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Are Actual and Perceived Intellectual Self-enhancers Evaluated Differently by Social Perceivers?

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Abstract: Do actual and perceived self-enhancement entail differing social impressions (i.e. interpersonal evaluations)? Actual self-enhancement represents unduly positive self-views, as gauged by an objective criterion (in this case, IQ scores), whereas perceived self-enhancement involves the extent to which an individual is seen by informants (i.e. peers or observers) as self-enhancing. In an online survey (N = 337), a laboratory experiment (N = 75), and a round-robin study (N = 183), we tested the effects of actual and perceived intellectual self-enhancement on (informant-rated) emotional stability, social attractiveness, and social influence. Actual self-enhancers were rated as emotionally stable, socially attractive, and socially influential. High perceived self-enhancers were judged as socially influential, whereas low-to-moderate perceived self-enhancers were deemed emotionally stable and socially attractive. Privately entertained, illusory positive (even extreme) self-beliefs confer social benefits, whereas being perceived as self-enhancing buys social influence at the cost of being despised. Copyright © 2013 European Association of Personality Psychology

Key words: self-enhancement; person perception; likability; social influence; emotional stability

Most individuals overestimate their strengths and underestimate or neglect their weaknesses (Alicke & Sedikides, 2009, 2011). But what are the social benefits and costs of self-enhancement? What are the social impressions that self-enhancers convey? These questions carry both theoretical and practical relevance. If self-enhancement entails substantive social benefits (i.e. positive impressions), this may imply that accurate self-perception(i.e. self-assessment; Gregg, Sedikides, & Gebauer, 2011; Sedikides & Strube, 1997) is largely unnecessary for, if not occasionally damaging to, interpersonal functioning. This may also imply that individuals derive social and organizational advantages when they hold or aim for positive, rather than accurate, self-views.

IMPRESSIONS THAT SELF-ENHANCERS GIVE OFF: THEORETICAL PERSPECTIVES

Three theoretical perspectives make divergent predictions about the link between self-enhancement and psychological adjustment, including the social impressions (i.e. interpersonal evaluations) that self-enhancement entails. These are the positive illusions, maladaptive illusions, and optimal margin of illusion perspectives.

According to the *positive illusions* perspective (Taylor & Brown, 1988; Taylor, Lerner, Sherman, Sage, & McDowell, 2003), self-enhancement triggers favourable interpersonal evaluations. Thus, self-enhancing individuals would be judged by informants (i.e. peers or observers) as psychologically healthy, likable, and influential. According to the *maladaptive illusions* perspective (Colvin, Block, & Funder, 1995; John & Robins, 1994), realistic self-perception is a necessary prerequisite for healthy interpersonal functioning. Thus, a self-enhancing individual would be judged by informants as less psychologically healthy, likable, and influential than an individual with an accurate self-view. Finally, according to the *optimal margin of illusion* perspective (Baumeister, 1989; McAllister, Baker, Mannes, Stewart, & Sutherland, 2002), low-to-moderate self-enhancement triggers more favourable interpersonal evaluations than either high self-enhancement or self-effacement. Thus, an individual who self-enhances, but not highly so, would be judged by informants as more psychologically healthy, likable, and influential than either a highly self-enhancing or self-depreciating individual.

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ACTUAL AND PERCEIVED SELF-ENHANCEMENT

We distinguish between actual and perceived self-enhancement. Actual self-enhancement refers to an individual's unduly positive self-views, as gauged by an objective criterion. Intelligence test scores are especially well suited as an objective criterion, given that such scores are valid and reliable indicators of cognitive performance (Sternberg, 2000). We hence focus in this article on actual intellectual self-enhancement, defined as the extent to which an individual regards himself or herself higher on intelligence than intelligence scores indicate. Perceived self-enhancement, on the other hand, represents informant judgments about another individual's private self-evaluation. We focus in this article on perceived intellectual self-enhancement, defined as the extent to which an individual is seen by informants as self-enhancing on intelligence. None of the abovementioned theoretical perspectives (i.e. positive illusions, maladaptive illusions, or optimal margin of illusion) make an explicit distinction between actual and perceived self-enhancement, let alone intellectual self-enhancement. We therefore considered it worthwhile not only to distinguish between actual and perceived self-enhancement but also to examine how the social impressions that the two forms of self-enhancement entail inform the three theoretical perspectives.

