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Evidence Considerations for Mobile Devices in the Occupational Therapy Process

Abstract

Mobile app-based device utilization, including smartphones and handheld tablets, suggests a need to evaluate evidence to guide selection and implementation of these devices in the occupational therapy process. The purpose of the research was to explore the current body of evidence in relation to mobile app-based devices and to identify factors in the use of these devices throughout the occupational therapy process. Following review of available occupational therapy profession guidelines, assistive technology literature, and available mobile device research, practitioners using mobile app-based devices in occupational therapy should consider three areas: client needs, practitioner competence, and device factors. The purpose of this guideline is to identify factors in the selection and use of mobile app-based devices throughout the occupational therapy process based on available evidence. Considerations for mobile device implementation during the occupational therapy process is addressed, including evaluating outcomes needs, matching device with the client, and identifying support needs of the client.

Keywords

smartphones, handheld tablets, technology, rehabilitation

Credentials Display

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Background

Mobile app-based devices include iPods, personal digital assistants (PDA), iPads and other tablet devices, e-readers, and smartphones, which are characterized based on the device ability to run third-party software. These devices advance previous technology to include the features of pagers, cell phones, and computers in one portable device. Mobile app-based devices are prevalent among media stories about health care with recent reports identifying exponential growth within the healthcare profession of mobile application use in practice (Batista & Gaglani, 2013). With thousands of medical apps currently available for downloading onto mobile devices, a recent systematic review of healthcare applications for smartphones found only 57 healthcare-based apps addressed in scholarly literature (Mosa, Yoo, & Sheets, 2012). Mobile app-based devices have been the focus of streamlining health records management and outcomes data collection, improving healthcare provider productivity, and providing intervention opportunities for clients of all ages.

Occupational therapy is no exception to mobile app-based device use in practice. In a recent American Occupational Therapy Association (AOTA) blog poll, 53% of respondents indicated using apps at least occasionally in the clinic (Yamkovenko, 2012). New technology is identified by AOTA as an emerging niche within rehabilitation, disability, and participation practice areas. Mobile devices have been the focus of several recent *OT Practice* publications (Aftel, Freeman, Lynn, & Mercer, 2011; Hoesterey &

Chappelle, 2012; Majeski, Olson, & Hartmann, 2011; Waite, 2012) and the AOTA website provides regular updates for the use of apps in occupational therapy (Yamkovenko, n.d.). With the increased interest and attention to mobile app-based devices, occupational therapy practitioners need to begin considering the quality and effectiveness of mobile app-based devices to ensure best practices.

Medical literature among physicians has started to question the need for evidence-based considerations with apps (Buijink, Visser, & Marshall, 2013). Despite the rise in mobile app-based device utilization in rehabilitation practice, little discussion has been given to the evidence available to guide selection and implementation of these devices in the occupational therapy process. The purpose of this paper is twofold: to explore the current body of evidence in relation to mobile app-based devices and to identify factors in the selection and use of mobile app-based devices throughout the occupational therapy process. The following information serves as a guideline to identifying client needs, practitioner skills, and device factors when using mobile app-based devices in occupational therapy.

Evidence to Guide Use of Mobile Technology

Occupational therapy has consistently identified technology as a support for individuals to participate in occupational performance (AOTA, 2010b). Occupational therapy practitioners are dealing with technology in increasing frequency, with advanced accessibility of technology to the general public, particularly smartphones (Lella, 2014). Everyday technology has become an

integral component of occupational performance in the daily lives of most individuals (Lovgreen Engstrom, Lexell, & Larsson Lund, 2010; Rosenberg, Nygard, & Kottorp, 2009). Technology involves a wide range of specialties from low-tech to high-tech devices, which include easily obtained and inexpensive devices to more expensive and specialized devices (Cook & Miller Polgar, 2008). Past research in assistive technology has focused on the devices supporting mobility, communication, home adaptations (smart homes), hearing devices, and vision aids (Anttila, Samuelsson, Salminen, & Brandt, 2012; Lenker, Scherer, Fuhrer, Jutai, & DeRuyter, 2005).

