor of Internet adoption.

Wrapped together, these findings suggest that considering innovativeness as a trait can help explain the adoption of media innovations.

These findings leave some blind spots. Most importantly, they do not reveal which factors actually shape trait innovativeness in the media sector. The present study contributes to filling this research gap. It investigates how media innovativeness is related with parental media socialization. For this purpose, we conceptualize media innovativeness as the general attraction to media innovations. Existing measurements of innovativeness (for an overview, see Roehrich, 2004) stress two different aspects of attraction to innovations: the willingness to spend time on innovations and the willingness to buy them. This is in line with results from consumer research which shows that spending time and spending money on products are two distinct processes (Monga & Saini, 2009; Okada & Hoch, 2004): In many cases, there is a higher inhibition level for spending money than for spending time. For the adoption of new media formats or devices it is often necessary to invest both, time and money. Therefore, we assess media innovativeness considering both aspects, the *willingness to invest time* and the *willingness to invest money*, separately. This bipartite measure reflects the fact that the present study combines insights from marketing and media socialization research. While the investment of money might be the more relevant dimension of innovativeness from a business perspective, research on media use patterns might be more interested in the investment of time.

Parents' Contribution to Media Innovativeness

Research has shown that social influences can increase the willingness to adopt innovations (Markus, 1987; Rice, Grant, Schmitz, & Torobin, 1990). Since trait innovativeness is considered to be relatively stable over the life course, its social roots have to be sought in childhood and adolescence (see, e.g., Moschis, 1987; Xie, & Singh, 2007). More specifically, extant research suggests that parents exert an important influence on innovativeness. It has been found that they affect children's general consumer behavior (Gavish, Shoham, & Rubio, 2010) and also their innovativeness (Cotte & Wood, 2004). The same is true for children's patterns of media use and their processing of media content (e.g., Eastin, 2005; Valkenburg, Krcmar, & de Roos, 1998). Additionally, studies suggest that media use preferences or media-related attitudes that have been acquired during childhood and adolescence endure over the life course (Kraaykamp, 2001; Peiser, 1999, 2000). It can, thus, be assumed that experiences with parental media socialization during childhood and adolescence contribute to media innovativeness in adult life. In this context, two different mechanisms should be taken into account: *mediation* and *modelling* (e.g., Bandura, 1986; Eastin, 2005; Lee, 2013; van Hek & Kraaykamp, 2015).

Parents' Mediation

Parents usually carry primary responsibility to instruct and regulate children's media behavior. They can try to influence their children's media use by applying different strategies of mediation (see, e.g., Livingstone & Helsper, 2008; Nathanson, 2001a): One strategy is *active mediation*, which means to accompany children's media use by discussing media content with them (Austin, 1993). Another option is *restrictive mediation*, which means to regulate access to media or time spent on media activities (Vandewater, Park, Huang, & Wartella, 2005). Both strategies can be applied exclusively or in combination. And for both strategies, there is reason to assume that they contribute to media innovativeness.

In this context, it has to be noted that it is not necessarily the parents' actual educational behavior that might influence children, but rather the way parents' mediation was perceived and is remembered by their children. Nathanson (2001a) has argued that studying children's perceptions of parental mediation is the key to understanding mediation's impact. Her research has found that, while parents who apply active mediation are usually skeptical about negative media effects on their children, active mediation is understood as an endorsement of media use by their children (Nathanson, 2001a). Consequently, it leads to an increase in media use (Austin, 1993), a positive attitude towards the viewed media content (Valkenburg et al., 1998), and is thus not able to reduce risks related to media exposure (Livingstone & Helsper, 2008). It can thus be assumed that active mediation is by and large understood as an endorsement of media use in general by children. It should reduce media-related risk perceptions and promote enthusiasm about media and therefore also about new developments in the media sector. This leads us to assume that:

H1: Perceptions of active parental mediation are positively related to individuals' media innovativeness at later life stages.