Past research has been concerned with the social relevance of both one's self-views (Hoorens, 2011; Oyserman, Bybee, & Terry, 2006; Swann, Chang-Schneider, & McClarty, 2007) and informants' perceptions of one's self-views (Hoorens, Pandelaere, Oldersma, & Sedikides, 2012; Leary, Bednarski, Hammon, & Duncan, 1997; Sedikides, Gregg, & Hart, 2007). However, past research has not yet addressed the social impressions of actual as opposed to perceived self-enhancement. Would an individual reap social benefits (e.g. likability) by being self-enhancing or by being self-effacing? Should an individual, aiming to influence or lead, adopt a self-enhancing demeanour (and, if so, a moderate or an extreme one) or a self-effacing demeanour? We addressed these questions in three studies. In particular, we tested how informants judge actual and perceived intellectual self-enhancers on three key social impression indices: emotional stability, social attractiveness, and social influence.

We also wondered about the relation between actual and perceived self-enhancement. When informants rate a target's traits that are low on observability (e.g. those pertaining to the target's internal states), the correlations between informant and target judgements on those traits are generally weak (Funder & Colvin, 1988; John & Robins, 1993; Paunonen, 1989; Vazire, 2010). Previous studies, for example, reported a low-to-moderate correlation between informant-rated and target-rated self-esteem (Buhrmester, Furman, Wittenberg, & Reis, 1988; Vazire, 2010; Watson, Suls, & Haig, 2002; Zeigler-Hill, Myers, Besser, Southard, Malkin, 2013) and between informant-rated and target-rated narcissism (Buffardi, & Campbell, 2008; Carlson, Vazire, & Furr, 2011; Carlson, Vazire, & Oltmanns, 2011; Vazire, Naumann, Rentrow, & Gosling, 2008)—two traits that are both conceptually and empirically linked to self-enhancement (Gregg, 2Hepper, & Sedikides, 2011; Morf, Horvath, & Torchetti, 2011; Sedikides & Gregg, 2008; Sedikides, Rudich, Gregg, Kumashiro, & Rusbult, 2004). Such findings suggest that actual and perceived self-enhancement, and by implication actual and perceived intellectual self-enhancement, may share little variance and thus convey differing impressions.

SOCIAL IMPRESSIONS OF ACTUAL AND PERCEIVED INTELLECTUAL SELF-ENHANCEMENT

In self-enhancement research, informant impressions are a crucial source of veridical judgement, as these impressions represent adjustment measures that are unaffected by self-enhancers' self-report bias (Shedler, Mayman, & Manis, 1993). But what are the social impressions that accompany actual self-enhancement? More precisely, how is actual self-enhancement linked to informant judgements of psychological health, social attractiveness, and social influence? The relevant literature has been inconsistent. A portion of it reports positive associations between actual self-enhancement and psychological health (Bonanno, Field, Kovacevic, & Kaltman, 2002; Bonanno, Rennicke, & Dekel, 2005; Taylor et al., 2003), social attractiveness (Back, Schmukle, & Egloff, 2010; Taylor et al., 2003), and social influence (Anderson, Brion, Moore, & Kennedy, 2012; Goorin & Bonanno, 2009; Sosik, 2005). Another portion of the literature, however, reports zero or negative associations between actual self-enhancement and psychological health or social attractiveness (Colvin et al., 1995). Yet a third, albeit smaller, portion of the literature reports a curvilinear association between self-enhancement and psychological health (McAllister et al., 2002). In all, then, the literature has produced evidence supportive of all three theoretical perspectives (i.e. positive illusions, maladaptive illusions, and optimal margin of illusion), thus failing to discriminate among them. Moreover, methodological differences in the assessment of actual self-enhancement complicate the interpretation of these results (Dufner et al., 2012; Krueger & Wright, 2011; Kurt & Paulhus, 2008; Kwan, John, Kenny, Bond, & Robins, 2004; Kwan, John, Robins, & Kuang, 2008). As such, the debate about the social impressions conveyed by actual self-enhancement, let alone actual *intellectual* self-enhancement, is unsettled.

What are the social impressions conveyed by perceived self-enhancement? According to von Hippel and Trivers' (2011) evolutionary theory of self-deception, self-enhancement evolved as a means for individuals to deceive others. The rationale underlying this theory is that, by upholding illusory self-beliefs, individuals are in position to display more confidence in social interactions than is warranted by their actual skills or attributes. Consequently, interaction partners form the impression that self-enhancers indeed possess positive characteristics and judge them favourably on various dimensions. One implication of this theory is that only actual self-enhancement conveys positive impressions or bears social benefits. Perceived self-enhancement, seen as a failure to deceive, in contrast, entails social costs.

