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A phenomenological exploration of the role of digital technology and media in children's subjective well-being

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Abstract

This phenomenological study examined children's subjective well-being (N = 22) in rural and urban areas of the Midwestern United States, as part of a larger multinational comparative qualitative study of children's well-being. Children (8 to 12 years old) completed an extended, semi-structured qualitative interview and mapping exercise that prompted them to draw and describe the scope, aspects of, and influences on their subjective well-being. Phenomenological analyses of children's responses were conducted to identify aspects of their contexts, including their use of digital technology and media (DTM), that were linked to children's subjective well-being. Two main themes emerged; 1) children reported that DTM is not essential to their well-being but 2) DTM is important to their well-being. Six sub-themes emerged under the DTM is important theme. Children reported that DTM is rewarding and valuable to them, and it contributes to their life satisfaction. They also reported that DTM use enhances their connections to others, self-acceptance, autonomy, and competence and skills. Results are discussed in regards to children's self-identified hedonic and eudaimonic aspects of their well-being, and are placed within a contextual framework of child well-being. Implications, strengths, and weaknesses of the study are discussed.

Keywords: childhood, well-being, technology, media

A Phenomenological Exploration of the Role of Digital Technology and Media in Children's Subjective Well-Being

1.1 Current Measures of Children's Well-Being

Child and adolescent subjective well-being (SWB) is a critical marker of child health, development, and happiness (Casas et al., 2012; Children's Worlds, 2011; Kamerman, Phipps, & Ben-Arieh, 2009; Lawler, Newland, Giger, Roh, & Brockevelt, 2017). Recently, researchers have worked to further our understanding of children's SWB by ascertaining children's perspectives in middle childhood, an underrepresented population in the SWB research literature. They have also garnered children's perceptions from a variety of international samples, examining children's SWB within and across varied ecocultural contexts (e.g. Ben-Arieh, 2010, 2012; Casas et al., 2012; Dinisman, Montserrat, & Casas, 2012; Lawler, Newland, Giger, & Roh, 2015; Stuart & Jose, 2012).

Children's SWB is generally viewed as a combination of children's cognitive and affective self-evaluations of their lives, which are related to one another but typically measured distinctly (Antaramian, Huebner, & Valois, 2008; Casas et al., 2012; Deci & Ryan, 2008; Dinisman et al, 2012; Singh & Lal, 2012). Subjective well-being, defined as "optimal psychological experience and functioning" is typically divided into hedonic and eudaimonic perspectives (Deci & Ryan, 2008, p. 1). Hedonic well-being is thought to encompass positive affect and life satisfaction. Eudaimonic well-being is concerned with realizing one's potential, growing, and finding fulfillment (Deci & Ryan, 2008; Ryan & Deci, 2001). Ryff and Singer (2006) outlined six characteristics of eudaimonic well-being including self-acceptance, purpose in life, environmental mastery, positive relationships, personal growth, and autonomy. Although these aspects of well-being have not been fully examined by child well-being researchers, most

child SWB studies measure one or more aspects of children's self-reported well-being within a variety of contexts and relationships, using a strength-based approach (Ben-Arieh, 2012; Casas et al., 2012; Chu, Saucier, & Hafner, 2010; Suldo et al., 2009).

1.2 Context and Child Well-Being

Bronfenbrenner's (1989) theory is a useful framework for examining the multiple, interactive contextual influences on children's subjective well-being (Dinisman et al., 2015; Newland et al., 2014; Oberle, Schonert-Reichl, & Zumbo, 2011). Bronfenbrenner's theory details several immediate environments called microsystems (e.g. home, school, peer groups, neighborhood and community) that directly impact children, and are embedded within macrosystems, or broader contexts such as culture (1989). Children's SWB has been linked to the quality of the environment, interactions, and relationships across several microsystems, including home, school, peer, and neighborhood/community (Bokhorst, Sumter, & Westenberg, 2010; Newland, Coyl, & Chen, 2010; Oberle et al., 2011; Zullig, Valois, Huebner, & Drane, 2005).

Findings across studies using a quantitative approach to understanding child and adolescent SWB have shown two consistent influences of microsystems on children's SWB. The first finding was relationships matter. Across a variety of microsystems, the quality of children's relationships with parents, other family members, peers, teachers, and others in their school environment are related to their SWB outcomes, including life satisfaction, mental health, self-image, cognitive competence, and social competence (Bokhorst et al., 2010; Chu et al., 2010; Corsano, Majorano, & Champretavy, 2006; Goswami, 2012; Oberle et al., 2011; Proctor, Linley, & Maltby, 2010; Suldo, Shaffer, & Riley, 2008). The second finding was the quality of the environment and resources and interactions within those environments are influential on child

and adolescent SWB. For example, home and neighborhood environment quality and safety, frequency and quality of interactions with parents, school climate and safety, quality of teacher-student interactions, negativity in peer interactions (including bullying), and quality of social support from friends, parents, and school staff are related to a host of child and adolescent SWB outcomes, including life satisfaction, emotional well-being, and social functioning (Casas, Bălţătescu, Bertran, Gonzáles, & Hatos, 2013; Lau & Bradshaw, 2016; Lawler et al., 2017; Mrug & Windle, 2009; Newland, Chen, & Coyl-Shepherd, 2013; Oberle et al., 2011; Proctor et al., 2010; Suldo et al., 2008; Tiliouine, 2015; Zullig et al., 2005).

