INTRODUCTION

Introduction to this Special Issue: The Internet, cybertechnology and the law

Nearly 10 years ago, one of us (PR) described some of the implications of the Internet and information and communications technology (ICT) for the performance of psychiatric assessment in both clinical and forensic scenarios (Recupero, 2010). Around the same time, this journal explored the intersection between videoconferencing technology and the law (Srinivasaraghavan & Felthous, 2008). Since then, the research base exploring cybertechnology, behavioral sciences, and the law has expanded dramatically, although whether we as "forensic practitioners" have managed to keep up with the pace of modern technology remains debatable.

To appreciate the revolutionary impact that the Internet has had on our day-to-day lives, one need only look at the statistics on computer adoption in U.S. households from the mid-1980s to today. In 1984, only 8% of households in the U.S. had a computer (Ryan & Lewis, 2017). The development and release of the worldwide web ("the Web") is typically dated from around the late 1980s to the mid-1990s (Brügger, 2016). By 2000, half of U.S. households had a computer (Ryan & Lewis, 2017). "Web 2.0" followed soon after in the mid-2000s (Stevenson, 2016), and by 2012, 46% of Americans reported owning a smartphone (Smith, 2012). In 2015, computers (including smartphones) could be found in over 75% of households throughout the U.S. (Ryan & Lewis, 2017). Even the most recent iteration of the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2013) included "Internet gaming disorder" as a condition for further study (pp. 795–798).

In the early days of the Internet, we often looked to cases involving the telephone to determine the legal and ethical implications of modern ICT. For example, if a psychiatrist were held liable for malpractice for failing to respond to a patient's phone call, would failing to respond to an email also be deemed negligent by a court? In those early days, however, we vastly underestimated the disruptive potential that the Internet posed for mental health professionals and the law. How, for example, could we have foreseen the development of social networking sites and the necessity of upgrading our professions' ethical guidelines accordingly? The Internet and cybertechnology have also affected the types of cases that we as forensic mental health professionals will encounter in the future. We may be asked, for example, to consult in cases of sexting among teenagers or to perform a risk assessment in response to threatening comments posted on a Darknet forum.

The hope that cybertechnology could someday help those with psychological difficulties was among the first potential benefits of computers to be noted by early scholars (Colby & Watt, 1966). Today, natural language acquisition and processing are being deployed for similar efforts. Terry and Gunter (this issue, pp. 136–144) describe some of the current applications already available to consumers struggling with behavioral health difficulties, as well as the applicable regulatory concerns and the role of healthcare professionals. Although mobile health (mHealth) applications are proliferating and show considerable promise for helping patients in the future, the empirical research base supporting mobile medical applications for mental health is still lacking (Wiederhold, 2015). Fortunately, there are significant efforts now being put into place for large-scale, longitudinal clinical studies on mHealth and other digital technologies for mental health treatment (Torous, 2017). In the meantime, clinicians, as well as mental health attorneys and forensic professionals will probably find Terry's typology (Terry & Gunter, this issue, pp. 136–144) and Gunter's analysis (this issue, pp. 145–156) helpful.

Digital evidence plays an increasingly prominent role in criminal investigations and prosecution and in civil litigation (Recupero, 2018), but little is known about its use by mental health professionals in the performance of forensic evaluations (Pirelli, Otto, & Estoup, 2016). In an updated survey in this themed issue, Pirelli, Hartigan, and Zapf (pp. 157–169) provide some helpful empirical data regarding forensic professionals' practices and attitudes concerning the use of Internet- and social media-based information about evaluees. Their findings should be helpful to professionals in all fields relating to the law and behavioral sciences, but particularly to those who perform forensic evaluations for courts and other retaining parties.

Several of the articles in this issue touch upon the difficulties posed by inconsistent terminology and definitions in scholarly publications on ICT and human behavior. In their analysis of the legal and ethical issues surrounding the practice of sexting among adolescents, for example, Holoyda, Landess, Sorrentino, and Friedman (this issue, pp. 170–181) describe a wide variety of behaviors that might or might not be termed "sexting," depending upon the person using the term. This inconsistency in terminology is a reflection of the rapid pace of technological change and our sometimes uncoordinated efforts to define and understand the relevant issues.

Information and communications technologies may have fundamentally changed the sociological process of human sexual development and sexual expression (Döring, 2009). Holoyda et al. (this issue, pp. 170–181) discuss the importance of cybertechnology for adolescent sociosexual development today. The difficulties that have arisen among well-meaning adults in addressing Internet- and social media-related risks for children and adolescents underscore the generational divide between those of us who view these technologies as external to human development and so-called "digital natives," for whom technology is an integral part of the developmental process (Akçayır, Dündar, & Akçayır, 2016).

Koops, Dekker, and Briken (this issue, pp. 182–197) review existing academic research on the use of webcams for online sexual activity, noting that surprisingly little has been published on the subject to date. They make a compelling case for the central role of the Internet and webcam technology in the recent spread of human trafficking, an issue that has yet to receive sufficient attention from scientific journals. Although communications technology has influenced human sexual activities for several decades now (e.g., phone sex), the perils of webcam use from a psycholegal perspective have yet to be fully explored.