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Very few studies have addressed empirically the social impressions of perceived self-enhancement (and none of perceived intellectual self-enhancement). Anderson, Ames, and Gosling (2008, Study 2) examined how perceived social status self-enhancement influences social attractiveness ratings. They manipulated social status self-enhancement by presenting participants with a vignette of a target within a work group while varying the target's subjective social status and objective social status. When the target was described as someone who overestimates his social status, he was rated low in social attractiveness. Malkin, Zeigler-Hill, Barry, and Southard (2013) found that targets seen by informants as possessing grandiose self-views were subsequently judged as high in instrumental overt aggression. Taken together, the evidence suggests that perceived self-enhancement is linked to low social attractiveness and the attribution of aggression as a social influence tactic. This literature, however, is sparse, has assessed a limited number of outcomes, and has not tested curvilinear effects, which would be predicted by the optimal margin of illusion perspective.

THE CURRENT INVESTIGATION

We examined the potentially differing social impressions conveyed by actual versus perceived intellectual self-enhancers. We operationalized social impressions in terms of socially desirable indicators that are theoretically linked to self-enhancement and have been used as outcome variables in relevant literature. These indicators were informant ratings of the self-enhancer's emotional stability, social attractiveness, and social influence. Informant-rated emotional stability represents a marker of one's psychological health that is (needless to say) unaffected by self-report bias. Social attractiveness represents an evaluation that is located on the affiliation dimension of the interpersonal circumplex (Kiesler, 1983; Leary, 1957; Wiggins, 1979). Finally, social influence represents an evaluation that is located on the dominance dimension of the interpersonal circumplex.

In an effort to bypass methodological problems in the assessment of actual self-enhancement, we used a straightforward approach and contrasted actual ability with self-perceived ability. More precisely, we partialled out objectively assessed intelligence from self-rated intelligence. Also, in an effort to test all three of the perspectives described earlier (i.e. positive illusions, maladaptive illusions, and optimal margin of illusion), we assessed linear as well as curvilinear effects of both actual and perceived intellectual self-enhancement on perceived emotional stability, social attractiveness, and social influence.

In Study 1, we explored the nomological networks of actual and perceived intellectual self-enhancement, examined the extent to which the two overlap, and tested how informants judged actual and perceived intellectual self-enhancers on emotional stability. In Study 2, we addressed the causality underlying the link between perceived intellectual self-enhancement and social impressions. We manipulated experimentally perceived intellectual self-enhancement and assessed its effects on perceived emotional stability, social attractiveness, and social influence. In Study 3, we aimed to maximize ecological validity by using a round-robin design in assessing the links among actual intellectual self-enhancement, perceived intellectual self-enhancement, and social impressions (i.e. emotional stability, social attractiveness, and social influence).

We tested contrasting predictions derived from the three abovementioned theoretical perspectives. The positive illusions perspective (Taylor & Brown, 1988; Taylor et al., 2003) posits that self-enhancement will elicit favourable social impressions. The maladaptive illusions perspective (Colvin et al. 1995; John & Robins, 1994) posits that self-enhancement will elicit unfavourable social impressions. Finally, the optimal margin of illusion perspective (Baumeister, 1989; McAllister et al., 2002) posits that a slight-to-moderate degree of self-enhancement will elicit the most favourable social impressions.

STUDY 1

In Study 1, we explored the nomological network of actual and perceived intellectual self-enhancement, that is, their relation to narcissism and Big Five personality traits. We also set to provide an initial test of the relation between actual and perceived intellectual self-enhancement as well as their associations to (informant-rated) emotional stability. We selected close friends as informants, as we expected them to have sufficient information about participants ('targets') to form impressions of them. Informants provided independent ratings of how self-enhancing and emotionally stable they regarded targets to be.

Method

Targets, informants, and procedure

We advertised the study as a 'vocabulary skills, personality, and friendship survey' on several e-mail lists, including one directed at students enrolled in Berlin universities. We recruited, as targets, 337 German-speaking Internet users.[1] Their mean age was 26.73 years ($SD = 7.25$). Most of them (79.3%) were either undergraduate students or students who obtained a university degree, and 76.85% of them were female. We proceeded to assess targets' levels of actual intellectual self-enhancement by comparing self-ratings of intelligence with performance on an intelligence test. We then asked targets to invite one friend, who knew them well and who was not their romantic partner, also to take part in the study. Mean informant age was 27.09 years ($SD = 8.31$), and 69.14% of them were female. In 77.45% of the cases, informants were of the same sex as targets. The vast majority (96%) of informants indicated that they had known the target for more than 1 year, and 67% indicated that they had known

[1]The original sample consisted of 2048 participants. In this study, we only used participants ('targets') for whom peer ratings were available.

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the target for more than 4 years. Debriefing (in this and the following studies) concluded the testing session.