Even though a great deal of recent research has identified pathways from context to child SWB, one area that remains relatively unexplored is the connection between children's digital technology and media use (or DTM) and their SWB, within and across multiple microsystems. For example, children may use DTM to support or withdraw from family and peer relationships; and DTM may help them feel safe and connected when faced with a dangerous situation or bring them closer to bullying and other negative interactions. While DTM use and exposure have been treated as part of a distinct microsystem in some studies, current research suggests since DTM use is pervasive across microsystems, it should be examined across contexts such as family, school, and peer microsystems (McHale, Dotterer, & Kim, 2009; Plowman, 2016).

1.3 Digital Technology, Media, and Children's Well-Being

In the U.S. and in many other countries, children and adolescents increasingly have access to a variety of digital media and technology from a very young age, and they view it as an integral part of their day-to-day lives (Brown & Bobkowski, 2011; Fitton, Ahmedani, Harold, & Shifflet, 2013; Hsin, Li, & Tsai, 2014; Ofcom, 2015). Hsin and colleagues (2014) note that young children in many countries are "digital natives", and live in a world "enveloped by

technologies" (p. 85). Children use DTM for entertainment (e.g. television and video watching, playing video games, etc.) and for communication purposes (e.g. talking on the phone, using social media sites, etc.), sometimes engaging in multiple DTM activities at once (Fitton et al., 2013; Pea et al., 2012). On average, by age 8, children in the U.S. are engaged with media about two and a half hours each day, although patterns of device use vary some by child gender (Common Sense Media, 2013, 2016). In addition, the amount of time that children in the U.K. age 8 to 15 spend online has doubled since 2005, while TV viewing has remained the same or declined slightly (Ofcom, 2015). Parents are also modeling a great deal of media use, reporting on average 9 hours of screen media per day in the U.S. (Common Sense Media, 2016). Because of children's high levels of use of DTM and vastly increasing access to mobile media (e.g. tablets and smart phones), some parents and researchers have expressed concern for children's cognitive, social, and emotional well-being in the U.S. and in other areas of the world (Common Sense Media, 2013; Ofcom, 2015; Savahl, September, Odendaa, & Moos, 2008).

One concern about children's technology and media use (especially overuse) is that it may decrease physical, social, and emotional well-being because DTM activities displace other beneficial activities, such as physical activities, face-to-face conversations, and shared family rituals such as meals (Brown & Bobkowski, 2011; Common Sense Media, 2013, 2016; Gross, Juvonen, & Gable, 2002; Pea et al., 2012; Savahl et al., 2008). In fact, some research has shown that children use specific types of DTM, such as social media, to cope with loneliness and social anxiety in low-quality face-to-face peer relationships, which can lead to lower levels of well-being, although the tone of social media interactions may mediate the impact between social media use and well-being (Brown & Bobkowski, 2011; Gross et al., 2002; Valkenburg, Peter, & Schouten, 2006). Children may be exposed to portrayals of thinness, sexualization, and drug and

alcohol use that could have a detrimental impact in shaping their attitudes and behaviors (Brown & Bobkowski, 2011; Levine & Harrison, 2009; Sargent, Wills, Stoolmiller, Gibson, & Gibbons, 2006; Ward & Friedman, 2006). Another concern is that children may be putting themselves at risk by sharing personal details, by exposing themselves to cyberbullying or stalking, or by accessing violent or sexually explicit content, in the context of minimal parental supervision and low levels of critical understanding to help children avoid these risks (Brown & Bobkowski, 2011; Common Sense Media, 2016; Ofcom, 2015; Savahl et al., 2008).

Despite adult concerns, there are some distinct benefits for children using DTM. Many children are using DTM for educational purposes such as watching educational shows, playing educational games, reading e-books, or using a computer, tablet or smartphone for homework (Chang, 2008; Common Sense Media, 2013; Hsin et al., 2014). In doing so, children are often learning not only core content knowledge, but also developing important skills dubbed 21st Century Skills, including problem-solving, communication, creativity, critical thinking, collaboration, as well as digital, media, and information literacies (Darling-Hammond, 2010; Greenhill & Petroff, 2010; Kay, 2010). In addition, DTM activities can be used as a means for interacting with family members and friends, and for maintaining connections across time and physical space with more than one communication partner simultaneously (Common Sense Media, 2013; Fitton et al., 2013; Manches, Duncan, Plowman, & Sabeti, 2016). They also see DTM as a coping strategy or as a means of self-care when they need to regulate negative emotions such as worry, anger, or frustration (Fitton et al., 2013; Wilson, 2016) and can potentially use DTM as a space for identity exploration (Brown & Bobkowski, 2011). Because DTM use can be tied to some of the major predictors of children's SWB that cross microsystems (quality of relationships, environment, and resources), it deserves to be studied across

microsystems rather than within just one microsystem.

Given the increase in child and adolescent access and use of DTM, and the mixed results connecting DTM to children's SWB, more work needs to be done to explore children's perceptions of both DTM and SWB. While recent quantitative studies of children's SWB have furthered our understanding of the role of context in supporting SWB, more qualitative research is needed to fully understand the range and scope of children's DTM use, and the ways in which is it linked to their self-perceived well-being.

