The interaction between human development and social media: Implications for School-Based Family Counselors

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In this article the relationship between the development of children and adolescents and social media is explored. Research from current literature is presented regarding the impact of social media on the behavior patterns of youth with emerging data suggesting both positive and negative outcomes. A core point is made that outcomes relate more to the way in which technology and social media are used, rather than to the devices and media themselves. School-Based Family Counselors, as professionals working across multiple contexts of the lives of youths, are identified as occupying a central role in helping children and teens access the positive benefits of social media while protecting them from the risks.

Keywords: social media, school-based family counseling, child and adolescent development

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Introduction
It has long been known and accepted that human development and the multiple contexts of a human's life inform and impact one another. Bronfenbrenner and Morris (2006) have explored human development from the ecological perspective of human beings and the environments in which they live. Reciprocal patterns occur as the human acts upon the specific context, the context adapts and changes, and the now altered context once again acts upon the human. In this way, across time, both humans and their environments develop and change. In the 1950's we passively watched television. We interacted face-to-face with a small group of friends and family; we talked with friends by phone, but rarely at long distance due to expense. We used libraries to secure books and conduct research. In the 1980's the early computers filled entire rooms and data was entered on punch cards. Today, most of us have a computer in our pocket or bag that is much more powerful than those room sized IBM computers of the 1980's. Technology has brought great changes into our lives – both positively and negatively. In the fifteen years since the use of the worldwide web became widespread, we are seeing decreased use and, in some cases, extinction of familiar tools such as the telephone directory, watches,

enforceable copyrights, geographical knowledge, newspapers, the library as we knew it, and familiar study skills such as memorization (Moore, 2009). Looking about, we see evidence of the relationship we humans have with the technological devices we possess and the systems of social media that connect us to those devices.

In this paper, social media is defined as a group of Internet-based applications that allow the creation and exchange of user-created content. The content is created using various digital media technology such as a question-answer database, digital video, blogs, podcasts, forums, review-sites, social networking, digital photography and wikis. The resulting content is shared on various devices such as smart phones and computers, using software that enables collaboration and skill-building. From the perspective of educators and counselors, we view that reciprocal relationship between person and technology as fascinating and of importance. We use our technology, it informs and impacts on us, and the process continues. This interaction between the developing human and technology appears here to stay. What is unique about the period of larger overall social change in which we find ourselves is the significantly fast pace at which change is unfolding. We believe this trend creates major implications for School-Based Family (SBF) Counselors.

Gerrard (2008) defines School-Based Family Counseling (SBFC) as an integration of school counseling and family counseling models, within a broader systems meta-model. The goal is to help the child succeed in school, through working with and among the important people in the child's life. Aligned with positive psychological approaches, SBFC professionals always include collaborative family work to help reinforce positive gains. SBF Counselors work within and among the varying contexts of the developing child and teenager, including the parents, family, teachers, and school environment. They work to strengthen those connections, communication, and relationship abilities in positive ways, as they also work to help minimize the risks youth face. The SBFC model may be applied by any knowledgeable professional trained to work with children and youth; it does not necessarily refer only to counselors, nor does it require administration at a school site. Rather it is considered as work consistent with SBFC if it contains the primary components of the model. (Gerrard, 2008)

Purpose of this article
Firstly, we will explore the current reciprocal relationship between children and teens and the systems of social media that provide them with access to novel modes of connection, communication, and relationship, and to the technological devices which provide that access. We will do so within a specific definition of social media and technology used by us for the purposes of this discussion. Secondly, we will provide data on the impact of this relationship on the current patterns of young people's lives. Thirdly, we will present data suggesting potential positive impacts on youth development that this relationship with social media appears to be fostering. We will follow with data defining the risks and challenges for the developing child and teen, risks that occur within the nature of the developing youth, as well as risks that occur in the environment. Fourthly, we will conclude with implications for the field of SBFC. We will suggest that SBFC professionals have current skill sets that can, and should, be effectively applied to these emerging trends in child and youth development. Gerrard (2008) has pointed out that the skill sets of SBFC counselors are those of the school counselor and family counselor. Finally, we will frame this situation as a paradox involving both opportunity and risk that social

media and technological devices create in young lives. We will encourage increased awareness and commitment on the part of SBFC professionals towards an active role of involvement and leadership in managing these social issues.