The use of the Internet by sex offenders was one of the earliest concerns raised by researchers in forensic mental health (see, e.g., McGrath & Casey, 2002). Although popular television shows have contributed to a greater public awareness of the problem, there is a stark need for empirical data regarding the characteristics of victims and offenders, particularly with respect to the production, distribution, and consumption of child pornography. In an earlier issue of this journal, Ray, Kimonis, & Donaghue (2010) noted the potential for Internet-based research to help us understand child pornography offenders. In this issue, Henshaw, Ogloff, and Clough (pp. 198–215) provide a valuable new contribution to this literature, exploring similarities and differences between child exploitation material (i.e., child pornography) offenders and child-contact offenders.

To further study and contrast Internet child pornography offenders with in-person contact child offenders, Ly, Dwyer, and Fedoroff (this issue, pp. 216–234) conducted a literature review. The results provide potentially useful implications for the assessment and treatment of those whose involvement is only online consumption of child pornography, another behavior in need of further research.

Cybertechnology offers additional avenues to improve research into risk factors for sexual offending. The study of pedophilia beyond self-report, for example, has been limited by legitimate ethical concerns regarding the use of images and multimedia involving real children. The production of virtual, computerized images and simulations may provide one avenue for further study, perhaps reducing future harm to children through an improved understanding of pedophilic interests and behaviors in real time (Fromberger, Jordan, and Müller, this issue, pp. 235–244; see also Dombert et al., 2013).

The role of information technology in shaping suicide trends is another area of emerging research. One of several cases that shocked the nation in recent years was *Commonwealth v. Michelle Carter* (2016). One person assisting another in completing suicide, depending upon the circumstances, can constitute a criminal offense such as

involuntary manslaughter (*Persampieri v. Commonwealth*, 1961). Encouraging suicide can be accomplished from miles away in real time though the exchange of text messages with the vulnerable individual, as was the case in the tragic suicide death of 18-year-old Conrad Roy. Michelle Carter's grand jury indictment for involuntary manslaughter under the commonwealth's youth offender statute was upheld by the Supreme Judicial Court of Massachusetts (*Commonwealth v. Michelle Carter*, 2016).

Case reports of suicides in which the Internet played a significant role date from the very earliest days of the Internet (Recupero, 2012), but new developments in the technology and its impact on suicide trends merit further study. Some researchers argue that new media such as social networking may be playing a role in the recent increase in depressive symptoms, suicide-related outcomes, and rates of suicide among adolescents (Twenge, Joiner, Rogers, & Martin, 2018). Others have argued that the process of performing psychological autopsies after suicide must change to incorporate more information from digital media, given the central role that cybertechnology plays in our lives today (Aquila et al., 2017). In this issue, Ortiz and Khin (pp. 245–256) evaluate the phenomenon of suicide contagion as it relates to ICT. Their literature review will be especially helpful to clinicians and consultants in cases where there is a suicide risk. Although it is premature to draw conclusions about the future role of artificial intelligence (AI) in suicide prevention, it bears noting that scholars and media companies are actively pursuing AI-based tools to prospectively identify persons at risk for suicide in the hopes of facilitating early intervention (O'Dea, Larsen, Batterham, Calear, & Christensen, 2017).

Regulatory bodies and professional societies have struggled to match the pace of change in information technology (Drechsler & Kostakis, 2014; Fisher & Appelbaum, 2017; Wadhwa, 2014). Reamer (this issue, pp. 257–269) explores these issues and the impact that the Internet and cybertechnology are having on evolving standards of care for behavioral health professionals. He reviews existing government-based regulatory standards, professional ethical guidelines, and practice standards, such as clinical practice guidelines, and discusses their common ground and the recommendations that have emerged thus far.

Today the forensic relevance of the Internet is evident from the development of the Digital and Multimedia Sciences Section of the American Academy of Forensic Sciences. In forensic psychiatry and psychology the Internet is increasingly being addressed in mainstream texts. A chapter on social media and the Internet has been added to the third edition of *Principles and Practice of Forensic Psychiatry* (Cerny, Smith, & Hatters-Friedman, 2017) and there is a subsection in the text's chapter on criminal responsibility (Felthous, 2017). As already mentioned there is also an introduction to the topic in the latest edition of the *Textbook of Forensic Psychiatry* (Recupero, 2018).

In this Special Issue, researchers from a variety of academic disciplines provide a glimpse into contemporary scholarly research on the ways in which the Internet and cybertechnology are shaping law and human behavior in the early 21st century. The Internet may prove to be a transformative development in the evolution of medicine and behavioral health, perhaps analogous to major scientific advances in the past, such as the discovery of antibiotics and the development of surgical anesthesia. Cybertechnology has had such a dramatic impact on the clinical practice of medicine, for example, that some commentators are even calling for the development of a new specialty, that of the "medical virtualist" (Nochomovitz & Sharma, 2017). We hope this special issue can provide some guidance and reference for practitioners who must deal with the increasing involvement of the Internet in forensic work. May it also serve as a stimulus for much-needed research on the utility and ethics of accessing digitalized information for forensic purposes and on the expanding beneficial and adverse effects of cybertechnology on human health and behavior.

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