Everyday technology can also be considered assistive technology and includes common technology found in the home, such as audiovisual equipment, appliances, toys, telephones, mobile phones, smart phones, Internet, e-mail, and computers (Lange & Smith, 2002; Rosenberg et al., 2009). Everyday technology provides support for basic activities of daily living, such as personal care, and instrumental activities of daily living, such as work, education, and social participation (Friederich, Bernd, & De Witte, 2010).

Mobile app-based devices, such as smartphones and handheld tablets, can be considered assistive technology devices in that they are pieces of equipment used to improve the functional performance of individuals with disabilities (AOTA, 2010b). The use of mobile app-based devices is relevant for many practice settings across the lifespan. Whatever the setting, technology as intervention within occupational

therapy must maintain the focus on improving an individual's ability to engage in basic and instrumental activities of daily living and enhance one's independence in life roles (AOTA, 2010b).

A systematic review of the literature was conducted to explore evidence as it relates to the use of mobile app-based devices in occupational therapy practice. Databases CINAHL, Cochrane Library, and ERIC, as well as the comprehensive collective database SOLAR, were searched for studies published between 1992 through 2013. Bibliographies of selected studies were reviewed to find additional relevant studies. Hand searches were also completed on technology-specific journals. Search terms for the review included: iPad, occupation*, rehab*, smartphones, apps, personal digital assistances, mobile technology, and assistive technology.

Studies that included the use of mobile app-based devices for rehabilitation evaluation or interventions that related to occupational therapy were included. Personal digital assistants (PDA), predecessors of the smartphone, share many common features of today's mobile app-based devices including connectivity through Bluetooth or Wi-Fi, support of third-party software, and use of applications. Therefore, the evidence review for this paper included the PDA as relevant to mobile app-based devices. Participants of all ages were included in the review and diagnoses were not limited. The studies reviewed within this paper were assessed based on Lieberman and Sheer's (2002) levels of evidence for occupational therapy outcomes research. Studies included were within

Levels I through IV with Level I consisting of randomized control trials or systematic literature reviews, Level II consisting of non-randomized cohort design studies, Level III consisting of non-randomized cross-sectional design studies, and Level IV consisting of single case study designs.

PDA

PDA's have received extensive attention in the research literature with findings suggesting that mobile app-based devices have potential benefits for individuals with cognitive deficits. A Level I systematic literature review of portable device use among individuals with cognitive deficits found the PDA is a useful support for prospective memory (de Joode, van Heugten, Verhey, & van Boxtel, 2010).

Three occupational therapy-specific Level II and Level III design studies assessed the use of the PDA as a training intervention for cognitive support in task management with clients with multiple sclerosis (MS), traumatic brain injury, and autism (Gentry, 2008; Gentry, Wallace, Kvarfordt, & Bodisch Lynch, 2008; Gentry, Wallace, Kvarfordt, & Bodisch Lynch, 2010). Overall, the replacement of paper-and-pencil task management (calendars, contacts, and to-do lists) with the PDA resulted in statistically significant improved self-evaluation of occupational performance and satisfaction with functional performance in everyday life tasks. Each of these studies also included client-centered use of the PDA, which may have improved the clients' outcomes. All three of the studies supported increases in the participants' self-perceptions of occupational performance and increased satisfaction

with everyday life tasks in the areas of mobility, cognition, and social function.

PDA's were also found to be effective as a prompting system to complete individual steps of simple meal preparation tasks in a Level IV multiple probe design study (Mechling, Gast, & Seid, 2009). Participants were found to self-select the types of prompts they received from the PDA with some preferring video, pictures, or auditory prompts. Some participants were also able to reduce the use of the prompts as the cooking tasks progressed. The authors concluded that the PDA with a variety of prompt options was effective in assisting high school participants with autism complete multi-step tasks. As with the previous studies reviewed here, participants were able to use the PDA independently and retained independent use of the PDA over several weeks. The literature reviewed suggests that individuals who have cognitive impairments are able to use the PDA as a task-management tool and that use of the PDA is beneficial to manage everyday life tasks.