The current reciprocal relationship between children, teens and systems of social media
Many prefer to think of technology in broad and general terms. Our work as presented prioritizes social media as the focus of our greatest interest, with technology as the supportive container that has brought social media into our lives. In other words, technology includes the multiple devices such as tablets and smart phones which children and adolescents now use as a daily part of their life.   However, it is the social media that youth access through that technology that is of the greater importance. Sites such as Facebook, Twitter, and My Space offer children and youth novel possibilities for creating connection, communication and relationship - three highly significant components of the developing person's life. Wikipedia is a prime example of social media. It is an Internet application that allows the creation and exchange of user-created data, where knowledge is continuously defined, rewritten and reviewed by the users themselves.   It is widely used around the world as a quick and easy reference tool and often cited in student papers as the only source. Currently, "the English version of Wikipedia alone has over 4,042,767 articles and has over 2.5 billion words, over 50 times as many as the next largest English-language encyclopedia, the Encyclopedia Britannica." (Wikipedia, 2012).

The impact of social media on patterns of young people's lives
Research results on this issue are mixed, and much of it is anecdotal or correlational. Efforts at sound research are complicated by the rapid outdating of findings, due to swift changes in technology. However, with the increased presence of technological devices and social media in the lives of children and youth, SBFC professionals must increase their awareness of this new culture as it impacts on their young client's lives, if they wish to maximize their effectiveness.
The SBFC model has previously been described as multiculturally sensitive (Gerrard & Sorian, 2012). It is apparent that social media and technology constitute a new and specific cultural phenomenon, significantly impacting on the development of children and youth. Those working with the young must challenge themselves to become appropriately knowledgeable around this cultural shift.

Gerrard (2008) identifies SBFC professionals as working with all interpersonal networks of children and youth. The following U.S. statistics call major attention to the scope of social media's influence on the contemporary lives of young people and the people in their interpersonal networks:
- More than 50 percent of the world's population is under 30 years old. (International Data Base World Population by Age and Sex U.S. Census Bureau. n.d.).
- 93% of teens (12-17) go online. (Lenhart, 2010a).
- Of the children aged 0-5 who use the Internet, 80% use it at least once a week. (Lucas Gutnick, 2011).
- Children and teens aged 8-18 average 2 hours and 40 minutes a day on digital media (Lucas Gutnick, 2011).
- Facebook is the most searched term and most visited website of 2011 (Venturebeat, 2011).

- 69 percent of parents are "friends" with their children on social media. (Liberty Mutual Responsibility Project. 2010).
- E-readers have surpassed traditional book sales (Indvik, 2012).

A recent study of children from infancy to eight years (Common Sense Media, 2011) found that over 50% had used a computer and played a video game; 27% had used a mobile device like a smart phone. Digital devices are a part of children's lives in the same way telephones and televisions were present in the lives of their parents and grandparents (Common Sense Media, 2011).

What are the risks of online activity for children and youth?
Awareness and increased education on the part of counselors means being well informed about the online risks that children and youth encounter. The explosion of social media in our lives has resulted in significant concern about new forms of addiction. At this writing, authors of the new revised DSM5 are still debating whether Internet Addiction should be included as a diagnostic category proposed for further study in the 2013 publication. A study at the University of Maryland asked 200 students to give up all media for 24 hours and then report their experiences. Snippets from student reports include the following: "I reached into my pocket at least 30 times to pull out a vibrating phone that wasn't there…", "I felt phantom vibrations all throughout the day…", "I noticed physically, that I began to fidget, as if I was addicted to my iPod" (Morozov, 2010).

Additional concerns around changes in personality patterns are emerging as well. Research across the last decade has suggested that, as a culture, we may be becoming more dependent on instant communication and user-created content, as well as a culture more narcissistically focused on "me" (Morozov, 2010). In 2009, researchers at San Diego State University polled over 1,000 college students and found that "57 per cent believe that their generation uses social networking sites for self-promotion and attention-seeking, while 40 per cent agreed with the statement that 'being self-promoting, narcissistic, overconfident, and attention-seeking is helpful for succeeding in a competitive world" (Morozov, 2012).

Furthermore, it is possible to reinvent our identity regularly on social media sites; narcissism is potentially fed by recorded "likes" and the possibility of a large following of friends. The "like" is the classic example of intermittent reinforcement and, in part, has led to the success of Facebook. Conversely, for a depressed child or youth, a lack of "likes" could confirm a sense of unworthiness. Given that the formation of identity has been identified as a primary developmental task of adolescence (Erikson, 1968), relevant concerns exist about the potential power of social media to impact on the process of healthy identity formation. SBFC practitioners are trained to work across a broad-based meta-model with issues such as addiction, narcissism, depression, low self worth and other patterns suggesting a maladaptive identity formation process (Gerrard, 2008). They are likely to be in a good position to adapt their current skills for successful use with these newer versions of well known problems of children and youth.

