Personality differences in online and offline self-disclosure preference among adolescents: A person-oriented approach

Wu Chen [a,b,1], Xiao-Chun Xie [c,1], Fan Ping [d], Ming-Zhong Wang [e,*]

[a] School of Marxism, Wuhan University, Wuhan 430072, China
[b] Institute of Developmental and Educational Psychology, Wuhan University, Wuhan 430072, China
[c] Department of Psychology, Renmin University of China, Beijing 100872, China
[d] School of Marxism, Central China Normal University, Wuhan 430079, China
[e] School of Educational Science, Qufu Normal University, Qufu 273165, China

ARTICLE INFO

ABSTRACT

This study analyzed the relationship between adolescents' personality types and their preference for online or offline self-disclosure. A sample of 1644 Chinese adolescents completed offline/online self-disclosure questionnaire, and personality scale (FFI-60). Latent profile analyses were conducted to get the personality types. Results revealed that adolescents' personality could be classified into four types: Overcontrollers, resilients, undercontrollers, and the average. Adolescents with a preference for offline self-disclosure showed a high probability of being resilients, and adolescents with a preference for online self-disclosure showed a high probability to be undercontrollers and overcontrollers. The implications and limitations are discussed.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

Personality traits emphasizing single personality dimensions such as extraversion or agreeableness, are variable oriented, whereas personality types emphasizing the combination of different personality dimensions such as high extraversion and low agreeableness, are person-oriented. Base on Block's (1971) theory of ego resiliency and ego control, Robins, John, Caspi, Moffitt, and Stouthamer-Loeber (1996) classified the Big Five traits into three personality types such as resilients, overcontrollers and undercontrollers. The resilients tend to show low neuroticism and average or high levels of extraversion, openness to experience, agreeableness, and conscientiousness. The overcontrollers are characterized by high neuroticism, agreeableness, and conscientiousness, and high extraversion. The undercontrollers generally display low agreeableness and conscientiousness and high extraversion. Prior research demonstrated that resilients were generally well adjusted, whereas overcontrollers were vulnerable to internalizing symptoms and undercontrollers displayed the most externalizing symptoms (Van den Akker, Deković, Asscher, Shiner, & Prinzie, 2013). These three types of personality have been established in many studies (e.g.

Leikas & Salmela-Aro, 2014), and also have been validated consistently across the cultures and ages (e.g. Specht, Luhmann, & Geiser, 2014).

Self-disclosure is associated with many aspects of adolescents' psychosocial development (Xie, Sun, & Zhou, 2013). Offline self-disclosure is defined as the sharing of thoughts, feelings and experiences with close friends in face-to-face settings (Valkenburg, Sumter, & Peter, 2011). In recent years, the proliferation of computers and smart devices has been accompanied by an increase in online self-disclosure among adolescents all over the world. As the extension of the definition of traditional offline self-disclosure, online self-disclosure can be defined as a variety of cyber behaviors (e.g. instant communication, post in microblog) used to convey information and to maintain communication or to satisfy social needs in cyber space (Xie et al., 2013).

Disclosure preferences are important for understanding both online and offline social behavior. Adolescents tend to be absorbed in excessive online communication given the three most robust adolescent behavioral changes: Increased risk taking, increased sensation seeking, and a move away from parent toward greater peer affiliation (Giedd, 2012). Thus, updated theories and research are required to understand how adolescents' high engagement with the virtual world (e.g. too much online disclosure but lack of offline disclosure) may influence their development (George & Odgers, 2015). However, as Koo, Woo, Yang, and Kwon (2015) noted, many studies on social interaction in online space have not considered the context of social interactions in offline space.

According to Internet paradox (Kraut et al., 1998), excessive use of online communication was associated with declines in individuals'

---

offline communication with family members or friends. Just as Turkle (2011) stated, too much online interaction would interfere with individuals' (especially young people's) ability to achieve closeness in offline relationships. Koo et al. (2015) found that online social behaviors decreased well-being under conditions of low engagement in offline social behaviors. In contrast, a higher level of online social behavior predicted greater well-being among individuals with high engagement in offline social behaviors. Adolescents who spend too much time on online disclosure are characterized as spending time "alone together" and missing out on important offline disclosure and socialization experiences.

Van den Akker et al. (2013) suggested that overcontrollers were vulnerable to internalizing symptoms, and undercontrollers exhibited the most externalizing symptoms. Overcontrollers and undercontrollers were maladjusted. Cyber space provides an alternative environment for self-disclosure, especially for maladjusted individuals (e.g. low self-esteem, social withdrawal and anxiety) (Joinson, McKenna, Postmes, & Reips, 2007). The properties of online space, such as the absence of physical presence, permission for delayed feedback, and greater information manipulation, can help maladjusted adolescents perceive online space as a viable, safe, and efficient context to meet friends, thus enabling them to engage more in online than face-to-face interactions (Joinson et al., 2007). Therefore, we hypothesize that adolescents who prefer online self-disclosure are more likely to be undercontrollers or overcontrollers, whereas adolescents who prefer offline self-disclosure are more likely to be resilients.