Measures of actual and perceived intellectual self-enhancement

To derive an index of *actual intellectual self-enhancement*, we first needed to assess targets' self-rated crystallized intelligence as well as their actual crystallized intelligence. We assessed self-rated crystallized intelligence with the following six items (1 = *does not apply to me*, 7 = *fully applies to me*): 'I have a large vocabulary', 'I am unfamiliar with many foreign words that other people know' (reverse scored), 'I am intelligent', 'I know more things than other people', 'I am not very knowledgeable' (reverse scored), and 'I consider myself erudite' ($M = 5.54$, $SD = 0.78$; $\alpha = .76$).

Next, we assessed crystallized intelligence with the Multiple-Choice Vocabulary Test (Mehrfachwahl Wortschatztest) (Lehrl, 1995). This widely used and well-validated test (Lehrl, 2005) consists of 35 sets of five alternative letter combinations, only one of which is a correctly spelled word. We used the number of correct answers as the total score ($M = 25.88$, $SD = 3.19$; $\alpha = .60$). We computed a residual score of actual self-enhancement (Paulhus & John, 1998) by partialling out crystallized intelligence from self-rated crystallized intelligence, $\beta = .17$, $p = .002$. We used the formula by Williams and Zimmerman (1982–1983) to compute the reliability of the residual scores. This formula takes into account that the reliability of residual scores is dependent on their constituent parts (i.e. the predictor and the outcome of the regression equation). This reliability was $r_R = .63$.

We assessed *perceived intellectual self-enhancement* by asking each informants to rate the extent to which the corresponding target 'thinks he or she is more intelligent than he or she actually is' (1 = *not at all*, 7 = *very much*; $M = 3.74$, $SD = 0.95$).

Narcissism and Big Five personality

We assessed self-rated *narcissism* with the validated German version (Schütz, Marcus, & Sellin, 2004) of the Narcissistic Personality Inventory (Raskin & Hall, 1979, 1981). This scale consists of 40 items. Participants indicated their endorsement of each item on a 2-point scale (1 = *agree*, 2 = *disagree*; $\alpha = .80$). We assessed self-rated Big Five personality using the Big Five Inventory-Socio-economic Panel (BFI-S; Schupp & Gerlitz, 2008). The BFI-S is a brief measure of the Big Five Personality traits (0 = *totally applies to me*, 4 = *doesn't apply to me at all*) that has been developed in the context of the Socio-economic Panel, a large and representative German study. Reliability alphas were .78 for extraversion, .65 for neuroticism, .47 for agreeableness, .63 for conscientiousness, and .65 for openness.

Perceived emotional stability

Finally, we assessed perceived emotional stability by asking each informant to rate the extent to which the corresponding target was emotionally stable, using the emotional stability subscale of the BFI-S (Schupp & Gerlitz, 2008). The scale consists of the following three items (1 = *totally applies to my friend*, 7 = *doesn't apply to my friend at all*): 'My friend is someone who is relaxed, can deal well with stress', 'My friend is someone who worries a lot (reverse scored)', and 'My friend is someone who gets nervous easily' (reverse scored) ($M = 4.01$, $SD = 1.24$; $\alpha = .71$).

Results and discussion

First, we addressed the nomological network (i.e. personality correlates) of actual and perceived intellectual self-enhancement. As shown in Table 1, both were positively linked to narcissism, extraversion, and openness and were negatively linked to neuroticism. Hence, the nomological networks of actual and perceived intellectual self-enhancement overlapped. Yet, the correlation between actual and perceived intellectual self-enhancement was weak (albeit significant: $r[336] = .11$, $p = .05$), indicating a small overlap.

Next, we turned to the social impressions of actual and perceived intellectual self-enhancement. In particular, we tested linear and quadratic effects of both forms of self-enhancement on perceived emotional stability. We included the linear term to examine whether higher levels of the two forms of self-enhancement are accompanied by more favourable social impressions. We included the quadratic term to test the possibility that low-to-moderate self-enhancement is socially beneficial, whereas extreme self-enhancement entails social costs. We dealt with outliers by capping values higher than $z = 2.5$ or lower than $z = -2.5$ on actual self-enhancement (seven cases) or perceived self-enhancement (10 cases) at 2.5 and −2.5, respectively, before computing the squared self-enhancement indices.[2] We ran separate models for actual and perceived intellectual self-enhancement, and we entered simultaneously the linear and squared self-enhancement indices (z-values) as predictors.