Mobile App-Based Devices as Evaluation and Intervention

Limited research was found that addressed current mobile app-based devices, such as smartphones and handheld tablets including iPads and iPods. Two studies were found that utilized iPad in applied research during the occupational therapy process (Tomori, Saito, et al., 2012; Tomori, Uezu, et al., 2012). One study was found that utilized the iPad as a video-modeling tool for social participation, self-cares, and play skills (Cardon, 2012). One study was found that utilized

the iPod Touch to provide prompts and job lists for vocational support (Gentry, Lau, Molinelli, Fallen, & Kriner, 2012). Overall, no follow-up assessments were found resulting in a lack of information about the long-term effects of the use of mobile app-based devices though students in one study retained procedural operation of the device over a two-month time period (Gentry et al., 2010).

An assessment-based app for the iPad, the Aid for Decision-making in Occupation Choice (ADOC) has been the subject of much research in Japan (Tomori, Saito, et al., 2012; Tomori, Uezu, et al., 2012). The ADOC is used as a goal-setting tool between client and occupational therapist by allowing the client to express needs and wants through images displayed on the iPad. The occupational therapist and client then collaborate on establishing priorities for those needs and wants. The app also provides a numeric measure of the client's satisfaction with the selected activities, which allows for reevaluation and objective measure of the client's progress. A Level IV questionnaire design study was completed with 37 occupational therapy practitioners and 94 client participants aged 60 to 80 years in Japan (Tomori, Uezu, et al., 2012). The study was completed to determine the effectiveness of the ADOC app for client-centered goal setting. Both clients and occupational therapy practitioners perceived the ADOC as a valuable shared decision-making tool for client goal setting. Mean measures for both the client participants and the occupational therapy practitioner participants were consistent in finding the ADOC app useful in the interview process to

select occupations and leisure activities and to set client-centered goals for therapy. The ADOC assessment delivered through the iPad app was viewed as an effective tool for empowering clients in the evaluation process and for providing a visual support for expanding occupations during the interview process. An additional study has established the reliability and validity of the ADOC as a measure, though sensitivity to change over time was not measured (Tomori, Saito, et al., 2012). Further research is needed to address cross-cultural validity of the ADOC app.

One Level IV single case design study taught imitation skills via video modeling delivered on the iPad for children with autism (Cardon, 2012). Parents of four participants were trained to utilize the iPad three times per week with their child. Imitation of skills included social participation (e.g., waving hello and good-bye, turn taking), self-cares participation (e.g., brushing teeth, feeding), and play participation (e.g. pencil grip, scissor grasp). Secondary outcomes included the high motivation of the participants to attend to the iPad during interventions. Unmeasured effects were noted from observation of the occupational therapy practitioner working with one child even though occupational therapy was not directly involved in the intervention process. This child was found to have improved pencil grasp and scissor skills 100% of the time using live modeling when occupational therapy resumed following the study.

A recent Level IV case study featured the experiences of three adults with autism who utilized iPod Touch to support job performance (Gentry et

al., 2012). The iPod Touch was programmed for each participant to provide job activity written prompts as well as video prompts. The participants did not require accessibility adaptations to the iPod Touch in order to access the supports. Participants were found to have increased independence in vocational activities resulting in decreased supervised time while on the job.

Client Factors and Performance Skills for Accessing Mobile Devices

While the literature specific to mobile app-based devices is limited, the body of assistive technology literature that addresses everyday technology provides a solid foundation for areas to consider when implementing mobile devices as intervention in the occupational therapy process. The research utilizing the PDA pertains to the newest types of mobile app-based devices due to the similarity between the devices in access and device capabilities. While this literature was not exclusively specific to mobile app-based devices, the information is considered relevant.

Physical mobility limitations were once considered to decrease an individual's ability to access everyday technology, such as computers and cell phones (Burgstahler, Comden, Lee, Arnold, & Brown, 2011). Cell phones and smartphones were found disadvantageous in a systematic review of portable assistive technology due to the small screen size and small buttons as compared to the larger screens found on the PDA (de Joode et al., 2010). However, advances in technology provide multiple accessibility features among mobile app-based devices, including voice-activated controls

and low vision adaptations built directly into the devices. Studies implementing the PDA also found statistically significant improvements in self-evaluated mobility measures for individuals with MS and TBI (Gentry, 2008; Gentry et al., 2008), suggesting that mobile app-based devices may be beneficial in improving these individuals' self-perception of their physical mobility abilities.

