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Is there social capital in service exchange tools?: Investigating timebanking use and social capital development

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ABSTRACT

Timebanking is a peer-to-peer service exchange tool in which the services exchanged are valued by the time it takes to provide them. This study complements previous work by empirically examining if timebanking is positively related to social capital development. Grounded in the theoretical model of social capital, the study incorporated self-efficacy and timebanking activities (requests and offers) as predictor variables, trust and reciprocity as dimension variables, and sense of community as outcome variable of social capital. Using data from a survey distributed across the timebanks nationwide ($N = 429$), our findings provided evidence of positive relationships among self-efficacy, requests on timebanks, trust, and sense of community. We conclude that timebanking use is a promising way to develop social capital. Our study contributes to the understanding of social capital development on different mediated platforms. Unlike social network site use, it does not require members to personally construct the networks to reap associated social benefits. Timebanks help connect people, pool resources from the community, and pave the way for trust and reciprocity among members.

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1. Introduction

While people might be familiar with the commercial business models of Uber or Airbnb, timebanks are a unique type of non-profit peer-to-peer system grounded in a similar logic of service exchange. One key difference, however, is that instead of using money, timebanks use time credits for exchanges (Bellotti et al., 2014; Cahn, 2000). This study examined hOurworld.org, which is one of the largest timebank platforms in the U.S. and operates based on the value of coproduction among members in the community. Timebanks that feature coproduction recognize every member's contribution with equal value using time credits and foster active participation in bettering the exchange outcome (Cahn, 2000; Ostrom, 1996).

With time credits, users make exchanges of otherwise idle resources, such as services or skills. For example, Joe can help pick up a prescription for another member on his way to a local drug store and earn time credits; then Joe may spend the time credits on requesting a piano lesson from another member in the community. Each service is posted and reacted to on the timebanking system; each contribution is treated equally, and its value depends solely on how much time is spent on the service.

The underlying principle of timebanking is generalized reciprocity, where the exchange does not have to be mutual but rather, members pay it forward to whoever needs it in the community (Whitham & Clarke, 2016). Grounded in generalized reciprocity, timebanks facilitate the creation of social networks in local communities with each member committing to both providing and requesting services despite the fact that they may not know one another. Given the logic of equal contribution and the encouragement of social interaction, timebanks are proposed to strengthen social connections and community participation (Ostrom, 1996; Ozanne, 2010; Seyfang, 2003). An engaged and sustainable community is a good source of social capital (Putnam, 2000), and the principle of generalized reciprocity that connects and strengthens community networks paves for the development of social capital for members to reap its benefits (Whitham & Clarke, 2016).

Due to its premises and potential, timebanking has gained popularity since its introduction. Timebanks are active in 32 countries worldwide and there are around 500 timebanks across

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600 communities in different states in the U.S.[1]. Much previous research discussed the social capital benefits of timebanking from a theoretical and analytic angle (e.g., Cahn, 2000; Ozanne, 2010; Seyfang, 2004; Whitham & Clarke, 2016). Given its popularity and potential, it is important to empirically examine how social capital is developed through timebanking practice.

A large body of research investigates the use of social network sites like Facebook for social capital development because they allow their users to keep in touch with old friends and maintain relationships with acquaintances; studying social capital embedded in people's *known* networks on social media, be it of close friends or of acquaintances, yields valuable theoretical and technological implications in the existing literature (e.g., Burke, Kraut, & Marlow, 2011; Ellison, Steinfield, & Lampe, 2011; Valenzuela, Park, & Kee, 2009). A study on how social capital can be potentially cultivated on *distributed and less known* networks on service exchange platforms like timebanks is valuable. It may suggest potential access to a wide variety of resources without participants scrupulously building personal networks to access them. It carries promising implications for the underprivileged, the young, and the old because they may face the issue of relatively homogeneous and small social networks, and have limited access to the types of resources that they may need (Collom, 2008; Lasker et al., 2011; M. B.; Marks, 2012). Given the significance, we propose to study timebanking from a social capital perspective to flesh out the benefits of timebanking participation.