We present results for both analyses in Table 2. For actual intellectual self-enhancement, we detected a positive linear association, but no quadratic association, with perceived emotional stability. Hence, the more individuals actually self-enhanced, the more emotionally stable they were judged. For perceived intellectual self-enhancement, in contrast, we detected a positive linear association and a negative quadratic association with perceived emotional stability. Individuals perceived to self-enhance moderately were judged as most emotionally stable. We provide graphical displays of these associations in Figure 1. We conducted an additional analysis testing whether the interaction between actual and perceived intellectual self-enhancement predicted perceived emotional stability (while controlling for the linear and quadratic main effects of the two forms of self-enhancement). The interaction term was not significant, $\beta = -.04$, $p = .42$.

The findings indicate that the overlap between actual and perceived intellectual self-enhancement is very small. Even close friends may hardly be able to estimate the extent to which a person actually self-enhances on her or his intelligence. Furthermore, the findings provide evidence that actual and perceived intellectual self-enhancement convey differing social impressions. The more individuals *actually* self-enhance, the more emotionally stable they are deemed. In contrast,

[2]All reported effects were virtually identical when we used uncapped self-enhancement indicators.

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Table 1. Correlations between all Study 1 and 3 variables

	ACT SE	*PER SE*	*EMOT*	*ATTR*	*INFL*	*SEX*	*NAR*	*E*	*N*	*A*	*C*	*O*
ACT SE		0.11*	0.15**			−0.08	0.41**	0.16**	−0.17**	−0.03	0.16*	0.12*
PER SE	0.10		0.16**			−0.09	0.20**	0.13*	−0.17**	−0.15**	0.03	0.16**
EMOT	0.38**	0.17*				−0.19**	0.09	0.00	−0.40**	0.00	0.04	−0.08
ATTR	0.15*	−0.07	0.12									
INFL	0.17*	0.66**	0.15*	0.32**								
SEX	−0.26**	−0.07	−0.48**	−0.10	−0.14		−0.07	0.09	0.10	0.09	0.23**	0.09
NAR	0.24**	0.37**	0.14	0.03	0.25**	−0.16*		0.44**	−0.16**	−0.14**	0.08	0.21**
E	0.03	0.54**	−0.03	0.21**	0.52**	0.01	0.29**		−0.18**	−0.05	0.10	0.30**
N	−0.19**	−0.28**	−0.40**	−0.15*	0.28**	0.18*	−0.10	−0.38**		−0.03	0.01	0.13*
A	0.06	−0.14	0.01	0.40**	0.03	0.00	−0.08	0.15*	−0.22**		0.11*	0.01
C	0.11	−0.03	−0.09	0.13	−0.01	0.20**	0.09	0.03	0.01	−0.07		0.07
O	0.33**	0.24**	0.22**	0.03	0.19*	−0.13	0.24**	0.10	−0.15*	0.06	0.04	
SEp	0.12	−0.07	0.09	−0.16*	−0.14	−0.05	−0.01	−0.05	0.10	−0.13	0.08	0.06
EMOTp	−0.06	0.04	0.04	0.18*	−0.02	0.14	−0.19**	0.08	−0.14	0.21**	0.02	0.00
ATTRp	0.08	0.19**	−0.05	0.37**	0.20**	0.11	0.13	0.25**	−0.12	0.21**	0.03	−0.01
INFLp	−0.01	0.04	−0.13	0.03	0.05	0.13	0.03	0.17*	−0.02	−0.04	0.09	−0.17*

Note: *ACT SE* = actual intellectual self-enhancement; *PER SE* = perceived self-enhancement; *EMOT* = perceived emotional stability; *ATTR* = perceived social attractiveness; *INFL* = perceived social influence; *SEX* = sex (0 = male, 1 = female); *NAR* = narcissism; *E* = extraversion; *N* = neuroticism; *A* = agreeableness; *C* = conscientiousness, *O* = openness; *SEp* = self-enhancement perceiver effect; *EMOTp* = emotional stability perceiver effect; *ATTRp* = social attractiveness perceiver effect; *INFLp* = social influence perceiver effect. Results from Study 1 are shown above the diagonal. Results from Study 3 are shown below the diagonal. $N = 337$ for Study 1 and $N = 183$ for Study 3. $^{*}p < .05$ (two tailed), $^{**}p < .01$ (two tailed).

