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Research article

Social media and gamification: Engaging vulnerable parents in an online evidence-based parenting program☆,☆☆

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ABSTRACT

The aim of this study was to examine the feasibility (accessibility, engagement and impact) of adding social media and gaming features (e.g., social sharing with anonymity, badges to incentivize skills practice, an accredited facilitator for support) and access via smartphones to an evidenced-based parenting program, *Triple P Online*. The highly vulnerable population included 155 disadvantaged, high-risk parents (e.g., 76% had a family annual income of less than $15,000; 41% had been incarcerated; 38% were in drug/alcohol treatment; and 24% had had a child removed due to maltreatment). The ethnic groups most commonly identified were African American (24%) and Hispanic (66%). Respondents were primarily mothers (86%) from five community programs in Los Angeles. The study used a single group repeated measures design (pre, post, 6-month follow-up). Data collected included standardized self-report measures, post-intervention focus groups and interviews, website usage reports, and Google Analytics. Significant multivariate ANOVA time effects were found, demonstrating reductions in child behavioral problems, reduced lax/permissive and over-reactive parenting, and decreased parental stress. No effects were found for parental confidence, attributions, or depression and anxiety (which were in the normal range at baseline). Positive effects were maintained or improved at 6-month follow-up. The participants engaged in the online community and valued its flexibility, anonymity, and shared learning. This foundational implementation trial provides support for future rigorous evaluation of social media and gaming features as a medium for increasing parental engagement in evidence-based parenting programs online—a public health approach to protect and improve the development of vulnerable children.

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Introduction

Improving Child Development

Abuse and neglect are painful realities that can set a child on a negative developmental trajectory toward poor emotional, social, behavioral (Cicchetti & Valentino, 2006), and health outcomes (Felitti et al., 1998). Young children and youth raised in coercive families are at increased risk of serious adult problems including antisocial disorder (Loeber & Farrington, 1998), substance abuse disorders (Mayes & Suchman, 2006), early arrests (Patterson, Reid, & Dishion, 1992), mental illnesses (Keenan, 2000), and to intergenerational cycles of poverty (Zielinski, 2009) and violence (Kaufman & Zigler, 1987; Malinosky-Rummell & Hansen, 1993). It is estimated that 10.2% (Finkelhor, Ormrod, & Turner, 2009) of the child population in the U.S. are victims of maltreatment. Furthermore, Fang, Brown, Florence, and Mercy (2012) argue that the financial burden of child maltreatment is substantial, estimating a lifetime economic burden of new cases in the U.S. in 2008 at $124 billion.

According to the Center for Disease Control (2013), safe, stable, nurturing relationships are essential to prevent child maltreatment and allow children to reach their full potential. Providing high-risk parents with effective parenting interventions is critical to modifying a child's life trajectory (Afifi et al., 2008; Rutter, 2006), including brain development (Luby et al., 2013).

Reaching Vulnerable Families

Reaching vulnerable parents with effective parenting programs is a formidable challenge. Despite the demonstrated effectiveness of evidence-based parenting programs, relatively few families, and even fewer vulnerable families are likely to participate in effective parenting programs (Harachi, Catalano, & Hawkins, 1997), even though they do benefit from them (Heinrichs, Krueger, & Guse, 2006). Required in-person classes may overwhelm parents with multiple logistical difficulties, such as transportation, work schedule conflicts, and childcare (Prinz & Sanders, 2007). Families in which maltreatment occurs are traditionally less likely to participate in community parenting programs and are more likely to drop out if they do (Turner & Sanders, 2006). The stigma surrounding a child's behavioral or emotional disorders constitutes a meaningful barrier to participation due to feelings of "blame and shame" (Corrigan, Watson, & Miller, 2006). Other barriers exist at the agency level such as the high cost of in-person delivery.

Engaging Vulnerable Populations in Low-resourced Communities

The most critical issue, outside of reach, is engagement—the ability to capture parents' attention and to sustain it long enough to expose them to an evidence-based program. Metzler, Sanders, Rusby, and Crowley (2012) asked 158 ethnically diverse parents to rate their preferred formats for receiving parenting information. The most preferred format was television, followed by online programs, written materials, and workshops. The least preferred choices by parents and, paradoxically, the most commonly employed, were in-person parenting groups, individual therapist meetings, and lastly, home visits. Plantin and Daneback (2009) state that the majority of today's parents look for both information and social support on the internet, and that parents want "experience-based advice as well as interacting with other parents" (p. 9). Tate and Zabinski's (Tate & Zabinski, 2004) review of computer and internet applications for psychological treatments argues for using chat rooms for online social support and feedback by both peers and therapists to enhance online education. Online programs have the potential to engage high-risk parents; maximize reach by overcoming barriers such as limited availability of trained professionals, geography, logistics, social stigma and distrust; and lower delivery costs.

Delivering Effective Parenting Support Online

The evidence-based parenting intervention, *Triple P – Positive Parenting Program*, is based on over 40 years of rigorous science and has demonstrated effectiveness in improving parenting skills, parent–child relationship quality, child behavior problems, and family wellbeing as reviewed in multiple meta-analyses (de Graaf, Speetjens, Smit, de Wolff, & Tavecchio, 2008a, 2008b; Fletcher, Freeman, & Matthey, 2011; Nowak & Heinrichs, 2008; Sanders, Kirby, Tellegen, & Day, 2014; Tellegen & Sanders, 2013; Thomas & Zimmer-Gembeck, 2007; Wilson et al., 2012). Furthermore, *Triple P* has been shown to have positive impact on child-maltreatment indicators in a randomized population-level study (Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009). Triple P has variants for parents of children up to 12 years of age, teenagers, and children with disabilities. Its effectiveness has been demonstrated in a range of delivery options from parenting groups and individual family meetings to TV broadcasts, and most recently, in an online delivery format.

An interactive web-based program, *Triple P Online* (TPOL; Turner & Sanders, 2011) has been tested in two randomized controlled trials. One study, involving 116 parents in Australia (Sanders, Baker, & Turner, 2012), found that compared to a computer-use-as-usual control group, TPOL was highly effective, with significant improvements maintained at 6-month follow up on key variables (disruptive child behavior, dysfunctional parenting, parenting confidence, parental anger and inter-parental conflict). The magnitude of these effect sizes was similar to those for in-person group delivery. To explore program delivery modality, a second study (Sanders, Dittman, Farruggia, & Keown, 2014), assigned families of 193 children