# The social side of sustainability: Well-being as a driver and an outcome of social relationships and interactions on social networking sites

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## ARTICLE INFO

## ABSTRACT

Although social sustainability involves processes that promote well-being, it is often neglected in the sustainability debate. Social networking sites (SNSs) such as Facebook are now pervasive venues for constant interpersonal communication and interaction, as well as general social connectedness. The debate between cyberoptimists and cyberpessimists about the implications of SNS use for well-being persists. The present study adopts a social sustainability perspective and seeks to further elucidate two competing hypotheses; thus, subjective well-being is included as a driver and an outcome of SNS use and social network characteristics. We conducted a survey of 678 Facebook users across various age categories and then applied a two-step approach to analyze the data. The results reveal that although the structural parameters seem to widely support the social enhancement hypothesis, a more differentiated analysis shows that highly extraverted individuals spend more time on Facebook when they are unhappy. Furthermore, the more time that such extraverts spend on Facebook, the more they believe that it improves their overall well-being. This finding is further supported by our identification of a four-class structure in which a clear distinction of users emerges based on age, gender, and extraversion.

## 1. Introduction

Debates about sustainable development seem to be mainly preoccupied with the economic and environmental dimensions of sustainability and neglect the social aspect (Åhman, 2013; Anand and Sen, 2000; Woodcraft, 2015). Thus, unsurprisingly, the *Report by the Commission on the Measurement of Economic Performance and Social Progress* (Stiglitz et al., 2009) focused primarily on identifying indicators that measure the economic and environmental sustainability of nations to enhance social progress and citizens' well-being. In the *Report of the World Commission on Environment and Development* (WCED, 1987), the commission had already highlighted that economic growth must be "at the same time socially and environmentally sustainable" (p. 6).

In the literature, social sustainability is often linked to urban development and—as a result—focuses on the development of physical spaces that enhance the well-being of individuals. According to Woodcraft (2015: 133), social sustainability is "a process for creating sustainable, successful places that promote well-being by understanding what people need from the places in which they live and work." From this urban life perspective, social sustainability "combines design of the physical realm with design of the social world" (Woodcraft, 2015: 133). However, the notion of providing physical spaces in cities to promote

citizens' well-being can easily be transferred to virtual spaces on social media. With Web 2.0 technologies, individuals can develop and maintain a multitude of social relationships online within dedicated social spaces, including social networking sites (SNSs).

The previous literature has shown that social interactions and connectedness via SNSs such as Facebook increase users' perceptions of their social capital and thus enhance happiness and well-being. However, whereas a considerable stream of literature focuses on the effects of SNS use (e.g., multiple activities and usage intensity) and online social network characteristics (e.g., how many friends a user has) on individual well-being, the direction of the relationship still seems to require clarification (Lou et al., 2012). The literature tracks two competing hypotheses: Whereas the social enhancement hypothesis suggests in our research context that online social networking enhances high levels of well-being, the social compensation hypothesis explains that individuals use SNSs to compensate for their lack of well-being (Lemieux et al., 2013; Valkenburg et al., 2005). These two hypotheses are frequently referred to as *the rich get richer* (i.e., enhancement) and *the poor get richer* (i.e., compensation) hypotheses (Zywica and Danowski, 2008). The former has a long history in the social sciences (and beyond). For example, this hypothesis is also referred to as the "Matthew Effect" (Merton, 1968) or the "Double Jeopardy Effect"

(Ehrenberg et al., 1990; McPhee, 1963), the latter has received less attention in the context of online behaviors.

We seek to further study these opposing hypotheses and to answer the following research questions: (1) Does subjective well-being affect individuals' use and social networking characteristics on SNSs? (2) If so, are those relationships positive (i.e., social enhancement) or negative (i.e., social compensation)? Furthermore, following the rationale of self-determination theory that not only addresses the triggers of goal-directed behavior but also defines experiential outcomes (Sheldon and Gunz, 2009), we seek to answer the following question: (3) Do individuals evaluate SNS use as beneficial for their (offline) life? Finally, based on equity as one of the main principles of social sustainability (Anand and Sen, 1996), we examine whether all individuals benefit equally from social interactions on SNSs. Extraversion implies an energetic approach toward the social world and usually includes traits such as sociability, activity, assertiveness, and positive emotionality (John and Srivastava, 1999). As previous studies examined the effects of extraversion on well-being (Lee et al., 2008) and on SNS-related activities (Ryan and Xenos, 2011), the question is whether all individuals—extraverts and introverts—benefit equally from SNS activities. Thus, we attempt to answer a fourth question: (4) Do different factors (i.e., age, gender, and extraversion) affect the different stated relationships, and if so, how?