Contrary to that, restrictive mediation is interpreted by children as indicating parents' disapproval of media use and media content (Nathanson, 2001a). While restrictions can be effective – for instance, in reducing risky online behaviors of children (Lee, 2013; Livingstone & Helsper, 2008) – they can also have unintended effects (Vandewater et al., 2005). Restrictions can even decrease attitudes towards the parents while at the same time leading to more positive evaluations of forbidden media content and increased media exposure with friends instead of parents (Nathanson, 2002). In the context of media innovativeness, it can be assumed that restrictions play a key role. New media are often deemed particularly dangerous for children and adolescents (Livingstone & Bober, 2013; Wartella & Reeves, 1985) and parents often

have less knowledge about new media technologies and services than their children (Fletcher & Blair, 2016). This aggravates active mediation in the context of media innovations and makes restrictive mediation more likely (Lee, 2013).

Drawing from the literature on restrictive mediation, two different types of consequences of parental restrictions can be assumed: First, children could internalize the underlying principles of parental mediation and comply with its rules and decisions (Lee, 2013; Livingstone & Helsper, 2008). Individuals who have internalized their parents' disapproval of media innovations could maintain this attitude over the life course. Or, they might feel the urge to compensate for the restrictions experienced during youth and have an even higher affinity towards media innovations than individuals who grew up with fewer restrictions. Second, perceived parental constraints could already lead to an increased attractiveness of forbidden media in childhood, in particular if other models (e.g., peers) suggest that media innovations are highly attractive (as has been demonstrated by Nathanson, 2002). This could endure over time and result in a higher media innovativeness as an adult. In light of these ambiguity of findings, we ask the following research question:

RQ1: How are perceptions of restrictive parental mediation related to individuals' media innovativeness at later life stages?

Parents' Modelling

Besides mediation, parents also often serve as unintentional media educators. Drawing from Bandura's (1986) social-cognitive theory it can be assumed that children also learn about media-related behavioral norms by observing and imitating parental behavior (Bennett, Weigel, & Martin, 2002; Eastin, 2005; Gavish et al., 2010; Kraaykamp, 2001; Notten & Kraaykamp, 2010). This observational way of learning allows users to shape cognitive models without physically conducting a specific behavior. According to the theory, individuals are more likely to imitate a behavior if

the observed model receives a rewarding outcome. Vicarious learning is further fostered if models are perceived as belonging to an important reference group (Bandura, 1986; Eastin, 2005). For children and adolescents, parents (as well as peers) usually fulfill this role (Nathanson, 2001b).

Concerning innovation diffusion, Bandura (1986, p. 146) has argued that “models not only exemplify and legitimate innovations, they also serve as advocates for them by directly encouraging others to adopt them.” This assumption is confirmed by other research. Eastin (2005) demonstrated that vicarious social perceptions (parents, peers) significantly influenced teenagers’ informational, entertaining, and social online activities. Kraaykamp (2001) found that parents’ preference for popular television programs resulted in a corresponding preference of their children. In consumer research, it has been shown that children’s perceptions of their parents’ openness to innovations has a meaningful influence on the innovativeness of their children (Cotte & Wood, 2004). This leads us to the following hypothesis:

H2: Perceptions of parental media innovativeness are positively related to individuals’ media innovativeness at later life stages.

Interactions of Parents’ Mediation and Modelling

If, as has been suggested, parental mediation and parental modelling are both related to individuals’ media innovativeness at later life stages, the question arises how mediation and modelling interact. Research on cultural behavior suggests that active mediation could play a more important role in fostering certain behaviors than the parental model (van Hek & Kraaykamp, 2015). However, studies have yet to how different combinations of modeling and active mediation interact. Children’s impressions of parental mediation and the parental model can either be concordant or they can be contradictory. If parents, for instance, are perceived as innovative media users and engage in active mediation this might be perceived as congruent by their

children and could inspire them to be particularly positive about media innovations themselves. If parents, however, are not perceived as innovative media users, any attempts at active mediation might not leave a strong impression in their children and could thus be less strongly related to media innovativeness. For restrictive mediation, an opposite effect might occur: If parents restrict their children's media exposure but are heavy users of media innovations themselves, this could subvert restrictive mediation and additionally increase children's attraction to new media. Restrictive mediation by parents with low innovativeness could be specifically impressive and prevent children from becoming enthusiastic about media innovations, since parental rules and behaviors are in concordance. Of course, other outcomes of the different constellations discussed here are also conceivable. To the best of our knowledge, no extant research has explored how children deal with congruencies and incongruencies between parents' mediation and their media-related behaviors. Thus, we refrain from making specific assumptions here and instead ask the following research questions:

RQ2a: How are perceptions of parental media innovativeness and perceptions of active mediation jointly related to individuals' media innovativeness at later life stages?

