

## The Role of Machiavellianism and Loneliness in Predicting Self-Disclosure Online

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### Abstract

The present study investigated how Machiavellianism and loneliness are related to different aspects of self-disclosure online among young adults, including honesty, amount, intent, and positive valence. A total of 212 university students aged 18-30 completed four self-report questionnaires. The results confirmed the role of Machiavellianism and loneliness as predictors of distinct aspects of self-disclosure online, suggesting that Machiavellianism, but not loneliness, leads to strategic self-disclosures online. Specifically, Machiavellianism negatively predicted honesty of self-disclosure online, and loneliness positively predicted its amount and positive valence. No mediating effects of loneliness on the relationship between Machiavellianism and honesty of self-disclosure were found.

**Key words:** *Machiavellianism; loneliness; self-disclosure online*

### Introduction

Self-disclosure refers to an interactive, mostly reciprocal process of revealing personal information about oneself to at least one person, usually using verbal messages (Greene, Derlega, & Mathews, 2006). Previous studies on self-disclosure in computer-mediated communication (CMC) demonstrated its ambiguous nature. On the one hand, self-disclosure online plays a significant, positive role in forming interpersonal relationships and could be more honest and more profound than in face-to-face (FtF) interactions due to increased anonymity on the Internet.

On the other, it might take the form of strategic, self-serving self-presentation and self-promotion online, resulting in exploiting the partner of interaction or excessive use of social media (Gibbs, Heino, & Ellison, 2006). Thus, to prevent the potential negative consequences of self-disclosure online, in particular in young adults, it seems important to better understand the role of dark-side personality traits, which might lead to strategic self-disclosure online, such as Machiavellianism, and the role of variables indicating problems in interpersonal relationships, such as loneliness (Scott et al., 2018). However, previous studies on the antecedents of self-disclosure online assert its associations with positive (bright) personality traits, perceived as socially desirable and adaptive, and the research on the relationships between dark-side dispositional constructs and self-disclosure online is limited (Fox, & Rooney, 2015). In addition, as most studies on Machiavellianism and self-disclosure refer to the offline communication context, the associations between both constructs in online social interactions seem understudied. Moreover, the mechanisms underlying self-disclosures online among young individuals high in Machiavellianism, especially those involving loneliness, have not been thoroughly investigated.

Thus, the present study concentrated on investigating the relationships between Machiavellianism, loneliness, and different aspects of self-disclosure online in young adults. In line with the conceptual framework proposed by Gibbs et al. (2006), self-disclosure online was conceptualized as a multidimensional construct, encompassing four dimensions, such as honesty (accuracy of self-disclosure), amount (quantity of information disclosed), conscientious intent (the extent to which self-disclosures are deliberate) and positive valence (the positivity of information revealed). It was expected that such an empirical approach might provide additional insight into the nature of Machiavellian self-disclosure online and help to understand better how these dark personalities strategically engage in impression management on the Internet by revealing personal facts online. As Machiavellianism could lead to different negative outcomes or self-serving behaviors online (Abell, & Brewer, 2014), understanding how young individuals high in this personality trait reveal personal information online might be crucial for preventing potential detrimental effects of their self-presentation behaviors on the Internet, including those related to various aspects of self-disclosure online. In addition, examining how loneliness contributes to Machiavellian self-disclosures online might help identify mechanisms underlying self-disclosure online among individuals high in Machiavellianism.