1.4 Purpose of the Study

This qualitative study examined children's self-perceptions of their well-being within a rural and urban sample from three Midwestern states of the United States (8.0 to 12.42 years old). It was designed as part of a larger, multinational, comparative qualitative study of children's well-being. It adds to the existing research literature by using an extended qualitative interview and mapping exercise with children to allow them to self-define the scope, aspects of, and influences on their subjective well-being. The study utilized a modified version of the Protocol of the *Children's Understandings of Well-being: Global and Local Contexts* project by Fattore, Fegter, and Hunner-Kreisel (2014). The rich and open-ended questions included in the interview procedures allowed children to respond at length to questions about the nature and context of their well-being, as well as their use of DTM, within one or more contexts. It also allowed researchers to conduct phenomenological analyses of children's responses to identify aspects of their contexts, including their DTM use, that were linked to children's SWB. Finally, researchers explored the role and meaning of DTM in multiple contexts of children's lives and its relation to

their hedonic and eudaimonic SWB. It is the first known qualitative study of children's subjective DTM use and subjective well-being in the United States.

1.5 Research Questions

1) What are children's experiences regarding the connection between their well-being and digital technology and media (DTM) use?
2) In what contexts are children's well-being and DTM use situated?

2. Method

2.1 Sample

Participants included 22 children and their parents from three states in the Midwestern U.S. Sample demographic information is included in Table 1.

Insert Table 1 about here

2.2 Procedures

Convenience and snowball sampling was used to recruit participants ranging in age from 8-13 years old. Research assistants used a variety of methods (e.g. social networks, local schools, local community centers) to sample children and families within communities in three states. Several ethical considerations were made in this study, per the guidelines outlined by Sanjari, and colleagues (2014). Institutional Review Board approval was granted, parents provided informed consent, and children provided assent. Both parents and children were made aware that the data would be anonymous (through family identification numbers) and confidential. Children were told they were not required to participate, could refuse to answer any question, and could stop at any time.

Parent demographic surveys, which took about 15 minutes to complete, were dropped off for parents to complete prior to the interviews. Trained research assistants then conducted one-on-one interviews in the child's home. Interviewers followed a semi-structured interview protocol adapted from Fattore and colleagues (2014) that included an exercise in which children were asked to draw a map of what is important to them (places, people, and things). Research assistants established rapport with children before starting the interview and offered the child a break halfway through the interview. Children took approximately 60 to 90 minutes to complete the interview. Interviewers took extensive field notes, audiotaped the session, and transcribed the interviews following a protocol. When they were finished, audiotapes and electronic versions of transcriptions were archived for later analysis.

2.3 Measures

Parent demographic surveys included items regarding parent and child age, gender, race, country of origin, home language, child grade level, disability status, family structure (including parental marital status, custody arrangement, siblings), and SES (parent education, employment and income). Parents also identified the geographic location and population of the town or city in which the child lives.

Children completed a semi-structured interview in their homes following a modified version of the Protocol of the *Children's Understandings of Well-being: Global and Local Contexts* project (Fattore et al., 2014). Interviews began with a question about self-concept, which was used to gain a brief description of the child and to build rapport. The child was asked to tell the interviewer about him/herself, and to describe her/himself. Follow up prompts included questions about hobbies, free time, religion, pets, and anything else the child wanted to share. Next, the interviewer asked the child to draw a map of what was important in their life,

asking them to include places, people, and things important to them. Children were asked to discuss and explain the content of their map using a series of prompts. The interviewer then asked the child what made them feel well or good (using the map as a starting point, but not limiting discussion to what is on their map). The child was prompted to discuss particular people, things, times, occasions, places, and anything else that made them feel well or good. Next, the child was asked if they could change anything in their life, what would they want to change to make it better. When they finished responding, children were invited to take a short break.

In the second half of the interview, children were asked about how they felt in specific contexts or domains of their life. For each context or domain, the interviewer asked a general question followed by more specific prompts. First, the home and family life context included prompts about family activities, feelings about family, challenges, and their perceived importance of family relationships, including parents. Second, the school context included prompts about school in general as well as teachers, and what were the best and worst parts about school. Third, the context of economic well-being included questions about what was important for children to own or have (including basic necessities, personal items, and other things), having their own money for spending, and what they considered to be necessary to have a good life. For the final prompt, children were asked about whether children worry about not having enough (resources).

Next, interviewers asked children about specific domains of their well-being. They were first asked whether they felt listened to, or that their opinion mattered. Children were asked about particular places, people, times, or situations in which they felt listened to. Next, they were asked when they felt free to do things that they wanted to do (agency). They were again prompted to describe particular places, people, times, or situations that allowed them to feel free or to make

choices. The last domain they were questioned about was safety. Children were asked to define what being safe meant to them, and to describe what made them feel safe. The interviewer questioned them about particular people, things, times, locations, or occasions that helped them feel safe.

Interviews concluded with a general question about what it was like to be a child in their part of the world (in this case, the U.S.). After the child's response had been explored, the interviewer asked if there was anything else they would like to share. This concluded the interview.