RQ2b: How are perceptions of parental media innovativeness and perceptions of restrictive mediation jointly related to individuals' media innovativeness at later life stages?

Method

Sample and Procedure

In order to test our hypotheses and answer our research questions, we conducted a computer-assisted telephone survey of a randomly selected sample of the German population above 18 years of age. Telephone numbers were generated using a random digit dialing procedure. Following recommendations from recent methods literature (Callegaro, Ayhan, Gabler, Häder, & Villar, 2011), the sample consisted of 30 %

mobile phone numbers. On the household level, the last-birthday method was applied in order to randomly select a target person.

This procedure resulted in a response rate of 19.5%. A continuous decrease in response rates is a well-known issue in telephone survey research (Battaglia et al., 2008). Against this backdrop, the achieved response rate can be judged as satisfactory. The resulting sample ($n = 434$) has a comparable distribution of sociodemographic variables, as compared to the general population of Germany. Women are slightly overrepresented, comprising 58.0% of the sample as compared to 51.7% of the population. Concerning age ($M = 48.5$; $SD = 16.3$), individuals between 50 and 59 years (22.8% in the sample; 17.9% in the population) are slightly overrepresented, whereas individuals above 70 years (9.2% in the sample; 18.9 % in the population) are underrepresented. Also, the sample has an education bias, with 53.2% of respondents having achieved the German High School degree “Abitur” (29.2% in the population). However, the present research does not aim at answering descriptive so much as correlational research questions. Moreover, we control for sociodemographic variables in all data analyses. Therefore, these sample biases can be considered unproblematic.

Measures

Measures were integrated in a more comprehensive survey on perceptions of media change and new media use. The mean duration of completed interviews was 19 minutes and 35 seconds. When constructing the questionnaire, we aimed to keep the interviews short in order to reduce the risk of drop-outs. Therefore, most constructs had to be measured with only one or two items. This is not unproblematic. In survey methods literature, it is often argued that multi-item scales lead to a more clear-cut measurement of latent constructs. However, research from different domains has demonstrated that measures with one or two items correlate very highly with their multi-item equivalents and explain dependent variables similarly well (Bergkvist &

Rossiter, 2007; Gardner Cummings, Dunham, & Pierce, 1998; Rammstedt & John, 2007; Wanous, Reichers, & Hudy, 1997). For this reason, it appears justifiable to rely upon single item measures in telephone surveys where questionnaire space is particularly scarce. For additional validation, measures applied in the telephone survey were pre-tested in a pen and paper survey of a quota sample of the German population that was recruited by student research assistants ($n = 100$; age: $M = 49.7$; $SD = 16.6$; 52.0 % female; 31.0 % with High School degree). All items were assessed on an eleven-point Likert-type scale from 0 (*fully agree/fully applies*) to 10 (*do not agree/does not apply at all*).

Media innovativeness. Respondents' media innovativeness was measured with two items that were based on the concept of domain specific innovativeness (Goldsmith, 2001; Goldsmith & Foxall, 2003; Goldsmith & Hofacker, 1991). One item dealt with willingness to spend money on media innovations ("When something new comes up in the media sector, I am willing to invest money for it"; $M = 4.33$; $SD = 2.74$). The second concerned the willingness to spend time on media innovations ("When something new comes up in the media sector, I am willing to spend time with it"; $M = 5.71$; $SD = 2.79$). Both items do not correlate significantly ($r = .088$; n.s.). This indicates that, in line with our assumptions, both concepts have to be treated as separate constructs in the analyses.