### **Literature Review**

Machiavellianism, which is considered as a prototypical dark personality trait, comprising a tendency to manipulate others accompanied by a cynical worldview, pragmatic morality, and emotional detachment (Christie, & Geis, 1970; Jones, & Paulhus, 2009), might play a crucial role as an antecedent of self-disclosure online. As those high in Machiavellianism tend to use the Internet for self-presentation purposes (Abell, & Brewer, 2014; Sherry et al., 2006), they could apply self-disclosure online as an impression management strategy. Accordingly, previous research on self-disclosure offline identified it as one of the influence tactics applied by highly Machiavellian individuals (Jones, & Paulhus, 2009), who strategically reveal personal information about the self to control interpersonal relationships or use self-disclosure as an impression management strategy in FtF interactions (Brown, & Guy, 1983; O'Connor, & Simms, 1990). In particular, Machiavellianism positively predicted nondisclosure of imperfections, indicating that Machiavellian individuals employ perfectionistic self-presentation tactics offline to conceal their weaknesses from others (Sherry et al., 2006). Machiavellianism was also negatively correlated with honesty of self-disclosure in friendship dyads in FtF communication and unrelated to the amount of self-disclosure in offline interactions (Brewer, Abell, & Lyons, 2014). Given cynicism and emotional deficits accompanying Machiavellianism (Jones, & Paulhus, 2009), these results might indicate that Machiavellians consider dishonesty in interpersonal relations a useful and effective strategy to maintain control in social interactions, and their self-disclosures online could be more strategic, namely less honest.

Loneliness is defined as a state of subjective social isolation reflecting the perceived disparity between the existing and desirable social relations (De Jong Gierveld, & Van Tilburg, 1999). Previous studies on how lonely people reveal personal information using social networking sites (SNS) are inconsistent. So far, most research has demonstrated positive associations between loneliness and the amount of personal information disclosed online (Al-Saggaf, & Nielsen, 2014). As using the Internet for communication purposes might help to reduce loneliness (Shaw, & Gant, 2002), lonely people seem to more often disclose online to cope with their loneliness or compensate problems in offline interpersonal relationships by seeking social support on the Internet (Lee, Noh, & Koo, 2013). Alternatively, some empirical evidence indicated that lonely individuals might display concerns about self-disclosure online, manifesting in the lower frequency of posting some types of photos online (Scott et al., 2018). In addition, due to the lower trust in others displayed by lonely individuals, greater loneliness might also lead to more negative and less honest self-disclosure online (Leung, 2002).

Furthermore, loneliness might constitute a potential factor underlying the negative relationship between Machiavellianism and honesty of self-disclosure online. Although not tested as a mediator in previous research, loneliness was negatively associated with honesty of self-disclosure online (Leung, 2002). Additionally, Machiavellianism was negatively linked to honesty of self-disclosure in offline interpersonal relationships (Brewer, Abell, & Lyons, 2014) and honesty of self-promotion online among women (Abell, & Brewer, 2014). Zhang et al. also (2015) demonstrated that loneliness was positively related to Machiavellianism, as emotional deficits among those high in Machiavellianism lead to problems in establishing satisfactory interpersonal relationships and increased their loneliness. Consequently, greater loneliness might prompt them to engage in more dishonest self-promoting activities online to reduce experienced loneliness. Thus, higher loneliness, reported by individuals high in Machiavellianism, might lead them to more dishonest self-disclosures online.

## **Methods**

### **General Background of Research**

The present study aimed to determine how Machiavellianism and loneliness are related to four subdimensions (honesty, amount, intent, positive valence) of self-disclosure online among young adults. Thus, the direct associations between Machiavellianism, loneliness and different aspects of self-disclosure online were examined, and the indirect effect of loneliness on the relationship between Machiavellianism and honesty of self-disclosure online were tested. It was hypothesized that: Machiavellianism would be negatively related to honesty of self-disclosure online (Hypothesis 1), loneliness would be positively related to the amount of self-disclosure online, and negatively to its honesty and positive valence (Hypothesis 2), loneliness would mediate the relationship between Machiavellianism and honesty of self-disclosure online (Hypothesis 3).