2.4 Data Analysis Procedures

Transcripts were analyzed by three researchers with expertise in child well-being, education, and development. Although the overall project was designed as a basic interpretive qualitative study (allowing for maximum flexibility in analysis procedures used by local and cross-national researcher teams), the findings from this paper come from phenomenological analyses of children's perceptions of their own well-being, following Creswell's (2013) suggestions for phenomenological analyses. Transcripts were read several times by each researcher to familiarize them with the data and to identify emerging thoughts, ideas, and concepts, noted in the margins of each transcript (and in a notes file, for longer reflections). The first read through identified DTM as an important emerging concept that was linked by children to their experience of well-being. Researchers then followed a three-step process, beginning by identifying and coding significance statements pertaining to children's experiences of well-being and their DTM use. Next, initial codes were identified, applied, and revised as needed, and codes were inductively clustered into themes. Finally, the meaning of themes and patterns across themes were articulated (Creswell, 2013). Each transcript was coded by at least two researchers

to assess reliability of coding, and discrepancies were identified and discussed until consensus was reached.

3. Results

3.1 Description of Two Major Themes

Phenomenological analyses resulted in two main themes. The first main theme was that DTM is not essential to children's SWB, in the way that food, clothing, and shelter are essential components of human existence. When asked about specific types of DTM (e.g. computers, television, phones, etc.) children reported that they were not essential for people to have a good life. Child 101's responses reflected this sentiment:

> I: So, what sorts of things do you think are important for kids to own or have? C: *Well, what is really important is money so you, because you don't want to be like other kids with no clothes, no house, no anything!* I: So do you think there are any certain things that kids have to have? C: *Clothes and shoes*. I: How about things like phones and computers? Do you think those are really important? C: *Phones and computers are not important. It's just technology*.

Child 107 shared this distinction between needs and wants: C: *To own, I don't know, can I think? (pause) I am not sure if there is anything I need to own, but like in my drawing, food and something to drink is something you need. I like to own games and stuff, but I'm not sure if they are IMPORTANT*. When asked why Child 105 believed that computers and television were not needed to have a good life, Child 105 stated. C: *Cause before this they weren't even invented and people lived fin*e.

The second main theme was that DTM is an important contributor to children's SWB. Nearly all children reported that some type of DTM was an important part of their life and their SWB. Many included it on their well-being map. Examples of DTM provided by children

included smart phones (and texting), iPods, iPads or tablets, computers, video games/gaming systems, TV, movies, and social media. When asked what is important or most precious in their life, Child 106 said "*movies, Minecraft, iPod*" and Child 102 said "*Um, my iPad*." Boys more often included video gaming systems than girls. Child 101, a 10-year-old girl, described the movie *Frozen* as an important part of her life, while other children described their favorite TV shows and characters. When asked why these aspects of DTM were important to them, children's answers varied, but generally focused on DTM connecting them with others and serving as a relaxing or entertaining activity. Child 110 explained why he included a gaming controller on his map:

> I: So talk to me about this (a video game controller on the map he drew) C: *A video game controller. I have two video game consoles so far -- an Xbox – it looks like this (he sketches it), an Xbox console and a Wii console*. I: I notice that's the first thing you started to draw. C: *That's the first thing that popped into my head*.

Child 110 said ". *I think like every kid should get like an iOS device like an iPod or an iPad….Because you can get games on there if you have free time, if you are bored, um, you can play on those*." Child 115 stated: "*Like, I think most kids like, if they had to could live without it (phones, computers and technology) but I don't think they would be willing to give it up because it's kind of their way of staying in touch with one another. Cause you can just text your friends if you want them to hang out or something*."

Several subthemes are clustered under the *DTM is Important* theme. The subthemes can be further categorized as pertaining to hedonic SWB and eudaimonic SWB, discussed next.

3.2 Specific Hedonic Subthemes

Regarding hedonic SWB, two subthemes emerged. First, children reported that *DTM is valuable, meaningful and rewarding* to them, and it enriches their lives. Second, children

reported that *DTM contributes to life satisfaction*.

3.2.1 DTM is valuable, meaningful and rewarding. Children described DTM as valuable in their lives, and if they had limited access to some types of DTM, they expressed interest in obtaining it. As Child 119 said: "*I would like an iPhone 5C or an iPhone 6.Both my older cousins have them and I have been dreaming of getting these nail (painting) games but you can only have it on an iPhone 5, I cannot download it on my iPhone 4*." Children also described earning DTM as a reward for good behavior. Child 106 said: "*In our house we do basic expectations and before we like do any technology we have to do the basic expectation. So I feel that I can do it after I do my basic expectations.*"

When asked if it is important for kids to own phones or computers, Child 122 said: "*Hmm. No. They shouldn't have to but some should, if they earned it, or if they can be responsible. But if they can't be responsible and stuff they shouldn't be able to have one*." Some children discussed doing chores and saving money to purchase their own DTM, including larger items such as tablets and iPads. Child 118 stated. C: *I have enough money to buy another game that I like and so I'm like, yeah this is a great day!* They also suggested that having their own money for DTM was important to them. As Child 102 stated: C: "*Yea*h. *Because my mom says I can't have a phone until I can pay it off myself, so I have to wait until I am like 13 or 14 cause I'll be able to babysit in like two years or maybe one*." Lastly they described receiving DTM as gifts or as marking a special occasion. Child 101 said: "*Well, I'm really excited for my birthday because on the fifteenth the new movie Pitch Perfect II is coming out and that will be my birthday present."*