Table 2. Emotional stability, social attractiveness, and social influence predicted by actual intellectual and perceived self-enhancement in all three studies

		STUDY	*EMOT*	*ATTR*	*INFL*
Actual self-enhancement	*ACT SE*	1	0.13*		
		2			
		3	0.37**	0.15*	0.16*
	ACT SE^2	1	−0.03		
		2			
		3	0.03	−0.01	0.07
Perceived self-enhancement	*PER SE*	1	0.12*		
		2	0.31**	−0.17	0.46**
		3	0.20**	−0.06	0.64**
	PER SE^2	1	−0.24**		
		2	−0.47**	−0.32**	−0.41**
		3	−0.26**	−0.20**	0.04

Note: ACT SE = actual intellectual self-enhancement; *PER SE* = perceived self-enhancement; *EMOT* = perceived emotional stability; *ATTR* = perceived social attractiveness; *INFL* = perceived social influence. The actual self-enhancement results are based on regression models including actual intellectual self-enhancement and actual intellectual self-enhancement squared as predictors. The perceived self-enhancement results are based on models including actual and perceived self-enhancement as predictors. $^{*}p < .05$, $^{**}p < .01$ (two tailed).

individuals who are *perceived* as slightly-to-moderately self-enhancing are deemed most emotionally stable.

STUDY 2

Study 1 revealed a significant association between perceived intellectual self-enhancement and social impressions (i.e. emotional stability). Yet these findings do not inform the direction of causality. It is possible that, in line with our reasoning, perceived self-enhancement influenced ratings of emotional stability. It is also possible, however, that targets' emotional stability influenced perceived self-enhancement or that both perceived self-enhancement and emotional stability were influenced by a third variable.

We addressed this limitation of Study 1 by using, in Study 2, an experimental design to find out if perceived intellectual self-enhancement influences social impressions. We manipulated perceived self-enhancement by presenting participants with a vignette of a fictitious person and varying this person's privately held self-views. According to the experimental condition, the vignette described this person as someone who self-effaced strongly, self-effaced moderately, possessed a realistic self-view, self-enhanced moderately, or self-enhanced strongly. We subsequently assessed not only perceived emotional stability (as in Study 1) but also social attractiveness and social influence. As it is impossible to manipulate actual self-enhancement in a vignette study, we focused solely on the social impressions of perceived self-enhancers.

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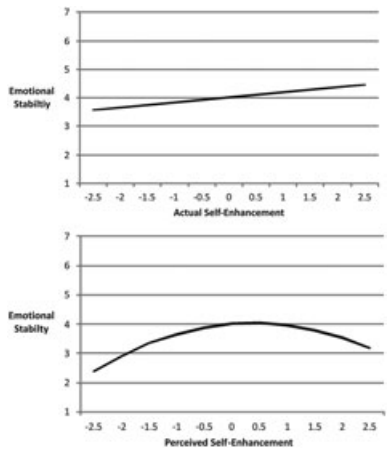

Figure 1. Top panel: Peer ratings of emotional stability predicted by actual self-enhancement (*z*-values). Bottom panel: Peer ratings of emotional stability predicted by perceived self-enhancement (*z*-values).

Method

Participants and procedure

We relied on a list containing e-mails of psychological study volunteers to recruit 77 participants (55% women; 66.2 % students; $M_{age} = 26.5$ years, $SD_{age} = 4.93$ years). Participants received monetary compensation (€10) for taking part in this and an unrelated study.

We tested participants, up to 10 per session, in a laboratory. The experimenter seated each participant in a cubicle and instructed her or him not to interact with others. Participants learned that they were involved in a study on 'how individuals perceive others'. Subsequently, they read a vignette of a fictitious person. We randomly assigned participants to one of the five experimental conditions: 1 = *high self-effacement*, 2 = *moderate self-effacement*, 3 = *realistic self-perception*, 4 = *moderate self-enhancement*, and 5 = *high self-enhancement*. All participants received the following description (the words in italics varied according to the experimental condition):

> Thomas Koch is 23 years old and has been living in Berlin for two years. His hobbies are bicycle riding, reading novels, and meeting friends. He likes Italian food and goes to the cinema frequently. Thomas never had his intelligence tested but believes that he is … *far below average/moderately below average/average/moderately above average/far above average* … on intelligence. In reality, he is average on intelligence. He therefore … *strongly underestimates/moderately underestimates/has a realistic view of/moderately overestimates/strongly overestimates* … his intelligence.

Next, participants rated the fictitious person's emotional stability, social attractiveness, and social influence.

Measures

To assess perceived emotional stability, participants rated the extent to which the fictitious person is 'emotionally stable/calm' (1 = *not at all true*, 7 = *absolutely true*). To assess social attractiveness, participants rated the extent to which the person is 'likable' (1 = *not at all true*, 7 = *absolutely true*). Finally, to assess social influence, participants rated the extent to which the person 'is someone who has a large influence in groups' (1 = *not at all true*, 7 = *absolutely true*).

Table 3. Correlations between Study 2 variables

	1	2	3	4
1. Perceived self-enhancement		0.28**	−0.18	0.43**
2. Perceived emotional stability			0.42**	0.52**
3. Social attractiveness				0.20

Note: $N = 75$.
**$p < .01$ (two tailed).