### **Sample of Research**

The sample comprised 212 young adults, including 160 women (79.7%) and 42 men (19.8%) who ranged in age from 18 to 30 ( $M = 22.03$ ;  $SD = 1.97$ ). A priori power analysis performed with the use of G\*Power 3.1.9.4 for the multiple linear regression model with 5 predictors indicated that the minimal sample size was 138 for an error probability of .05, statistical power of .95, and medium effect size ( $f^2 = .15$ ). Thus, the sample size of 212 participants was adequate for the present

study. In terms of time spent online, 60 participants (20.03%) reported spending more than 3 h per day communicating with others using the Internet, 42 (19.8%) spent 2 to 3 h, 45 (21.2%) spent 1 to 2 h, 37 (17.5%) spent between 31 and 60 min, 24 (11.3%) spent between 10 to 30 min, and 4 (1.9%) spent less than 10 min daily. Given the effects of gender on Machiavellian self-disclosure offline (Brown, & Guy, 1983; O'Connor, & Simms, 1990) and self-promotional activities online (Abell, & Brewer, 2014), and the role of age and time spent online in online self-presentation (Fox, & Rooney, 2015), these three demographic variables were controlled in the subsequent statistical analyses.

### **Instrument and Procedures**

As negative consequences of cyber-communication affect in particular young people (Juszczyk, 2015), and self-disclosure online is common in this age group (Leung, 2002), university students in young adulthood were recruited in this study. All participants were enlisted individually from various universities in Poland. Participation in the study was voluntary, anonymous, and respondents were offered no financial compensation. The study was conducted in the university rooms and took approximately 15-20 minutes. Participants received both oral and written instructions, provided demographic information, and completed a battery of self-report measures, including:

**The Machiavellianism Scale MACH IV** (Christie, & Geis, 1970; the Polish version: Pilch, 2008) which is a 20-item measure of Machiavellianism. Each item was rated on a 7-point Likert scale (1 – “strongly disagree”, 7 – “strongly agree”). The scale demonstrated good reliability ( $\alpha = .70$ ).

**The De Jong Gierveld Loneliness Scale DJGLS** (De Jong Gierveld, & Van Tilburg, 1999; the Polish version: Grygiel et al., 2013), which is a 11-item measure of perceived loneliness in interpersonal relationships with a 5-point Likert scale (1 – “strongly yes”, 5 – “strongly no”). The scale had satisfactory reliability ( $\alpha = .89$ ).

**The General Disclosiveness Scale GDS** modified by Gibbs et al. (2006), which is a 16-item measure of four dimensions of self-disclosure online (honesty, amount, intent, positive valence). The scale was translated into Polish using the back-translation method. Items are rated on a 5-point Likert scale (1 – “strongly disagree”, 5 – “strongly agree”). Cronbach's alphas were similar to those obtained in the study by Gibbs et al. (2006), i.e.  $\alpha = .81$  for honesty,  $\alpha = .72$  for amount,  $\alpha = .82$  for intent,  $\alpha = .54$  for positive valence.

## Data Analysis

To test the above hypotheses, the correlation analysis was performed, followed by the multiple linear regression analysis and the mediation analyses based on the PROCESS macro (model 4). All analyses were conducted using IBM SPSS Statistics 26.

## Results of Research

Descriptive statistics and Spearman's correlations between the study variables are reported in Table 1. Machiavellianism was negatively correlated with honesty of self-disclosure online, and positively with loneliness. In turn, loneliness was positively associated with the amount of self-disclosure online and negatively with its positive valence. The correlation between loneliness and honesty of self-disclosure was insignificant, suggesting no mediating effects of loneliness on the relationship between Machiavellianism and honesty of self-disclosure online.