3.2.2 DTM contributes to life satisfaction. Children described DTM hobbies and leisure activities that promote a positive mood and satisfaction with one's life. Some of the most

common types of DTM described by children as hobbies and leisure activities are movies, TV, video games, and internet-based activities. When asked if the child had any hobbies, Child 107 listed several types of DTM, including "*Video games, ... music, TV."* Children 111 and 112 listed Minecraft as a favorite activity because as Child 112 put it: "*you can build whatever ... you can build a skyscraper in one day in the game."*

Child 118 explained:

> *My main hobbies are mainly just homework and video games….My schedule is usually get up, go to school, come back home after spending a lot of time doing schoolwork and then play video games…. If you watch a movie that is very good, some people feel inspired by it and it makes them feel good like the person in the movies. I found that in video games, and that's why I still like them.*

When asked what things make them feel happy, Child 108 responded "*My phone…my iPhone… Because there are games on there and the games make me feel happy."* They also reported using DTM to relax, have fun, and "get away". As Child 115 stated:

> "*Sometimes I just want to get away… so I just lay down and watch some TV on my iPad….If you in a place that you have no friends then you kind of want to have a TV or something in order to take your mind off the fact you have no friends, cause then you can just watch TV and like forget about everything. But then like, if you live in a good neighborhood you don't really need it, you just want it if none of your friends want to play with you.*

3.3 Specific Eudaimonic Subthemes

Regarding eudaimonic SWB, four subthemes emerged. First, children reported that *DTM supports their connections to others*. Second, children reported that *DTM contributes to their*

developing self-acceptance. Third, children reported that *DTM contributes to their autonomy* by increasing their choices, opportunities for independence, and sense of safety. Lastly, children reported that *DTM contributes to their competence and skill set*.

3.3.1 DTM supports their connections to others. Children reported that using DTM (e.g. phones, texting, playing video games, using iPads) helped them to connect and maintain relationships with others. In the family context, children described family interactions around DTM that helped them feel secure and connected (e.g. snuggling while watching a movie or TV together), as well as supported and happy. Shared DTM activities gave children an opportunity to connect with siblings (e.g. playing video games together) and parents. Child 101 described a time when both her mother and her father joined her in a physical activity using a game console:

> I: …What are the most important things about your family? C: "*Um, sometimes we just have a really good laugh"*. I: Do you remember one time particularly that was really funny? C: "*Yes. Once time when I got Just Dance -- my mom and dad danced with me. Just Dance 4!"*

They also described times when shared DTM use provided them opportunities to practice conflict management. Child 115 said:

> "*If we get mad about what we are going to watch as a movie or like a game we are going to play, then we usually just compromise and play something that we all for sure like. … But (my sister) and I both have an iPad and they both look exactly the same. So if I accidently take hers, then she's like "Hey that's mine" so then we look at it and see if it is because we both have different games and stuff. But sometime, if I know for sure it's mine because it has all the games I have but then (my sister) can't find hers and she says that I stole it. Then I bring mom or dad into it help us figure where hers is or if that is actually*

hers.

Children reported similar influences of DTM in the peer and community interactions. They explained how DTM helped them feel supported and connected to others, especially friends. They described a variety of shared activities around DTM with friends that made them feel good, including texting and IMing each other, playing video games at each other's homes and in the community (e.g. while riding the bus together), and watching videos online together. Child 110 said: "*Well I like playing on iPads and playing on video games with my friends when they come over*." Child 102 expressed a desire to have her own phone in order to increase the privacy of her DTM interactions with her friends.

> I: … what else needs to be in your life to make you feel good? C: *A phone*. I: A phone! Why would that make you happier? C: *Ah, because I have my bed at my house, and my mom doesn't even let me do anything on her phone. And I just really want my own so I can like text my friends in private and like whenever I'm really sad, they (pause)I don't want my parents to know about it, I can just text them* (her friends).

While children described some conflict with friends over DTM interactions, they also described the ways in which they practiced conflict management to come to a solution. Child 115 said: "*Well we all like games and stuff but sometimes we can't agree on one video game so we have to play a bunch of different video games, but we all love Minecraft, so that is one game we can all play together*." He also described using his iPad to calm down after conflict with a friend. *"If I get into a fight with a friend or something, I can look back on all the pictures we took together and then I feel way better*."

3.3.2 DTM contributes to their developing self-acceptance. Children generally described themselves positively, but they did portray balanced views of themselves (including

some weaknesses). Their self-descriptions and self-evaluations often included the kinds of DTM that they owned, what they like to do with DTM, and what their favorite shows, games, and characters related to DTM were. Child 103 said: "*I would describe myself as a person who likes to go outside, mostly play outside, I have a very big imagination. Umm, I also like to watch TV and sometimes sit around and relax*." Child 105 reported: "*I like to read, and my favorite show is Teen Titans Go!"* Child 101 told the interviewer that she really liked Cinderella dresses, saying: "*Well, my favorite movie is Cinderella*." Some children described the pressure put on them by peers to have the latest DTM. Child 118 age 11, stated: " *I like playing video games…. I don't really care if people are saying 'you are not wearing the latest trend or 'playing the latest game'."* Child 119 felt judged for perhaps having too much access to DTM: "*I like to play on my phone a lot. I got my phone when I was eight a lot of kids in my class say I am spoiled, but…"* A few children seemed a bit self-conscious admitting that they spend a lot of their time playing video games or watching TV, laughing nervously when describing the amount of time they spent in DTM activities or qualifying why they do. However, most children reported positive views of self in relation to DTM use.