To answer the four general research questions, we conducted a study of 678 Facebook users to test the expected relationships using our model. With that aim in mind and due to the lack of a clear consensus on the direction of the relationships between well-being and SNS use, we applied partial least squares structural equation modeling (PLS-SEM). We expected that PLS-SEM would be better adapted to exploratory research objectives than covariance-based structural equation modeling (CB-SEM; (Hair et al., 2011, 2014). The general results seem to support *the rich get richer* hypothesis: Subjective well-being is positively associated with SNS uses (i.e., the different activities on SNSs, such as commenting, sharing, and posting updates) and with the respondents' general perceived usage level. In turn, subjective well-being does not affect the amount of time actually spent on Facebook. The observed social network characteristics, including the quality (i.e., intimacy with SNS friends) and quantity of users' network characteristics (i.e., number of SNS friends), are not related to subjective well-being as an antecedent. However, these characteristics significantly and negatively affect respondents' evaluation of the impact that Facebook has on their (offline) well-being. Furthermore, several multiple-group analyses revealed significant differences between younger and older users, between men and women, and between highly and moderately extraverted individuals. Finally, latent profile analysis further assessed differences across individuals and provided additional support for the relationships observed in the model.

The findings shed light on the competing hypotheses of social enhancement versus social compensation in the context of social interactions on SNSs and contribute to understanding of subjective well-being as a driver or as an outcome of those interactions. To the best of our knowledge, the present research is the first to empirically assess the competing hypotheses in a large study. So far, only two studies (Bhattacharjee and Mogilner, 2014; Sheldon et al., 2011) included well-being-related factors as drivers and outcomes of online social networking activities, but do not provide a picture of well-being and a simultaneous analysis of the competing hypotheses. Additionally, the research includes three potential moderators—age, gender, and extraversion—and therefore responds to recent calls for research on the effects of individual differences on expected relationships (Sheldon et al., 2011) and to the question if all users benefit equally from SNS. Thus, we contribute to the sustainable development literature by focusing on an often-neglected dimension of sustainability: social sustainability. In our research, the social side of sustainability is also transferred from urban development and physical spaces to virtual spaces.

## 2. Conceptual background

### 2.1. Social sustainability

Since the late 1980s, the sustainability debate has focused on ecological and more recently, economic perspectives (Åhman, 2013) leading to a lack of theoretical and empirical studies on the third and often neglected dimension of sustainable development: social sustainability (Eizenberg and Jabareen, 2017). As the literature until recently neglected the social dimension of sustainable development, some confusion still exists regarding a clear definition of social sustainability (Eizenberg and Jabareen, 2017; Vallance et al., 2011; Woodcraft, 2015). In an attempt to clarify social sustainability, Vallance et al. (2011) identified three main streams in the literature: development, maintenance, and bridge social sustainability. While the last—bridge social sustainability—explicitly links social sustainability to its ecological counterpart and "explores ways of promoting eco-friendly behaviour or stronger environmental ethics" (Vallance et al., 2011: 344), development and maintenance social sustainability, in particular, include intangible growth outcomes of sustainable development. Development social sustainability argues that access to potable water or healthy food (as well as education, equity, and justice) will help countries and societies develop and highlights the role of sustainable development and growth in developing countries. Maintenance social sustainability is related to practices, preferences, and places individuals would like to see sustained or maintained (Vallance et al., 2011). The strand of literature of urban development and the conception of cities as social places is one of the most evolved disciplines focused on social sustainability (Eizenberg and Jabareen, 2017). This stream defines (maintenance) social sustainability as a "process for creating sustainable, successful places that promote well-being by understanding what people need from places in which they live and work" (Woodcraft, 2015: 133). From this perspective, maintenance social sustainability deals with individuals' and communities' well-being, social networks, and pleasant work and living spaces (Vallance et al., 2011). The focus on well-being and the development and maintenance of pleasant work and living spaces highlight the social side of sustainability as the goal of growth extends beyond its economic understanding.

Within this nascent field of conceptual and empirical research on maintenance social sustainability, the present research emphasizes that work and living spaces and social networks can be developed, maintained, and leveraged to achieve higher levels of well-being not only in physical spaces such as cities but also in virtual spaces online. Virtual spaces such as SNSs like Facebook are to some extent work and living spaces. For example, 79% of U.S. American adults use Facebook of whom 76% use the site on a daily basis (Greenwood et al., 2016) and spend—on average—around 50 min per day on the SNS or its platforms Instagram and Messenger (Stewart, 2016). According to the U.S. Bureau of Labor Statistics (https://www.bls.gov/tus/charts/leisure.htm), U.S. Americans spend more time only on watching TV (2 h and 47 min) and spend less time on reading (19 min) of sports (18 min) than on Facebook and its platforms. Therefore, today virtual spaces such as Facebook present one of the major work and living spaces of individuals. Studies on social sustainability should include those spaces and assess the effects on well-being. Equity is probably the most widely known representative principle within the social sustainability literature (Eizenberg and Jabareen, 2017) and states that everyone should benefit in the same way from approaches that enhance social sustainability (Anand and Sen, 1996).

### 2.2. SNSs and their effects on well-being

The pervasiveness of the Internet and SNSs such as Facebook has led to the development of a growing literature researching the effects of the Internet and SNS use on well-being and related outcomes (cf. Fig. 1). The first stream of studies can be summarized as seeking to validate or