Overwhelmingly the literature has focused on the use of mobile devices to support individuals with cognitive impairments with an emphasis on individuals with autism spectrum disorder (Gentry et al., 2012; Gentry et al., 2010; Mechling et al., 2009) and acquired brain injury (DePompei et al., 2008; Gentry et al., 2008; Lindén, Lexell, & Larsson Lund, 2010; Lindqvist & Borell, 2010; Lovgreen Engstrom et al., 2010). Cognitive features may not be considered in the design of everyday technology. Clients may have usable technology; however, deficits, such as impaired memory to retain how to use the technology, decreased attention and concentration, or an inability to remember topics may limit functional outcomes of using the technology (Lindén et al., 2010; Lindqvist & Borell, 2010; Lovgreen Engstrom et al., 2010). Specifically, the use of numbers within the device and the steps for sequencing the functions when using mobile technology was more difficult for individuals with acquired brain injury; technology in this situation did not result in increased occupational performance for the goal-focused task (Lindén et al., 2010; Lindqvist & Borell, 2010; Lovgreen Engstrom et al., 2010).

Though cognitive factors need to be considered in mobile app-based device selection and implementation, cognitive limitations should not deter the use of these devices. Mobile app-based devices may be selected as a modality to improve cognitive functioning. Individuals with cognitive impairments are able to demonstrate independent use of the device within a short intervention period and retain skills for use of the devices over extended periods of time (Gentry, 2008; Gentry et al., 2012; Gentry et al., 2008; Gentry et al., 2010). Mobile app-based devices have demonstrated potential for improving daily function through basic cognitive supports such as day-to-day scheduling and reminders, though use of mobile devices as therapeutic intervention should not be limited to common everyday use of the device.

Fatigue is a factor that needs to be considered when selecting mobile devices for clients, as fatigue was found to limit individuals' use of assistive technology (Lovgreen Engstrom et al., 2010; Muras, Stokes, & Cahill, 2008). Individuals with Parkinson's disease reported significantly low use of assistive technologies, including mobile devices to support personal activities of daily living and home-management tasks and to support cognitive deficits due to increased fatigue (Muras et al., 2008). Mental fatigue may also be a factor in using mobile devices, as individuals work to attend and sequence operating procedures and troubleshoot problems (Lovgreen Engstrom et al., 2010). Actual use of the device may be more fatiguing for the client, and

thus has the potential to minimize the impact for improving occupational performance. The possibility of mobile device use reducing an individual's fatigue for task completion has yet to be explored.

Availability and Necessity of Supports to Use Mobile Devices

Requiring support from another individual for device use may have negative effects on task performance and the individual's sense of self (Lindqvist & Borell, 2010). Others may prefer to complete self-care and home-management tasks with the assist of others rather than rely on assistive technology (Muras et al., 2008). Using a client's own technology that is familiar to the client increases satisfaction with intervention (de Joode et al., 2010; Lindén, Lexell, & Larsson Lund, 2011). Family and caregivers may be using these devices and not considering the benefit that a client may receive from appropriate use of the device (Lindén et al., 2011; Muras et al., 2008). If a client must learn to use a new mobile device that is not familiar to the client, the occupational therapy practitioner should consider whether having another person assist with the device is beneficial or detrimental to the client's sense of self.

Difficulty in using technology may decrease one's sense of self and limit autonomy (Lindén et al., 2010). Independent technology use may be beneficial for an individual's sense of self by enhancing his or her subjective quality of life (Lindén et al., 2010; Scherer, Sax, Vanbiervliet, Cushman, & Scherer, 2005). Focusing on the client's occupational profile and needs while using

evaluation tools for selecting mobile devices may allow the occupational therapy practitioner to consider whether the need for support from another individual with device use will be beneficial or detrimental to a client's overall satisfaction with occupational performance.

Several studies reported the stigma of assistive technology as a hindrance to motivation and participation in use of technology for occupational performance (Burgstahler et al., 2011; Lindén et al., 2010; Muras et al., 2008). However, use of mobile app-based devices was found successful in reducing the stigma associated with using an assistive technology device (Lindén et al., 2011) due to the social acceptability of mobile app-based devices. Further, successful use of assistive technology in general, not specifically mobile app-based devices, may serve as a means to achieve a desired positive occupational self-image (Larsson Lund & Nygard, 2003). Selecting mobile devices as an occupational performance support tool may reduce the stigma associated with the use of other assistive technology and has the potential to increase the client's compliance with task performance.