Perception of parental mediation and modelling. Before answering questions about perceived parental media innovativeness and mediation, respondents were instructed to remind themselves of their childhood and adolescence. Afterwards, perceived parental media innovativeness was assessed using the item "My parents often were among the first to own and use new media products" ($M = 3.08$; $SD = 2.66$). Perceptions of active mediation were measured with the item "My parents often helped me to understand the media and their contents" ($M = 4.39$; $SD = 2.99$). Perceptions of restrictive mediation were assessed using the item "My parents often restricted how

much time I was allowed to spend with media consumption or which media I was allowed to use" ($M = 4.47$; $SD = 3.44$). The latter combines two domains in which parents may restrict children's media consumption. While such ambiguity in items is generally not recommended in survey research, it was deemed to be legitimate in this specific case. In the pretest described above, both domains were assessed separately ("My parents often restricted the time I was allowed to spend with media consumption", $M = 6.42$, $SD = 3.36$; "My parents often selected media that I was allowed to use", $M = 4.25$; $SD = 3.81$) on the same 11-point scale. In the pretest, these two items correlated strongly (Pearson's $r = .686$; $p \leq .001$) which suggested they could be merged for the main study.

Covariates. Moreover, we measured age, gender and the highest educational degree as covariates. Educational degree was dichotomized for further analyses (0 = *no High School*; 1 = *High School*).

Results

In order to explain the two dependent variables, we calculated two separate series of linear regression models. Results for the *willingness to spend time on media innovations* are presented in Table 1, results for the *willingness to spend money on media innovations* in Table 2. As explanatory variables, we included *perceived parents' media innovativeness*, *active* and *restrictive mediation* in a first step. In additional steps, we added *interaction terms* for parental innovativeness and the two different strategies of mediation, and the sociodemographic control variables (age, gender, education). Results for the covariates show that men have a significantly higher media innovativeness in terms of investing time as well as money. Moreover, individuals with a higher educational degree are more willing to spend money on media innovations. The investment of time in media innovations, however, is not affected by education. Age has no significant influence.

-- Tables 1 & 2 about here --

In H1 we assumed that perceptions of active mediation are positively related to individuals' media innovativeness at later life stages. The results do not support this assumption. When control variables are introduced in the model, there is no main effect between active mediation and either of the two indicators of media innovativeness. The same is true for restrictive mediation. The answer to RQ1 is that there is no unconditional relationship between individuals' media innovativeness and perceived restrictive mediation.

With H2, it was assumed that perceived parental media innovativeness is positively related to individuals' media innovativeness at later life stages. The results only support this assumption for the willingness to invest money in media innovations. For this indicator of media innovativeness, the relationship holds when covariates are introduced into the model. For the investment of time, the relationship is also significant in the first step. But, as soon as the interaction terms are introduced significance of the unconditional effect vanishes.

RQ2a & b asked how different combinations of perceptions of parental mediation strategies and parents' media innovativeness are related to individuals' media innovativeness at later life stages. Results reveal different patterns of relationships for the two different indicators of media innovativeness that were assessed. For the investment of time in media innovations (see Table 1), there is a significant interaction of active mediation and parental innovativeness. The interaction term is the strongest of all predictors included in the model. This indicates that the combination of an individual's perceptions of parental modelling and active mediation can substantially help to explain her willingness to invest time in media innovations. For the interaction

between modelling and restrictive mediation, no significant relationship to the investment of time can be observed.

The opposite pattern shows for the investment of money in media innovations (see Table 2). For this variable, the interaction between restrictive mediation and parental modelling is a significant predictor, while the interaction between active mediation and modelling remains insignificant. But, the unconditional relationship between spending money on media innovations and parental innovativeness is stronger than the conditional one, as judged from standardized beta-coefficients.

-- Figures 1 & 2 about here --

In order to explore the nature of the observed interactions, we plotted interaction graphs for the significant conditional relationships (see Figures 1 & 2). For the low and high groups of all explanatory variables, we used values of one standard deviation below and above the respective means. The graph reveals that, when the willingness to invest time in media innovations (Table 1) is at a medium level, parents were not perceived as innovative. In this case, active mediation hardly makes any difference. However, if parents were perceived as innovative, high active mediation substantially increases media innovativeness at later life stages, while low active mediation diminishes it.

For the willingness to invest money in media innovations (Table 2), the picture is different. Here, restrictive mediation makes hardly any difference if parents were perceived as innovative media users. In that case, individual's own media innovativeness is at a rather high level, reflecting the strong unconditional impact of the parental model. If parents were not perceived as innovative, those individuals who experienced parental mediation as being strongly restrictive are similarly willing to

invest money in media innovations. However, low perceived parental innovativeness in combination with low restrictive mediation leads to considerably lower values of the willingness to spend time on media innovations.