Results and discussion

We display correlations between all study variables in Table 3. We used regression analyses and treated perceived intellectual self-enhancement as a continuous predictor ranging from 1 (*high self-effacement*) to 5 (*high self-enhancement*). For each outcome variable, we tested linear and quadratic predictions. As in Study 1, we included the quadratic term to test whether extreme self-enhancement entails social costs (i.e. unfavourable ratings on emotional stability, social attractiveness, and social influence). We ran separate models for each outcome variable, and we entered simultaneously the linear and squared self-enhancement indices (*z*-values) as predictors.

First, we examined the association between perceived intellectual self-enhancement and perceived emotional stability. To facilitate the interpretation of effects, we display predicted values for all three outcomes in Figure 2. As shown in Table 2, perceived emotional stability was positively related to perceived self-enhancement and was negatively related to perceived self-enhancement squared.[3] As shown in Figure 2, moderate self-enhancement predicted higher perceived emotional stability than either high self-enhancement or self-effacement. Social attractiveness, in contrast, was unrelated to perceived self-enhancement and was negatively related to perceived self-enhancement squared. Thus, realistic self-perception predicted the highest social attractiveness. Finally, social influence was positively related to perceived self-enhancement and was negatively related to perceived self-enhancement squared. Moderate self-enhancement predicted the highest social influence.

The findings of Study 2 indicate that perceived intellectual self-enhancement influences evaluations of emotional stability, social attractiveness, and social influence. The effects of perceived intellectual self-enhancement can be positive or negative, depending on both degree of self-enhancement and the outcome variable. A moderate degree of perceived intellectual self-enhancement predicted the highest perceived emotional stability and social influence,

[3]To rule out the possibility that the perceived emotional stability findings were strongly affected by evaluation (Saucier, 1994), we tested whether the effects of actual and perceived self-enhancement on peer-rated emotional stability still held when controlling for social attractiveness (which is a purely evaluative variable). This was indeed the case.

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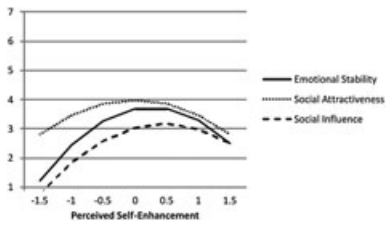

Figure 2. Observer ratings of emotional stability, social attractiveness, and social influence predicted by perceived self-enhancement (*z*-values).

whereas a lack of perceived intellectual self-enhancement predicted the highest social attractiveness. Hence, individuals who are seen as upholding a realistic self-view are deemed most socially attractive, whereas moderate self-enhancers are deemed emotionally stable and influential. Study 2, however, tested the effects of perceived intellectual self-enhancement in a somewhat contrived setting with high internal, but low external, validity. We addressed this shortcoming in Study 3.

STUDY 3

The objective of Study 3 was to provide an ecologically valid test of the social impressions of actual and perceived self-enhancers within work groups, while also gauging the nomological network of the two forms of self-enhancement as in Study 1. We assessed actual intellectual self-enhancement by comparing self-rated ability with objective ability. Whereas we were concerned with verbal intelligence in Study 1, we were concerned with fluid intelligence in Study 3.

More importantly, we used a round-robin design, in which participants served as both perceivers and targets. This design allowed us to examine the variance components underlying social impressions. The design, in particular, permits the computation of perceiver effects (i.e. an individual's tendency to provide consistently high or low ratings *of other people*) and target effects (i.e. all group members' tendency to provide high or low ratings *of the individual*) for all interpersonal ratings. Previous research has shown that the perceiver effect is positively related to both self-evaluations and other evaluations (Kenny, 1994). Therefore, we considered it important to control for the perceiver effect when testing the associations between self-enhancement and interpersonal ratings. We assessed perceived self-enhancement by using the target effect of perceivers' ratings of targets' self-enhancement. Perceivers also judged targets' levels of emotional stability, social attractiveness, and social influence.

Method

Participants and procedure

We analysed data from the last wave of an existing longitudinal round-robin dataset that originally consisted of six waves. The reason for focusing on the last wave was that the main relevant variables (i.e. actual intellectual self-enhancement, perceived intellectual self-enhancement, perceived emotional stability, social attractiveness, and social influence) were available only at this time point. Participants were first-year Utrecht University psychology students who had been randomly placed in groups. In these groups, they worked together during the entire academic year to complete a substantial part of the psychology curriculum, and so they were well-acquainted. The original sample included 238 students from 10 groups (14–21 students per group). At the last wave, 213 students had participated in the study, and for 183 of them, all relevant variables were available. We based our analyses on this sample. The majority of participants were female (84%), and their mean age was 18.9 years ($SD = 1.69$). In addition to an online measurement of actual intelligence, each participant rated herself or himself, as well as every group member, on several attributes.