**Table 1.** Descriptive statistics and intercorrelations among the study variables.

Variable	1	2	3	4	5	6	7	8	9
1. Age	-								
2. Gender	.06	-							
3. Time spent online	-.28***	.000	-						
4. Machiavellianism	-.03	.19**	.11	-					
5. Loneliness	.03	.12	-.11	.19**	-				
6. Honesty	.02	-.09	-.09	-.21**	.03	-			
7. Amount	-.01	.07	.21**	.05	.19**	.24***	-		
8. Intent	-.20**	-.18*	.03	-.15	-.12	.18*	-.13	-	
9. Valence	.04	-.08	.07	.01	-.16*	-.11	-.09	.11	-

Gender coded: 0 = female, 1 = male; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

Four multiple regression analyses were conducted to predict distinct dimensions of self-disclosure online. In all models, gender, age and time spent online were entered as control variables, whereas Machiavellianism and loneliness were included as the main predictors. As shown in Table 2, the first three models were significant. For honesty of self-disclosure, Machiavellianism was the only significant negative predictor, and the regression model accounted for 4% of the variance. With loneliness and time spent online being the positive predictors, the

second model accounted for 8% variance in the amount of self-disclosure. For conscientious intent, age emerged as a significant negative predictor. The tested model accounted for 6% of the explained variance in intent of self-disclosure online. The fourth model, predicting positive valence of self-disclosure online, was insignificant.

**Table 2.** Multiple regression analyses predicting dimensions of self-disclosure online

Variable	Honesty		Amount		Intent		Valence	
	B(SE)	$\beta$	B(SE)	$\beta$	B(SE)	$\beta$	B(SE)	$\beta$
Age	.08(.18)	.03	.17(.14)	.08	-.21(.07)	-.22**	.05(.06)	.06
Gender	-1.07(.86)	-.09	.37(.68)	.04	-.50(.32)	-.11	-.31(.28)	-.08
Time spent online	-.15(.25)	-.04	.71(.20)	.26***	-.05(.09)	-.04	.11(.08)	.10
Machiavellianism	-.09(.03)	-.21**	-.01(.02)	-.03	-.02(.01)	-.10	.01(.01)	.05
Loneliness	.04(.04)	.06	.10(.03)	.22**	-.01(.02)	-.05	-.03(.01)	-.15*
R2	.04		.10		.06		.02	
F(5, 206)	2.80**		4.65***		3.50**		1.78	

Gender coded: 0 = female, 1 = male; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

To investigate the mediating role of loneliness in the relationship between Machiavellianism and honesty of self-disclosure online, the PROCESS procedure was applied. This analysis was performed with the use of bias-corrected bootstrapping method with 95% confidence intervals and 5,000 resamples. Machiavellianism was positively related to loneliness ( $B = .11$ ,  $SE = .05$ ,  $t = 2.29$ ,  $p < .05$ ). However, the relationship between loneliness and honesty was insignificant ( $B = .03$ ,  $SE = .04$ ,  $t = 0.88$ ,  $p > .05$ ), and the negative association between Machiavellianism and honesty ( $B = -.09$ ,  $SE = .03$ ,  $t = -3.32$ ,  $p < .01$ ) marginally increased after entering loneliness in the model ( $B = -.10$ ,  $SE = .03$ ,  $t = -3.42$ ,  $p < .001$ ). The total indirect effect of Machiavellianism on honesty of self-disclosure online was insignificant (point estimate for indirect effect = .00,  $SE = .01$ , 95% CI = -.001, .003), indicating that the relationship between Machiavellianism and honesty of self-disclosure online was not mediated by loneliness.

## **Discussion**

In the present study, Hypothesis 1 referring to the relationship between Machiavellianism and honesty of self-disclosure online was fully supported, as Machiavellianism negatively predicted this dimension of self-disclosure online. These results are consistent with past research concerning the associations between Machiavellianism and self-disclosure offline (Brewer et al., 2014) and suggest that, as in the case of FtF interactions, those high in Machiavellianism apply less honest self-disclosures online as an influence tactic, aimed to conceal own weaknesses in interpersonal relationships. Elevated dishonesty might be treated by them as a basic behavioral strategy in interpersonal relations, both in the online and offline context, used to create their own desired image in the eyes of others.