Occupational Therapy Process with Mobile App-Based Devices

The assistive technology literature and limited mobile app-based literature are used to guide current mobile technology application in occupational therapy. Considering this literature in conjunction with AOTA support of the rapid

development of technology as intervention opportunity leads to the second purpose of this article: identifying how mobile device considerations fit into the occupational therapy process through evaluation, intervention, and outcomes. Further, this section explores specific factors for the client and the occupational therapy practitioner when matching mobile app-based devices to the client.

Evaluation and Outcomes When Implementing Mobile App-Based Devices

Occupational therapy practitioners are an integral part of assistive technology implementation with clients. The *Specialized Knowledge and Skills in Technology and Environmental Interventions for Occupational Therapy Practice* (AOTA, 2010b) should be followed with the use of mobile app-based devices during the occupational therapy process. Figure 1 depicts the process for mobile app-based device selection and implementation within the occupational therapy process. The selection of technology for a client is done only after comprehensive occupational therapy evaluation, which assesses the client's occupational profile and analyzes his or her occupational performance (AOTA, 2010b). Task analysis is also necessary to identify the activity demands of the occupations and identify how the mobile device may best support performance (Gentry et al., 2012). Activity demands should be taken into consideration when beginning the device selection process.

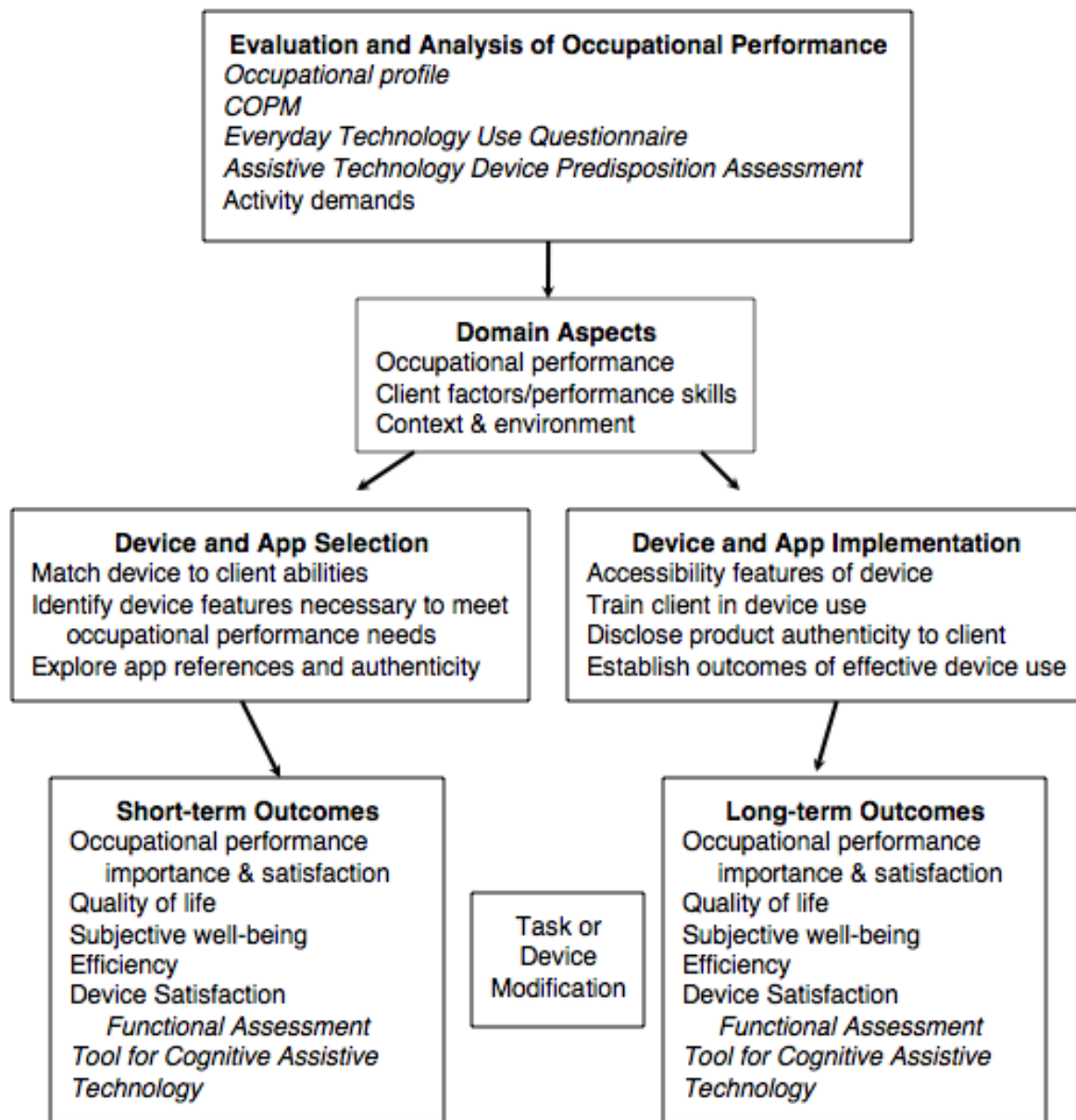


Figure 1. Process for selection and implementation of mobile app-based devices.

The evaluation process may involve a variety of assessment tools that serve as a measure of the effectiveness of the technology intervention. Outcome measures should address the individual's quality of life and the impact of the assistive technology device on the individual's occupational performance (Lenker et al., 2005; Scherer et al., 2005). Outcome measures must be achieved and documented in occupational therapy practice related to the use of mobile app-based devices.

Several standardized and non-standardized assessments are available that focus specifically on technology access and the use of these assessments should be considered during the evaluation process with individuals. The *Everyday Technology Use Questionnaire* (ETUQ) provides a measure of relevant technology accessed and the ease of use of that technology for individuals with mild cognitive impairment or dementia. The ETUQ is a desirable evaluation tool to determine a client's perceived