3.3.3 DTM contributes to their autonomy. Children reported that using DTM provided opportunities to make their own choices and express their preferences. They enjoyed being able to choose which video game they played, or which movie to watch. When describing "a time when they felt their opinion mattered," Child 117 said: "*Um, watching a movie, like what movie we were going to get, and have everybody say, not just the parents*." Children also reported that DTM allowed them to experience at least some freedom and independence from parents, in part by allowing more independent exploration of their environment (e.g. having a cell phone to call parents in case of emergency or to check in). Child 119 said: "*It might be important to get your*

kid a phone in case they have after-school activities and you need to reach them or you live in the country." She also said: "*I use it (her phone) to call mom when her and grandma stay back at the cabin (while child is out exploring with a friend). Then we text a lot. We tell her what we are doing and when we will be back."* Child 116 suggested that cell phones also allow children to call for a ride if needed: *"I think most children over the age of 9 should have a phone just in case they're out alone or something, they should have a way to like call somebody if they need a ride or something*." Lastly, children reported that access to a phone or other DTM devices used for communication increased their level of and feeling of safety. When asked if phones are necessary for children, child 102 responded: "*Uh, sometimes they could be, like if you're trapped in the snow and there's nobody around you. And those are kinda necessary*." Child 104 said that phones are important for kids to own "*to call 911 and stuff like that".* In response to a question about what makes them feel safe, Child 102 said: "*Um, my iPad because I can text my mom wherever I am*." Child 122 responded: "*My stuffed animals! And for some reason my phone sometimes does because if I know if I need anything I have it*."

3.3.4 DTM contributes to their competence and skill set. Children described some DTM activities as potentially building their technology skills. Child 115 described playing video games to build further gaming skills: "*My brother is like a video game expert…..I can ask my brother if he wants to give me tips on Halo and stuff."* Child 118 discussed building thinking (concentration) skills through video games: "*But I don't play it* (video games) *for fun, I play it for more…I can't really think of the word, but I don't play for like just entertainment. I like to think while playing, because if I don't think about what I'm doing, then I am going to lose over and over again, and I get frustrated*." He also mentioned computers as a tool for education as well as entertainment: "*Books and computers, I believe, they can actually be used as educational*

and entertainments tools….if you have a computer you could use that to teach them how to type so they could get a job. Or you could teach them how or you could use that to find history videos online and teach them about the Louisiana Purchase if they were interested in something like that in early America. Or if they are more interested in something like how civilizations started." In other cases, children said that they felt frustrated when they had insufficient skills to adequately use DTM in particular contexts. Child 104 said: *Some teachers just understand you better. They are like, the PE teachers, when you are ready for those classes they just get you a little better. And then the computer teachers just expect you to do it even though you don't know how*. Child 111 expressed similar feelings of frustration when playing video games: "*Um, I kind of get frustrated when I die a lot. And I get really happy when I get a lot of kills.*" Child 117 indicated that children's access to certain types of DTM should be skill dependent: When the interviewers asked if children should have phones or computers, Child 117 responded: "*It just depends if they know how to run it or like if they are really careful with it, make sure they do not break it*."

4. Discussion

4.1 Children Held Positive Views of Connections Between Their DTM Use and Their SWB

Children recognized that DTM was not an essential component of their well being, like food, water, and shelter, but overwhelmingly included DTM as important for enhancing their well being. They described DTM in nearly all of the positive ways we reviewed in the literature: for entertainment, communication, coping, and as part of their identity. In addition, children described DTM as rewarding and as a resource for providing them with choice and autonomy. One potential positive role of DTM was mostly omitted in children's responses -- the role of

DTM as an educational resource. Children also omitted reference to the negative roles of DTM referenced in other studies, such as the role of DTM in displacing face-to-face interactions, or concerns about cyberbullying and negative content (Brown & Bobkowski, 2011).

4.2 Children Described Hedonic and Eudaimonic Aspects of Their SWB

In this study, children described both hedonic and eudaimonic aspects of their SWB, which aligns with contemporary well-being literature. Hedonic well-being includes positive affect and life satisfaction (Deci & Ryan, 2008; Ryan & Deci, 2001). In this study, two themes arose regarding DTM and children's hedonic SWB. Children felt that DTM use was rewarding and valuable to them, and fostered positive mood when they obtained or used DTM. They also felt that DTM use contributed to their life satisfaction, and described DTM as their hobby or leisure activity that they found enjoyable. Some children used DTM as a way of coping with negative emotions or experiences. These findings are in line with current research which suggests that SWB is related to the quality of the environment, interactions, and relationships in children's immediate settings (Bokhorst et al., 2010; Lawler et al, 2015, 2016; Newland, Coyl, & Chen, 2010; Oberle et al., 2011; Zullig et al., 2005). Its also in line with current research suggesting that DTM use can have positive influences on children's emotions, interactions, and connections with others, thus positively impacting their hedonic SWB (Common Sense Media, 2013; Fitton et al., 2013; Manches et al., 2016; Wilson, 2016).