Previous studies predominantly theorized the potential of timebanking use for social capital and its associated outcomes. According to Seyfang (2003), people join timebanking for several motivations, such as volunteering, offering informal support to one another in the community, interacting with one another, and earning time credits. The outcomes include implementation and enhancement of public safety (Ostrom, 1996), social policy (Glynos & Speed, 2012), elderly healthcare (Lasker et al., 2011), youth transition support (M. B. Marks, 2012), environmental conservation (Seyfang & Smith, 2002), etc. Less work investigated social capital using quantitative empirical data. So far, only Collom (2008) used timebanking transaction data and social network analysis to study social capital for the older adults based on a stand-alone timebank. Our study complements previous ones on the following regards: 1) we focus on a more general timebanking user pool from timebanks nationwide with diverse demographic backgrounds; 2) an empirical investigation of timebanking use and social capital development is established through survey data; and 3) we examine the impacts of technological mediation on social capital by including different timebanking platforms, such as websites and mobile applications. Our framework draws on social capital perspective that includes predictors, dimensions, and outcome of social capital to provide a comprehensive way of investigating social capital development on timebanks (Narayan & Cassidy, 2001). This study contributes to the theoretical understanding of social capital development among distributed, less known networks mediated by timebanking, especially for under-representative populations.

In addition, the study carries practical implications. The majority of timebanking services are mediated through web platforms. Previous work that investigated different timebanking platforms suggests that mobile applications may better support timebanking participation and engagement because 1) smart phone adoption rate is high, 2) mobile applications are highly integrated in people's daily lives that could alleviate temporal and spatial barriers, and 3) mobile applications increases access and usage with higher mobility, immediacy, and social presence (Han, Shih, Bellotti, & Carroll, 2015; Han, Shih, Rosson, & Carroll, 2014). In this study, the authors want to explore whether users of different timebanking platforms, including its web version and mobile application, engage in timebanking in a way that contributes to different social capital development.

RQ: How do mobile timebanking application users differ from web-timebanking users in social capital development?

1.1. Defining social capital

Social capital is a multidimensional and multilevel construct. It is the sum of tangible and intangible resources derived from people's social connections in their network, which encompasses: 1) network structure; 2) the relationship people have with others in the network, which allows them to access resources they wish to use; and 3) the actual resources in quest/obtained, such as access to novel information, mobilization for collective action, or tangible goods (Adler & Kwon, 2002; Bourdieu, 2010; Portes, 1998). As an expansive, all-inclusive concept, social capital has different interpretations, appropriations, and operationalizations among scholars in different fields because each has its own academic focus (Adler & Kwon, 2002; Burt, 1997; Coleman, 1989; Lin, 1999). For example, the unit of analysis varies: scholars from sociology and economics highlight the *micro* level of social capital in terms of individual access or strategic position in the network for job opportunities (Burt, 2001; Granovetter, 1973). Other scholars from political science or education take social capital at a *macro* or *collective* level that explores how collective assets like social cohesion and community engagement are formed through trust among network members (Coleman, 1989; Putnam, 2000).

In order to theoretically and practically study and operationalize social capital, researchers proposed a framework that includes predictors, dimensions, and outcome of social capital (See Fig. 1) (Narayan & Cassidy, 2001). In the model, *predictors* like empowerment and communication are factors that contribute to the development of social capital. We propose that self-efficacy can be considered as a form of empowerment for social capital predictor because the concept refers to individuals' beliefs in their capacity to deal with issues that happen to them (Bandura, 1977). The model also proposed that communication is the other determinant; given the practice of timebanking, we propose to use requests and offers as proxy for communication on timebanks, as people need to engage in communication during negotiating their exchanges. Next, the *dimensions* or the forms of social capital involve trust and reciprocity in the model. Last, the social *outcome* of social capital in timebanking use is the sense of community. We elaborate each factor in the model in detail and how we draw on Narayan and Cassidy's (2001) model in the following sections.

1.1.1. Social outcome of social capital: sense of community

Sense of community reflects community members' attachment and commitment towards a community, by which members develop the common goal of fulfilling one another's needs (McMillan & Chavis, 1986). It is an outcome for social capital because it entails community participation, a necessary factor for utilization of a range of community assets (Chavis & Wandersman, 1990). Timebanking is a suitable platform for social capital development because it is a community-driven technology. The operation of timebanks is rooted in local community so that exchanges among members are possible. Therefore, the study used this variable as the outcome of social capital.