competence when using everyday technology and could be considered for exploring the appropriateness of mobile app-based devices with a client. The ETUQ has strong reliability and validity when applied with clients who have mild cognitive impairment (Rosenberg et al., 2009) and clients with learning disabilities (Hallgren, Nygard, & Kottorp, 2011). The measure has been found useful across many occupational therapy settings (Rosenberg, 2014). The *Assistive Technology Device Predisposition Assessment* (ATD PA) is a reliable and valid questionnaire measure for client factor self-perceptions, satisfaction with functional performance in various occupational performance areas, and assistive device preferences (Scherer & Craddock, 2002; Scherer et al., 2005). The *Functional Assessment Tool for Cognitive Assistive Technology* (FATCAT) provides a questionnaire to measure technology usage, but reliability and validity data not yet reported for this measure (Gentry et al., 2010). The assessment provides client satisfaction feedback after utilizing a technology intervention and outcomes assessment of effective participant use of the device.

The evaluation of technology needs and goals can also be done through occupation-based assessments. The most frequently reported evaluation measure in recent studies addressing the use of everyday technology is the *Canadian Occupational Performance Measure* (COPM; Gentry et al., 2010; Lindén et al., 2011; Rosenberg et al., 2009). Use of the COPM allows the practitioner to assess the client's satisfaction in

using everyday technology and the importance of the use of such technology for the client. The literature reviewed for the purposes of this article, though limited, consistently suggest mobile app-based devices are most effective when the process for implementation is client-centered. Use of sound outcome measures, such as the ones reviewed in both the mobile app-based device literature and the assistive technology literature, provide appropriate assessment of client needs for mobile app-based device use and can establish the effectiveness of these devices in improving occupational performance.

Matching the Mobile Device to the Client

Occupational therapy has learned from assistive technology research that practitioners must match technology with the client while identifying the contextual uses of that technology (Scherer & Craddock, 2002; Scherer et al., 2005). The same concept should be considered with the implementation of mobile app-based devices and may influence the client's willingness to use the device. The process of choosing a mobile device, including app selection, can be addressed by considering factors for both the client and the occupational therapy practitioner (see Figure 2). Considerations relevant to the client include occupational performance needs, context and environment factors, activity demands, and device features. The occupational therapy practitioner's considerations include knowledge and skills to use technology, evidence for best practice, and legislative and financial issues guiding practice.

