“Texting while walking” has emerged as a recent social issue (Sankei Shimbun, 2014). Being immersed in smartphones in a public space diverts attentions from surroundings and may cause serious accidents such as falling off a platform and collisions with passengers. In order to understand what psychological factors trigger immersion in smartphones, we examine how narcissism is related to smartphone use in a subway. Previous studies have revealed that both individual narcissism and narcissistic environments promote immersion in social network games (Kato & Igarashi, 2014; Kato, Igarashi, & Kiyokawa, 2014), yet narcissism has not been clearly identified as a key factor of immersion in general smartphone use in public places.

Campbell (1999) showed that people high in narcissism tend to look attractive and dress up in their appearance. Therefore, this study adapts an observation method to judge the degree of immersion in smartphones in public and the level of narcissism from appearance, and examines the relationships between immersion and narcissism.

Method

Following the technique used in Kitaori & Onoda (2012), a behavioral observation was carried out in Higashiyama Subway Line in Nagoya, Japan. Targets were 76 out-of-uniform passengers using smartphones between Motoyama and Nagoya stations. To evaluate a variety of targets wearing ordinary clothes, observations were conducted on trains and platforms from 9am to 12pm on Saturdays and Sundays, September 2014. After choosing a target, two observers independently judged each target’s smartphone use and physical attractiveness based on their appearance. The observers were not aware of the purpose of the study. The judgments were recorded by a tablet (ASUS MemoPad HD7) and the data were immediately sent to a crowd storage service (Google Drive) in security.

A checklist for the judgment included the evaluation of each target’s age (10’s to 60’s), sex (male, female), occupation (e.g., office worker, student), and situations of smartphone use (e.g., texting while walking, immersion in a smartphone). The contents targets used on their smartphone (e.g., social network games, social networking services) were categorically judged by their hand motion on the screen. These judgment criteria were laid down by a pilot study. The observers also evaluated targets’ physical attractiveness (10 items) and narcissistic appearance (4 items) on a 7-point scale (see Vazire et al., 2008).

Results

Inter-rater agreements. Cohen’s κ was calculated to test inter-rater agreements on the situations and contents of a smartphone in which targets were involved. The situations (e.g., “texting while walking;” “attention to others around;” and “attention to immediate surroundings”) and the content (“social network games”) obtained high agreements (κ > .60) were used in the subsequent analysis. Pearson’s r was also computed to clarify the degree of inter-rater agreements on targets’ physical attractiveness. The items (e.g., “attractiveness;” “always wanting to be a center of attention.”) obtained high agreement rates (r > .40) were served as factors to determine the level of narcissism and used in the subsequent analysis. Physically attractive targets are judged as high in narcissism (r = .43). This trend was consistent with Vazire et al.’s (2008) finding. Table 1 shows polychoric correlation coefficients between targets’ physical appearance (continuous) and situations of smartphone use (categorical) for each observer. Physical attractiveness was positively correlated with the texting-while-walking situation, but negatively correlated with the attention to immediate surroundings. No significant correlation was found between physical attractiveness and the preference for social network games.

Discussion

These findings partially support our prediction that people high in narcissism are immersed in smartphone use in public. Narcissism relates to strong motivations for the enhancement of physical attractiveness so as to get attentions and admirations from others (Campbell, 1999). In other words, smartphones might lead to immersion among those high in narcissism who seek psychological incentives. Future research should further investigate whether the same tendency is found in other public situations.

Table 1

Polychoric Correlations between Targets’ Physical Appearance and Situations of Smartphone Use or Content of Smartphone for Each Observer

|                     | Physical Appearance |
|---------------------|---------------------|
|                      | Expensive clothes   | Appearance requiring a lot of preparation | Attractiveness |
| Situations of Smartphone Use |                      |                                      |               |
| Texting while walking | .24 / .20           | .65† / .47†                       | .53† / .32    |
| Attention to others around | .07 / .17             | -.22 / -.02                      | -.07 / -.09    |
| Attention to immediate surroundings | -.37† / -.39†           | .70† / .48†                    | .37† / .39†    |
| Social network games | -.28† / .16           | -.04 / .05                       | -.07 / .01     |

Note: N = 76, *p < .10, †p < .05, **p < .01. In each cell, left and right side indicates correlation coefficients of each observer. Underlines indicate consistent results between the two observers.

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1 This research was supported by a grant from Japan Internet Safety Promotion Association (JISPA) to the first author.