2. Method

2.1. Participants and procedure

The present research recruited participants from 36 classes dispersed over 12 middle schools in southwest China. Participants were 1644 adolescents (754 were girls) whose age ranged from 10 to 16 years old ($M_{age} = 13.21 \pm 1.23$ years). The investigation was conducted in classrooms after informed consent was obtained from school authorities and the participants. The study was approved by the Ethical Committee for Scientific Research.

2.2. Measures

2.2.1. The NEO Five-Factor Inventory

Adolescents' personality was assessed by the Chinese version of the NEO Five-Factor Inventory (NEO-FFI; Nie, Lin, Zheng, Ding, & Peng, 2008), which was adapted from the original NEO Five-Factor Inventory (Costa & McCrae, 1992). As the most classic personality questionnaire in China, NEO-FFI-60 has been widely used in measuring Chinese adolescents' personality (e.g. Nie et al., 2008; Nie, Yang, & Zeng, 2011). NEO-FFI includes 60 items, with 12 items for each of the five dimensions. Participants rated the items on a five-point Likert scale (1 = *completely not true* to 5 = *completely true*). In the present study, the Cronbach's α coefficients for extraversion, agreeableness, conscientiousness, neuroticism, and openness were 0.72, 0.64, 0.79, 0.78, and 0.60 respectively.

2.2.2. Online self-disclosure

The 10-item Self-disclosure Index questionnaire (Miller, Berg, & Archer, 1983) was adapted to assess adolescents' online self-disclosure to close friends (Li et al., 2006). Respondents were asked "How much do you usually tell your close friends about your personal habits, worst fears, secrets, etc. when you are on the Internet (online)?" Items were rated on a five-point Likert scale (1 = *never tell to others* to 5 = *tell others in detail*), with higher summary scores on the total scale indicating greater levels of self-disclosure. We found satisfactory reliability and validity for the online self-disclosure to close friends (Cronbach's α = 0.91, $\chi^2/df = 8.45$, CFI = 0.97, RMSEA = 0.067).

2.2.3. Offline self-disclosure

The present study adjusted the items used to measure adolescents' online self-disclosure (Li et al., 2006) by changing the reference to the Internet to a reference to in-person communication (see Valkenburg et al., 2011). We asked adolescents "How much do you usually tell your close friends about your (personal habits, worst fears, secrets, etc.) in face-to-face meetings (offline)?" Items were rated on a five-point Likert scale (1 = *never tell to others* to 5 = *tell others in detail*). We found good levels of reliability and validity for the offline self-disclosure to friends (Cronbach's α = 0.93, $\chi^2/df = 8.03$, CFI = 0.98, RMSEA = 0.065).

3. Results

3.1. Descriptive results

The first step in the analyses was to determine adolescents' self-disclosure preference. Consistent with Valkenburg et al. (2011), we subtracted the offline self-disclosure scores from the online self-disclosure scores, creating a variable that ranged from −4.00 to 4.00. We then calculated the standard error (SE) of this variable and multiplied this SE (0.025) by 1.96 to create a 95% confidence interval (CI; −0.049 to 0.049) for the middle score of the new categorical variable. The newly formed variable had three levels: (a) the lowest score to −0.049 (adolescents who preferred offline self-disclosure), (b) −0.049 to 0.049 (adolescents with no self-disclosure preference), and (c) 0.049 to the highest score (adolescents who preferred online self-disclosure). The number for adolescents who preferred offline self-disclosure, online self-disclosure, and had no preference were 1137 (69.20%), 74 (4.50%), 433 (26.30%), respectively.

3.2. Results of person-oriented analyses

Before conducting the person-oriented analyses we obtained classifications based on personality traits. According to Van den Akker et al. (2013), the scores of each personality trait were first standardized. Latent profile analysis was then executed to analyze the emerging personality types. We next compared the 2-class, 3-class, 4-class, and 5-class models, and the 4-class model was chosen to be the most appropriate model of adolescents' personality types. Table 1 showed the results of the model comparison, and Fig. 1 showed the personality type profile.

According to the characteristics of each personality type and tenets by Van den Akker et al. (2013), we named these four personality types as follows: O*vercontrollers* (6.20%) had high scores for neuroticism, low scores for extraversion, and average scores for the remaining three traits (conscientiousness, agreeableness, and openness to experience); *resilients* (24.80%) had low scores for neuroticism and average scores for the remaining four traits; the *Average* group (64.10%) had average scores for all the five personality traits; and *undercontrollers* (4.90%) had low scores for conscientiousness and agreeableness, and average scores for the remaining three traits (Table 2).

Multiple logistic regression was conducted to analyze the relationship between self-disclosure preference and personality types. Because the largest group of participants had average scores on all the five traits, the average personality type was then taken as the reference group. The

Table 1
Criteria for latent profile models of personality types.

Model	BIC	SSBIC	Entropy	LMR-LRT (*p*-value)	BLRT (*p*-value)
2-class	22,629.03	22,578.20	0.68	<0.001	<0.001
3-class	22,561.73	22,491.84	0.71	0.04	<0.001
4-class	22,516.57	22,427.62	0.70	0.03	<0.001
5-class	22,497.45	22,389.45	0.70	0.06	<0.001

Note. N = 1644.