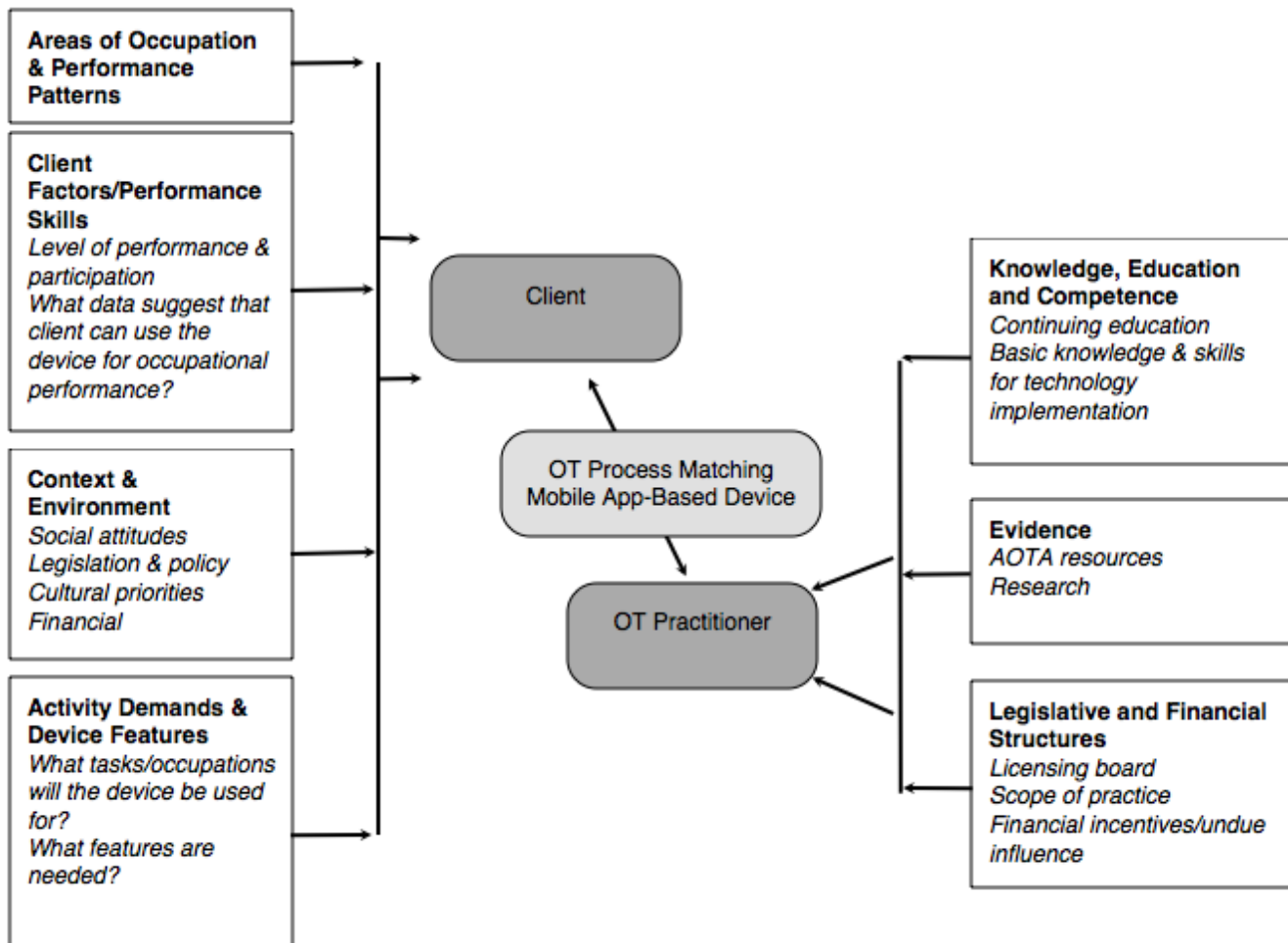


Figure 2. Client and practitioner factors when matching mobile device selection to occupational performance.