Discussion

With the present study, we explored different ways in which media socialization through the parents during childhood and adolescence is related to individuals' media innovativeness at later life stages. This approach offers several important new directions for media innovation research. First, we have outlined that many existing studies in media innovation research have ignored the fact that innovation adoption is not only determined by situational factors but also by individual users' trait innovativeness (but, see Busselle et al., 1999; Chan-Olmsted & Chang, 2006; Lin, 1998, 2004). We have discussed how this idea from consumer research (e.g., Agarwal & Prasad, 1998; Goldsmith & Hofacker, 1991; Midgley & Dowling, 1978) can help explain media adoption decisions. It is therefore important to investigate factors that might help explain why some individuals are more prone to media innovations than others. Second, we have introduced a new theoretical approach into media innovation research. We have argued that basic behavioral patterns such as media innovativeness are often rooted in childhood. Different socialization agents, among them parents, play an important role in this context (Maccoby, 1992). Perceptions of parental media usage behavior and mediation strategies have been conceptualized as factors contributing to the development of media innovativeness in children. Hence, the present study is the first to think media innovation processes and media socialization together.

In a randomized telephone survey of the German population, we asked individuals of different age groups how they remembered their parents' media innovativeness and mediation during childhood. We analyzed how these perceptions are related to individuals' media innovativeness at later life stages, assessed as the

willingness to spend time and money on media innovations. This is not to say we assume a uni-directional relationship with parents being the sole influencers. Children's do, of course, also affect parents' media innovativeness. Research has shown that children influence family consumer behaviors in many different ways (see, e.g, Buijzen & Valkenburg, 2008). However, the present research is focusing on children's perceptions of their parents. It can thus tell us more about how these impressions contributed to the development of media innovativeness in the children.

Results show that it is the most meaningful influence for individuals' media innovativeness are neither mediation nor modelling alone, but their combination. The conditional relationships observed here suggest that children engage in active sense-making of their parents' rules and behaviors. Moreover, results are different for two different indicators of media innovativeness: the willingness to spend time and the willingness to spend money on media innovations. The former might be of greater interest for media socialization research, since it represents a general affinity and appreciation of media innovations. Findings indicate that active mediation plays a crucial role in this context, but only if parents were perceived as innovative media users. If this is not the case, individuals' media innovativeness is at a medium level, irrespective of the intensity of active mediation. Other socialization agents might then be more important for the development of children's attitude towards media innovations. However, if parents engage in active mediation their media innovativeness seems to translate onto their children. Individuals whose parents exhibited low media innovativeness and who have experienced active mediation show a lower media innovativeness themselves. The opposite is true for high parental innovativeness. This is in line with research that has suggested that active mediation leads to a positive attitude towards the media content that is viewed together with parents (Austin, 1993; Nathanson, 2001a).

For the investment of money, the case is different. Here, active mediation has no impact, neither in combination with parental innovativeness nor unconditionally. Instead, two other aspects of media socialization are meaningful. First, perceptions of parental media innovativeness have a strong main effect on children's innovativeness. Second, restrictive mediation plays an additional role. Individuals who perceived their parents as innovative media users are eager to spend money on media innovations irrespective of parental mediation. In this case, the parental model outshines mediation. However, if parents were not perceived as innovative, restrictive mediation leads to a significantly higher willingness to spend money on new media than unrestrictive. This can be interpreted as compensatory behavior. Individuals with restrictive parents who were additionally conservative media users themselves had little opportunity to get in contact with new media in their childhood home. In adult life, this absence of experiences is compensated. But, compensation is symbolic rather than practical: These individuals do not spend more time with media innovations than others, they merely invest more money in new media products.

Taken together, the results of this study underscore that media socialization has to be considered an important factor in the shaping of media innovativeness. The parental model seems to be decisive, especially for the money spent on new media at later life stages. From a media business perspective, one could argue that in order to sustainably create innovation proneness in a society, it is important that the parents of future generations are equipped with new media products. This could be achieved, for instance, through discount programs for parents. From a media socialization perspective, it can be concluded that active mediation is a crucial factor. If parents want their role model of media-related behavior to transfer onto their children, they need to engage in active mediation. However, this is only true for the time invested in new media. When it comes to spending money on media products, the influence of the

parental model depends on restrictive mediation. Many restrictions, when offered by both innovative and conservative parents, lead to a comparably high willingness to spend money on new media products.