Children in this study also described eudaimonic aspects of their SWB, which includes growth, fulfillment, and realization of one's potential (Deci & Ryan, 2008; Ryan & Deci, 2001). In this study, four themes emerged related to DTM use and eudaimonic SWB, including connection with others, self-acceptance, autonomy, and competence or skill. These themes align

with four of Ryff and Singer's (2006) dimensions of eudaimonic well-being, including positive relationships, self-acceptance, autonomy, and personal growth. Children felt that DTM use supported their relationships with family and friends, impacted their self descriptions and evaluations, increased their autonomy by proving opportunities for choice, independence, and safe explorations of their environment, and improved them competence and skills. This is in line with current research suggesting that children need a balance between care and protection provided by supportive adults, strong relationships with peers and caregivers, and freedom and autonomy to explore, challenge themselves, and develop a positive sense of individualized self (Andresen, Hurrelmann, & Schneekloth, 2012; Fitton et al., 2013; McAuley, McKeown, & Merriman, 2012; Newland et al., 2013; Oberle et al., 2011).

4.3 Contextual Implications of Findings

Children described a number of ways that DTM use impacted their well-being in the home setting. Children stated that they earned or were rewarded by parents with DTM use and described DTM use as part of their hobbies or leisure activities. It is important for parents to recognize that children may see DTM use as a way of "unwinding" or relaxing during free time (McAuley et al., 2012). Parents have an opportunity to connect with children in meaningful ways while they engage in DTM activities (as opposed to encouraging solitary use of DTM), and can use DTM as a way of positively reinforcing socially-valued behavior in children (McAuley et al., 2012; Newland et al, 2010). Parents can also model appropriate media use so that it does not become consuming, and overshadow other social and educational activities (Common Sense Media, 2016).

Children also described how DTM use in the home supported their family connections,

self-image, autonomy, and competence. This has important implications for parent-child interactions. Parents can learn more about their child's self-image by asking them about their favorite DTM activities, games, and shows. They can create opportunities for child-directed shared DTM use. These kinds of shared family activities and provisions of social support to children can strengthen family bonds and child well-being (Chu et al., 2010; Goswami, 2012; Oberle et al., 2011). Parents can also harness DTM to promote children's increased autonomy, explaining clear guidelines and boundaries for keeping children safe while they are securely exploring away from home and family (Andresen et al., 2012; Newland et al., 2013).

While participants generally failed to identify DTM as playing an important role in their school lives, they did describe DTM as something they valued and enjoyed. Given children's interest in DTM, teachers could look for ways to motivate and engage children during learning experiences. DTM may be a powerful tool for teachers to harness in the classroom, potentially elevating the relevancy of instruction, student learning, and development of 21st Century Skills (Greenhill & Petroff, 2010). As our society has evolved over the last century, knowledge beyond content has increasingly been emphasized and valued for career success and life satisfaction (Darling-Hammond, 2010; Greenhill & Petroff, 2010). This includes skills such as problem-solving, critical thinking, collaboration, communication, technology, information, and media literacy, as well as persistence and grit (Darling-Hammond, 2010; Greenhill & Petroff, 2010; Kay 2010). Individuals with these skills are often sought out and highly valued. As such, it should be the work of teachers to create DTM-rich learning experiences targeting 21st Century Skills to better prepare students for entering college, career, and life with the requisite knowledge and skills needed for success (Greenhill & Petroff, 2010).

Children generally described DTM's role in their peer interactions as a positive influence.

They mentioned connecting with others remotely through DTM, such as texting a friend when they were sad and did not want their mother to know. Traditionally, middle childhood is a time when friendships have been highly dependent on the access to peers granted by caregivers (Hartup, 1984). Children tended to become friends with other children with whom they were in close physical proximity. DTM provides children with access to peers who are not physically present, potentially strengthening friendships between children who have less opportunity for face-to-face contact. One study found that children's ability to connect with in-person friends online was related to less loneliness (Sharabi & Margalit, 2010). However, in that study, online communication with friends that were only known online was related to increased loneliness. In addition, some peer interactions through social media result in cyberbullying, which can be detrimental to children's SWB (Brown & Bobkowski, 2011). Thus, peer communication through DTM may have the potential to both promote and detract from children's subjective well being by way of peer relationships. Children also mentioned using DTM as the focus of shared interactions with friends who were physically present, for example playing games with friends who came over, or playing together with peers on the school bus. Children did not mention displacement of shared face-to-face activities, which are central to their well-being (e.g, McCauley et al., 2012; Pea et al., 2012), but rather reported using DTM as a fun and entertaining activity that enhanced the time they spent together with their peers.

Children did not discuss the role of DTM in their community beyond indirect references via its impact in their peer relationships and their use in school settings. However, children did describe an important aspect of DTM with great potential impact: its role in promoting their safety and autonomy. Over the last few generations parents report that children have increasingly stayed closer to home and explored their communities less frequently, at least in

part due to parent concerns for their safety (e.g., Witten, Kearns, Carroll, Asiasiga, & Tava'e, 2013). The increased access that children have to call their parents when they need a ride, call 911 in an emergency, or look up needed map or transit information may give families a sense of connectedness and safety that will allow children more choice and independence in their exploration of the community.