These findings are also consistent with the previous research by Fox and Rooney (2015), according to which those high in Machiavellianism use different interpersonal strategies on the Internet, taking the form of various self-presentation behaviors online. Such strategies might enable them to more effectively manipulate, cheat and exploit the partner of interaction or attract mates (Fox, & Rooney, 2015). Accordingly, individuals high in Machiavellianism might create a more positive self-image online to attract and exploit others through less honest self-disclosures online due to concealing both their weaknesses and selfish, manipulative nature. Thus, Machiavellian self-disclosures online, characterized by higher dishonesty, might have detrimental consequences for the partner of interaction, despite being beneficial for those high in Machiavellianism.

In turn, Hypothesis 2 concerning the direct relationships between loneliness and distinct dimensions of self-disclosure online was partially confirmed, as loneliness was positively linked to the amount of self-disclosure online and negatively to positive valence, and was unrelated to honesty of self-disclosure online. These results are in accordance with previous findings, indicating that lonely people more often engage in self-disclosure on the Internet to reduce perceived loneliness (Shaw, & Gant, 2002) and are more negative in their self-disclosures online (Leung, 2002), and suggest that those high in loneliness do not display the tendency to create favorable but untrue self-image online.

Finally, Hypothesis 3 was not supported, as the test of indirect effects showed that loneliness did not mediate the relationship between Machiavellianism and honesty of self-disclosure online. These results might indicate that the Internet users experiencing increased loneliness try to compensate for their lack of social relations by more intense self-disclosures online rather than engage in strategical

forms of self-disclose online, such as positive, albeit inaccurate, self-presentations on the Internet.

The findings bring some potential implications for the pedagogical and psychological practice, especially for the interventions aimed at minimalizing negative outcomes of self-disclosure online among university students. As the tendency to experience problems in interpersonal relations might be treated as an indicator of loneliness, the lack of mediating effects of this variable on the relationship between Machiavellianism and honesty of self-disclosure suggests that interventions aimed at reducing loneliness among Machiavellian individuals would be ineffective to diminish their tendency to strategic, dishonest self-disclosures online. In contrast, given that Machiavellian self-disclosures online might result in different consequences for the disclosing individual and the partner of interaction, the educators may propose distinct types of interventions in the computer-mediated communication (CMC) depending on the intended group of Internet users. Such interventions could include increasing awareness of the risks associated with self-disclosure online among those low in Machiavellianism and indicating the negative long-term consequences of creating false self-image online for those high in this personality trait.

There are several limitations of the present study. Firstly, this study was cross-sectional and relied solely on self-reported data collected on the sample of mostly female university students in young adulthood. In addition, it involved only self-disclosure online without referring to self-disclosure offline, as in the case of a study by Gibbs et al. (2006). As both constructs are interrelated (Gibbs et al., 2006), future research should also include behavioral or observational measures of self-disclosure online and control self-disclosure offline to understand the nature of Machiavellian self-disclosure better. Additionally, as self-disclosure has a processual character (Greene et al., 2006), analyzing its dynamics in online communication in a longitudinal study would be useful.

## **Conclusions**

Both Machiavellianism and loneliness displayed distinct correlation patterns with different dimensions of self-disclosure online among university students. As hypothesized, Machiavellianism negatively predicted honesty of self-disclosure online, indicating that this personality trait is related to less accurate, strategic forms of self-disclosure. The predictions concerning the relationships between loneliness and different aspects of self-disclosure were partially supported, as

loneliness positively predicted the amount of self-disclosure online and negatively its positive valence. In turn, the hypothesized mediating effects of loneliness on the relationship between Machiavellianism and honesty of self-disclosure online was not confirmed, suggesting that greater loneliness among those high in Machiavellianism was not the factor underlying their increased dishonesty of self-disclosure online. Consequently, future interventions aimed at minimalizing the negative consequence of strategic self-disclosures online among young adults should be designed to affect people differing in their levels of Machiavellianism rather than those who differ in loneliness.

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