In addition to alterations in normative personality development, social media are also implicated in environmental risks that impact on children and youth. The information below highlights data from research on bullying, gaming, sexual predation and risky sexual behavior in children

and teens. Lenhart (2007) states that 1 in 3 teenagers (aged 12-17) have experienced online harassment. Girls are more likely to be victims of cyber-bullying (38% girls vs. 26% boys). 47% of teens (12-17) have uploaded personal photos; 14 % have posted videos. Cyber-bullying is a particularly challenging issue, as the presence of the information posted by the bully in the virtual world is permanently present. Lenhart (2008) offers further data regarding the online gaming patterns of teens. 97% of teens (12 -17) play computer, web, portable or console games. Of those, 27% play games with people they do not know online.

Predators seek vulnerable youths. Wolak, Finkelhor and Ybarra (2008) report that boys who are gay or questioning their sexuality are particularly at risk; 25% of victims are boys and almost all of their offenders are male. Further, 4% of youths received an online sexual solicitation where the solicitor tried to make offline contact. In more than 27% of incidents, solicitors asked youths for sexual photographs of themselves. Sexting is a further extension of texting. Lenhart (2009) indicated that 4% of cell-owning teens (12-17) say that they have sent sexually suggestive nude or semi-nude messages to others via text message. Of cell-owning teens (12-17), 15% say they have received sexually suggestive nude or nearly nude images of someone they know via text messaging on their cell phone (Lenhart, 2009). Overall, Lenhart's data (2010a) indicates that 73% of teens (12-17) have profiles on social networking sites. Of those, 47% have uploaded photos; 14 % have posted videos. This data verifies the pervasiveness of social media in the everyday lives of our children and teens, and the potential for negative outcomes that exists. It becomes even more of a concern when coupled with data from neuroscience (Dahl, 2004; Santrock, 2010) which suggests that maturation of the adolescent brain for tasks of reasoning reaches full development years later than formerly thought, and not until well into the decade of the twenties. Further, the normally functioning adolescent is now understood to make decisions primarily through emotionally based mechanisms. (Kahn, 2009). Rational thought is not, therefore, predominant in the decisions made by many adolescents.   Counselors have long worked with children and youth in the areas of decision- making, responsible behavior, and understanding of level of risk.   Each of these issues involves potential sensitive work, not only with the young client, but also with the parents, families, teachers, and school personnel involved with the child or teen. Once again, the SBFC professional, already adapted to working with all of these interpersonal networks, appears poised to accept these emerging and important tasks.

The prevalence of social media in our lives raises additional interesting questions about its impact upon our learning behavior. Multitasking, and its potential value and cost, is one of these issues. Anecdotal research suggests that using the Internet leads to new skills at the expense of others.   Nicholas Carr asserts that the Internet is "pushing us all in the direction of skimming and scanning and multitasking and it's not encouraging us or even giving us an opportunity to engage in more attentive ways of thinking" (Carr, 2011a). High school students juggle homework, family, and friends, with significant screen time. A 2010 study by the Kaiser Family Foundation on multitasking reported that 8-18 year-olds spend over 7 hours a day using media. As multiple media are used simultaneously, they actually "pack a total of 10 hours and 45 minutes worth of media content into those 7½ hours" (Kaiser Family Foundation 2010). In 2009, Stanford University researchers reported that multi-taskers pay a price. "People who are regularly bombarded with several streams of electronic information do not pay attention, control their memory or switch from one job to another as well as those who prefer to complete one task at a time" (Gorlick, 2009).

Professor Larry Rosen notes that the pervasiveness of technology and social media, coupled with a fear of missing out on something important, has led students to pay "continuous partial attention" to everything. This has resulted in difficulty concentrating deeply on anything. As the brain cannot process two tasks at the same time, a continuous decision making struggle ensues. "There's a brief 'bottleneck' in the prefrontal cortex—the decision making part of the brain—that delays the second task," Rosen says (2012, cited in Sparks, 2012). It remains to be seen how this plays out for SBF Counselors. But we do anticipate that SBFC occupies a potentially important role in guiding the integration of effective student learning with the new media.

Data suggesting positive impacts on youth development
Research from neuroscience is providing counselors with emerging developmental information, necessary for a contemporary understanding of changing child and adolescent patterns of decision-making, responsible behavior, sleep, emotional regulation, and patterns of learning (Dahl, 2004; Kahn, 2009). Today, social media has not only changed our lives and our educational system, but it may be implicated in physical changes in our brains (Carr, 2010b). Across numerous publications researcher, Gary Small (2010) has suggested that frequent Internet use creates distinctive neural pathways. He concludes: "The current explosion of digital technology not only is changing the way we live and communicate, but is rapidly and profoundly altering our brains" (Small, 2007, cited in Carr, 2010b). It is argued that Internet surfing uses much more brain activity than reading. Small concluded: "Internet searching engages complicated brain activity, which may help exercise and improve brain function" (Small, 2007, cited in Champeau, 2008).