4.4 Strengths, Weaknesses, and Future Directions

This study has several strengths. It addresses a gap in the research literature by inviting children to share their perspective on the components of and influences on their own well-being, using a strengths-based perspective. While research on children's SWB has increased substantially over the past decade, there is still a lot that is not known regarding contextual and relationship factors that support children's SWB, within and across contexts (Ben-Arieh, 2012; Casas et al., 2012; Chu et al, 2010; Suldo et al., 2009). The phenomenological design of this study is also a strength. By inviting children to provide detailed drawings and descriptions of their well-being and their contexts, this study allowed researchers to explore the meaning and essence of subjective well-being from children's perspectives, without the restriction of quantitative measures. Lastly, this study is unique in that it examines children's DTM use and SWB holistically across contexts, rather than focusing on DTM use in one specific context. Because DTM use occurs across contexts and bi-directionally interacts various microsystems in the child's environment, it should be examined more globally (McHale et al., 2009; Plowman, 2016). As children and adolescents increasingly have access to DTM, is becomes more important to understand how children view DTM within their day-to-day lives, and how it impacts their SWB (Brown & Bobkowski, 2011; Fitton et al., 2013; Hsin et al., 2014; Ofcom, 2015).

This study also has several weaknesses. While our sample size is appropriate for a phenomenological study, and saturation was reached (Creswell, 2013), further work should be done to see if similar themes arise across other samples. There was gender imbalance in this sample with a greater representation of girls than boys, which may also have impacted findings (although gender differences were not identified in the coding and analyses). Children in this study were only sampled from one geographic location in the U.S., and the use of social networks and snowball sampling may have lead to similar types of families being recruited; for example, most children were from households with 2 parents who were married. Children who do not live with both parents, who live in more dangerous neighborhoods, or whose families cannot easily afford DTM, for example, may view the role of DTM in their lives very differently. In addition, because this study was conducted in the U.S., cultural relativism of the findings should be examined by exploring themes identified in samples from other parts of the world. These weaknesses can be addressed by engaging in joint analyses across international samples with other researchers who participated in the multinational comparative qualitative study of children's well-being.

In addition, this study focuses on children's self-reported subjective experiences during interviews and is thus susceptible to a response bias in which children provided the interviewer with information they believed would reflect well on them and their families and affirm a perspective of general social desirability. Researchers attempted to reduce bias by employing a child-centered, participatory technique with open-ended, non-leading questions asked after establishing rapport with children. Children were told there are no right or wrong answers. Even so, response bias may have resulted in the omission of negative information, such as the ways that DTM use may hinder their health or well-being. Children were specifically asked to report

about what made them feel well and good, which directed the interview toward supports rather than detriments to perceived well being. The subjective nature of the reports also limits findings to phenomena of which children are aware, at this age. Future research could include parent report or more objective measures of well being to help determine whether these negative effects are absent or simply not perceived by children of this age. Future work could also examine these constructs in early childhood and adolescent samples.

This study provides the foundation for future research in several areas. Findings from this study suggest that while DTM is not essential, it does serve an important role in children's lives and SWB. However, findings from this study are contextualized to the U.S. convenience sample used and as such, additional inquiry must be completed across diverse samples (e.g. from other countries) to determine the extent of this phenomenon across samples, and to better gauge whether findings are at all generalizable. It would also be important to examine other ways that children experience well-being that are perhaps not connected to the DTM use.

Children in this phenomenological study reported positive views of their SWB linked to their use of DTM. Simply put, DTM mattered to children in terms of both their overall life satisfaction, as well as appraisals of their lives. While the impact of DTM on child life satisfaction may be an expected outcome of DTM usage, the presence of eudaimonic SWB factors was less anticipated and is indicative of the complexities of DTM and children's lives. Specifically, child participants described instances where DTM was impactful regarding their connections to others, self-acceptance, autonomy, as well as their competencies and skills. In most of these instances, children describe positive impacts in these areas, which challenges notions of DTM as a negative factor on child development. Given the lopsided nature of the literature currently focused on the negative aspects of DTM and child development, future

research should be conducted that approaches analyses of DTM and child development from an asset perspective. The authors recommend that future studies examine how SWB outcomes, such as relationships, autonomy, etc., change when DTM is used in positive and contextually productive ways across microsystems, including home, school, with peers, and throughout the community. Having a better understanding of this phenomenon within home settings can provide parents with increased guidance on the selection and use of various DTM with their children that moves beyond hedonic characterizations of SWB. Within school settings, the positive and purposeful use of DTM within curricula and learning experiences could be a way to improve content knowledge and skills, as well as be a way to increase student interest and motivation for learning.

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Table 1

Sample Description

Demographic indicators	
Child	
Age	8.00 to 12.42 years *M* = 10.36 years
Grade	2nd grade =13.6% 3rd grade =18.2% 4th grade = 31.8% 5th grade = 31.8% 6th grade = 4.5%
Gender	31.8% male; 68.2% female
Born in U.S	100%
Spoke English	100%
Race	89% White; 11% other/two or more races
Disability	6.3%
Parent	
Age	27 to 46 years *M* = 37.44 years
Education	9% completed high school 53% some college/four-year degree 38 % graduate or professional degree
Work hours	0-60 hours/week, *M* = 32.44 hours
Family	
Income	12% $20,000–$40,000 18% $40,000–$65,000 70% >$65,000
Structure	91% Child lives with both biological parents 82% Married 95% Siblings
Geographic location	
Population	25% < 1,000 15% 1-5000 20% 5-20,000 5% 20-30,000 5% 30-100,000 30% > 100,000)
Within city limits	75%