Limitations and Future Research

The present research is a seminal study in the previously unexplored field of media socialization's contribution to media innovativeness. Inevitably, it does not come without limitations that should be addressed by future research. We argued that individuals' perceptions of parental behavior are crucial for the development of media use patterns. Our study is based on retrospective assessment of these perceptions. It cannot be ruled out that such measurement is subject to memory effects. Additionally, memory bias is more likely for older respondents, which represents an imbalance within the sample. However, in order to investigate the persistence of socialization over the life course, there is hardly any alternative to this approach. It is thus very common in socialization research (see, e.g., Kraaykamp, 2001; Notten & Kraaykamp, 2010).

Nevertheless, there are a number of avenues that could help to further validate the results observed here. First, dyadic analyses which compare individual's perceptions of their parents' media innovativeness and mediation with the parents' self-evaluation (Livingstone & Bober, 2013) could help to cross-validate perceptions. Such studies would also enable researchers to further explore the mechanisms of association and dissociation that are taking place between children and their parents during the process of media socialization. Moreover, they could include the opposite point of view, namely how children affected their parents' media innovativeness.

Future studies should also consider an important moderator of parental influence: the quality of the child–parent relationship (Noack & Buhl, 2004). The effectiveness of parental mediation and modelling probably depends on how important parents are to the children. If the child–parent relationship is disturbed in one way or

another, especially modelling should be less strong and reactant behaviors are more likely.

Finally, it seems desirable to study the relationships observed here longitudinally. This would mean to assess media socialization within a cohort of children and to document these children's media related behaviors in general – and media innovativeness in particular – over the life course with constantly repeated measurements. Such research could also help to determine whether evaluation of the parental model and mediation changes over time. Restrictions, for instance, may have been unquestioned during childhood and adolescence and might only appear strange or unjustified in retrospect. The present research leaves open how such changes in the evaluation of parental modelling and mediation are related to changes in media innovativeness. Additionally, longitudinal research could help clarify many other questions related to media biographical influences on usage behavior as well.

Despite the shortcomings addressed here, we are convinced that the present study has demonstrated how studying parental media socialization is a promising route for media innovation research. The approach should thus be extended to other agents of media socialization, such as peers and teachers who are important socialization agents as well (see, e.g., Radesky, Schumacher, & Zuckerman, 2015; Xie & Singh, 2007). The findings of this study help to sharpen our understanding of the social dynamics of media change. They underscore that individuals' media adoption decisions have their roots in childhood and adolescence. Media innovation research as a field will thus have to engage in further exploration of the long-term influences of media socialization. It should begin to employ a life-course perspective.

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Tables

Table 1

Linear Regression Models Explaining the Willingness to Spend Time on Media Innovations

	Model 1	Model 2	Model 3
Parents' media innovativeness	.118*	.058	.060
Restrictive mediation	.056	.067	.071
Active mediation	.102	.127*	.111
Restrictive mediation * parents' media innovativeness		-.078	-.089
Active mediation * parents' media innovativeness		.181***	.193***
Age			-.056
Educational degree (0 = no High School; 1 = High School)			-.027
Gender (0 = male; 1 = female)			-.135**
R^2	.044	.073	.093
ΔR^2		.029**	.021*

$n = 414$. Values are standardized regression coefficients. * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Table 2

Linear Regression Models Explaining the Willingness to Spend Money on Media Innovations

	Model 1	Model 2	Model 3
Parents' media innovativeness	.155**	.125*	.130*
Restrictive mediation	.055	.060	.053
Active mediation	.081	.089	.049
Restrictive mediation * parents' media innovativeness		-.109*	-.114*
Active mediation * parents' media innovativeness		.094	.096
Age			-.089
Educational degree (0 = no High School; 1 = High School)			.095*
Gender (0 = male; 1 = female)			-.113*
R^2	.050	.065	.097
ΔR^2		.015*	.032**

$n = 414$. Values are standardized regression coefficients. * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$.

Figures

Figure 1. Interaction graph explaining the willingness to spend time on media innovations.

Figure 2. Interaction graph explaining the willingness to spend money on media innovations.