New ways of teaching and learning are emerging, based on the new media. The Khan Academy (Khan, 2008), for example, has revolutionized the teaching of math concepts with YouTube videos that reinforce classroom instruction. Social media may give voice to youngsters who might otherwise remain silent as teachers are increasingly engaging students in online discussions and encouraging shy children to gain confidence. Outside school, students can explore ideas in online communities created around specific topics of interest. Carter and Evans (2008) have noted the development of a "community of learners" as an important preventative action towards improving the organizational climate of a school. Teachers and students now appear to have opportunities for creating these communities in virtual form, beyond the typical classroom walls, quickly and easily. These virtual communities provide diverse ideas, opinions and viewpoints beyond most neighborhoods.

Technology is interacting with and impacting on core developmental aspects of the human as a social animal drawn to connection, communication, and relationship. In today's world, where families are often spread across states and even continents, social networks like Facebook make it possible to stay in contact with family members. Social media expand the horizons not only for students but also for the adults around them. The interpersonal networks originally conceptualized by ecological theorists such as Bronfenbrenner and Morris (2006) are now unlimited by time and space. Guiding the young in navigating these larger networks is potentially a task within the skill set of the SBFC professional. Cathy Davidson, the author of the 2011 book *Now you see it: How the brain science of attention will transform the way we live, work, and learn* is quoted by Sarah Sparks in Ed Week as saying:

"Working collaboratively with other students requires intense multitasking, involving negotiating, debating, and explaining while juggling data and class assignments, often via multiple media, such as online video conferencing and texting….We are well trained to a certain kind of attention: task-specific attention, silent and alone….Where in the workplace do we ever do things silently and alone? We live in a connected world." Davidson (2011, cited in Sparks, S, 2012).

Davidson could be describing the non digital methods of collaboration used by SBF Counselors who conceptualize a child's problems in the context of the ecological networks of their lives. It is in the context of this "connected world" that "the SBF Counselor will relate positively with the child's family in order to reinforce positive change with the child." (Gerrard & Sorian, 2012)
The Chinese have a calligraphy character that, according to many, simultaneously represents both crisis and opportunity (Wikipedia, 2012). That, perhaps, is the necessary way to think of this interface between humans, technological devices, and social media. It represents a real and present crisis as well as an incredible ongoing opportunity. Outcomes, both positive and negative, will likely be related to user awareness, education, personal responsibility and control. SBF Counselors can help shape these outcomes by actively involving themselves in awareness raising, education, and the development of personal control and responsibility. Future research will likely demonstrate whether the new media are contributing to, or interfering with, current patterns of learning and achievement, or both. Aware counselors will be actively tracking how the data on social media and learning issues related to use of technology unfold.

While engaged on-line, children and youth are involved in numerous activities, which may offer a sense of connection, communication, and relationship to those engaged. They also consume a great deal of time and energy; time no longer available for other pursuits. Their ongoing development will be shaped by these new ways in which the behavior patterns and use of time are emerging. The SBF Counselor will have the opportunity to help reduce the potential risks that social media presents to children and youth. Conversely, they will also be able to help young clients maximize positive outcomes and opportunities. To do this, counselors must intentionally choose to increase their own levels of awareness and education around social media. This will better enable them to become important advocates and guides, helping students learn the meta-cognitive skills that will enable them to know how to switch their attention between multiple tasks, understand the risks and ramifications of involvement in social media, and reflect before revealing personal information.

The challenge is how to maximize opportunity while minimizing risk. Social media and our patterns of interfacing with them are intertwined; our patterns of behavior are changing, and our brain function may be being altered as well. Just as with the telephone and the television, we are learning that the demon is not the device, but what happens when that device is put in the hands of the user. The outcomes over time of this process of development and technology will likely depend on how we as humans, whether as counselor, teacher, parent or student, manage our present and emerging technology. Seeta Pai of Common Sense Media says: "I think we would all agree that the learning potential and success of any teaching tool - be it a cardboard box or an innovative tech product - depends on who's using it, and how their learning is being supported by the teachers, parents, and friends in their lives." (Pai, 2012). SBFC professionals can be leaders in maximizing opportunity for all students, while minimizing the risk to individual

development.