Client factors and performance skills such as physical abilities, cognitive skills, and endurance should also be considered when selecting mobile app-based devices (Gentry et al., 2012; Rosenberg, 2014; Rosenberg et al., 2009). Balancing the client factors and performance skills with activity demands for mobile device use can be done through the specific evaluation tools considered earlier in this article. Occupational therapy practitioners should determine what information gathered during the evaluation supports the client’s use of a mobile device and what identifying features of the device

and apps are needed for successful occupational performance.

Considering the cultural and personal context may help to identify the social attitudes of the client and support system that may influence mobile device compliance. Support needs for both technology use and occupational engagement must be considered (Gartland, 2004). The client’s financial resources also should be considered with device implementation, including cost of the device and the apps and access to WiFi for app use.

The occupational therapy practitioner must be knowledgeable in mobile device use and be

aware of the features of apps selected for use with clients. This requires knowledge acquisition by the practitioner to establish competence in the use of mobile app-based devices as a therapeutic intervention. Developing competence in mobile app-based device use for interventions establishes relevance of the practitioner as part of ethical obligations to practice (AOTA, 2010a; Johns, 2010). When considering specific apps to use on the device, practitioners should consider who developed the app and what references were used in the development and testing of the app (Buijink et al., 2013). The implications of using newly emerging technology that is in developing stages of evidence-based support should be fully explained to clients (Johns, 2010). Other ethical issues associated with device use that the practitioner should consider include the safety and well being of the client, transparency of device use through review of evidence, and informed consent of the client.

The environment should also be considered for possible legislation and policy regulating the use of mobile devices as a healthcare intervention. The Federal Drug Administration has determined not to regulate the use of mobile applications at the time of this writing (Halamka, 2011). However, occupational therapy practitioners should remain aware of impending legislative changes, including those that influence funding for the use of mobile devices as intervention.

Implications for Practice

Several implications can be made when considering the evidence reviewed in this article

from the field of assistive technology and the limited literature specific to mobile app-based devices. Practitioners should consider the following three areas as a guide when implementing mobile app-based devices in the occupational therapy process.

- Client centered – Is the mobile device used to facilitate the engagement in meaningful activities and the engagement of life roles that are important to the client? Mobile app-based device use has profound personal implications for an individual both in self-image and in occupational performance engagement. The occupational therapy process must remain focused on the client's own experience of using the mobile app-based devices, not just on the physical accessibility to the device. Occupational therapy practitioners must look beyond engagement of the client as a successful outcome and consider occupational performance gains as the outcome in relation to mobile app-based device effectiveness. Outcomes should be focused on measuring the client's engagement in occupation and how the use of that technology contributes to the client's quality of life. Last, contextual and environmental factors for the client must be considered in terms of social attitudes for use of mobile app-based devices, accessibility to the devices, and

cultural implications for the use of the devices.

- The occupational therapy practitioner's role is to show an individual the possibilities with mobile app-based devices and not to assume the individual knows the potential of the device.

Evidence must be considered for a client to use a mobile app-based device to enhance occupational performance. If the evidence is not available, the occupational therapy practitioner should engage in gathering that evidence to support best practice. A practitioner must carefully examine his or her own reason for using the mobile app-based devices with a client and maintain focus on the client.

- Consider the features of the mobile app-based device and the chosen applications. The practitioner should consider how the device would support the client-selected task or occupation and what accessibility features and additional accessories may be necessary. If the individual has difficulty adapting to new technology, consider the usability of the technology. Safety of mobile app-based devices should be considered with caution for device use that may

negatively influence a client's condition. Infection control precautions should be considered with device sharing. Confidentiality of client information contained within the apps must also be maintained.

Conclusion

While the advances in emerging technology hold promise for healthcare practice, in particular occupational therapy, practitioners must maintain attention to client needs, ethics of technology use in practice, and device options. The literature including mobile app-based devices is limited and one should be cautious in drawing broad conclusions from the information presented. The extensive use of assistive technology within occupational therapy provides a foundation for establishing evidence-based support for use of mobile technology across health care. Current trends in how mobile devices are being used in the occupational therapy process should be the subject of future research. Further, the effects of mobile device use on a client's fatigue levels should be explored. The evidence reviewed here provides a basis for considerations of effective use of mobile app-based devices in practice and for areas of research needed to determine effective occupational therapy intervention in improving occupational performance.

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