Implications for School-Based Family Counselors
Today's SBF Counselors will find themselves involved in working with a population significantly impacted by the presence of social media. A previously described training model for SBFC professionals (Carter & Evans, 2004) organizes the use of prevention and postvention activities to facilitate student success. Further discussion of the factors involved in model implementation (Carter & Evans, 2008) suggest it might serve as a useful format in which to organize the SBFC practitioner's efforts at working with the risks and opportunities of the student-social media interface.

Prevention activities often address critical issues emerging in ways that impact on students, families, school and wider community. Social media's impact, which is defined partly through its appeal to all segments of the population, and all interpersonal networks, would appear to be a good fit for prevention activities. Using the large group interactive, audience participation model previously discussed by Carter and Evans (2008), SBFC practitioners could offer workshops, evening and after-school meetings, or other presentations aimed at students, parents, teachers or heterogeneous community groups. These workshops and presentations would be designed to raise the awareness of the audience and to increase their education about the nature and presence of social media in general. These psycho-educational events could go far in minimizing the knowledge gap that currently exists between what Small and Vorgan (2008) have referred to as digital natives and digital immigrants, and might level the general knowledge base around how these popular technological devices function, and how social media are utilized through them. Additionally, educational presentations could be offered to students on the issue of risks now emerging – Internet addiction, gaming, cyber-bullying, predators and sexual risk taking as examples. Counselors are already viewed as skilled in working with issues such as addiction and bullying; therefore this new direction would essentially involve further specialization of already developed skills. Postvention activities, consistent with this model, would involve more specific intervention with an individual child, parents, and teacher, when necessary. They are carried out in a style congruent with positive psychology, emphasizing student strengths, and stressing a collaborative working relationship with those involved. (Carter & Evans, 2008)

As mentioned earlier, the SBFC meta model is considered culturally sensitive (Gerrard, 2008). One of the intriguing aspects of the impact of social media applications is that they are not limited by boundaries of geography, space, or time. That makes the essence of multi-culturally appropriate counseling, as described initially by Sue and Sue (2008) all the more critical. Counselors must be comfortable with the paradox that the risks to youth appear international, but that prevention and postvention strategies must be delivered with extreme cultural sensitivity. Working with parents, teacher, and a youth who is dealing with unwanted repercussions of sexting is likely to be quite different in urban United States, rural Mexico, or Macao. Differences in family religious beliefs or family status patterns are only two of the cultural variables that may be encountered. (Avis, 2009; van Schalkwyk, 2011)

Counselors working with mental health services for children are increasingly adopting collaborative rather than "silo" approaches, as the issues involving children and youth cut

increasingly across ecological networks of life. There is opportunity and the challenge inherent in this situation, which calls on a counselor's willingness to assist these networks of people to communicate successfully across network boundaries. For example, teachers exquisitely skilled in communicating with young children, may feel less secure in collaborating with parents around sensitive issues. Training models exist that can assist in realigning skills. The CORE model of family-school collaboration is one example of such a program (Minke, 2010), which focuses specifically on creating "family friendly" practices.

Douglas Adams writes: *"Technology that existed when we were born seems normal, anything that is developed before we turn 35 is exciting, and whatever comes after that is treated with suspicion"* (Adams, cited in Bell, 2010). SBF Counselors must work in the presence of abundant technology that did not exist when they were born, nor did they grow up with it as "normal". Yet, to be relevant as counselors today, they must be prepared to understand and appropriately interface with the world and technological culture of contemporary children and youth.

Conclusion
The argument is made in this paper that social media and technology have, and will continue to have, a major impact upon the connection, communication, and relationship abilities of children, youth, and adults. Virtually every interpersonal context of life is now significantly impacted. This major social change brings with it both risk and opportunity. The SBF Counselor is uniquely positioned to be an important bridge between the children and youth, the parents and family, and the school and community. SBFC professionals already possess a skill set that will allow them to work successfully with emerging new modes of connection, communication, and relationship, creating prevention and postvention activities that help successfully guide their young clients, and their families, through this time of social change. The genie is out of the bottle. Technology and social media are not going away. What is needed initially is the commitment of counselors to increase their own awareness of this change process, particularly as it is unfolding in their specific cultural setting, and to update their own education so that they can apply their counseling skills to these growing issues. In this way they can be major contributors to helping children and youth find success at school, home, and in their social arenas, by learning to limit the risks and increase the opportunities associated with the presence of social media. We, as adults, cannot remove these devices from the students, nor would we wish to. They and we are too intimately involved with the technology in our lives. This presents new challenge and new opportunity for SBF Counselors.

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