Self-enhancement measures

We assessed actual intellectual self-enhancement by partialling out actual intelligence and the perceiver effect from intelligence self-ratings. As in Study 1, we first assessed self-rated, and then actual, intelligence. We measured actual intelligence with a 15-item version of the Raven Advanced Progressive Matrices (Raven, 1990; $\alpha = .71$). We detected a significant correlation between processing time and the test score, $r(183) = .28$, $p = .001$, which meant that the more time participants spent working on the matrices, the more matrices they solved. Hence, our intelligence measure was to a certain extent confounded by persistence. To obtain an unbiased intelligence measure, we partialled processing time from the test score.[4] We assessed self-rated intelligence through participants' reports of the extent to which they and each member was *not intelligent, dull* (1) versus *very intelligent, clever* (7). Self-rated and actual intelligence were correlated, $r(183) = .23$, $p = .001$. We assessed the intelligence perceiver effect using a syntax package (*Triple R*; Schmukle, Schoenbrodt, & Back, 2009) for round-robin analyses. The intelligence perceiver effect was correlated with self-rated intelligence, $r(182) = .48$, $p < .001$, but not with actual intelligence, $r(182) = .14$, $p = .07$. Finally, we formed an actual self-enhancement index by partialling out actual intelligence and the perceiver effect from self-rated intelligence. The resulting standardized residuals reflected overly (ungrounded in reality) positive or negative self-perceptions of intelligence. As reported elsewhere (Dufner et al., 2012), the retest reliability of the actual intellectual self-enhancement measure was $r(181) = .62$, $p < .001$, over an 8-month interval. We assessed perceived self-enhancement by using the target effect of the following item: *this person has an overly high opinion of self and places self above others* (1)–*this person has an overly low opinion of self and places others above self* (7). We provide social relation model variance components (i.e. the amount of variance that is due to perceiver or target effects) and their reliabilities for perceived self-enhancement and all other round-robin variables in Tables 4.

[4]We also ran all analyses without partialling out processing time and found virtually identical results.

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Table 4. Social relation model variance components for all Study 3 round-robin variables

	Perceived self-enhancement	Perceived emotional stability	Social attractiveness	Social influence
Perceiver variance	0.39** (0.90)	0.23** (0.88)	0.27** (.87)	0.39** (0.94)
Target variance	0.20** (0.94)	0.19** (0.86)	0.04** (0.48)	0.20** (0.90)

Note: Variance components are standardized. Reliabilities are shown in parentheses. $^{**}p < .01$ (two tailed).

Self-reported personality traits

We assessed *narcissism* using an adapted version of the 10-item Childhood Narcissism Scale (Thomaes, Stegge, Bushman, Olthof, & Denissen, 2008). The scale is internally consistent, is single-factored, and has good reliability and validity. To adapt the scale to the measurement of adult narcissism, we replaced words such as 'kids' and 'class' with suitable adult terms. Sample items are 'I like to think how incredibly nice I am' and 'I love showing all the things I can do' (0 = *not at all true*, 4 = *completely true*; α = .83). We assessed the Big Five using the 44-item Dutch translation (Denissen, Geenen, van Aken, Gosling, & Potter, 2008) of the Big Five Inventory (John & Srivastava, 1999). This instrument consists of eight statements for extraversion (sample item: 'is talkative') and neuroticism (sample item: 'can be moody'), nine statements for conscientiousness (sample item: 'does a thorough job') and agreeableness (sample item: 'is generally trusting'), and 10 statements for openness (sample item: 'values artistic, aesthetic experiences'). Participants indicated their agreement with each statement (1 = *strongly disagree*, 5 = *strongly agree*). Reliability alphas were .83 for extraversion, .88 for neuroticism, .76 for agreeableness, .86 for conscientiousness, and .82 for openness.

Social impressions

We assessed perceived emotional stability by using the target effect of the following item: *This person is anxious, easily upset* (1)–*This person is calm, emotionally stable* (7). To assess social attractiveness, we used the target effect of members' reports about the extent to which they liked each participant (1 = *do not like him/her at all*, 7 = *like him/her very much*) and the extent to which they were friends with each participant (1 = *remote acquaintance*, 7 = *best friend*). The two items were correlated, $r(183) = .53$, $p = .001$. Finally, we assessed social influence through the target effect of members' reports about the degree to which each participant had influence on decision-making and opinions in groups (1 = *no influence on decision-making and opinions in groups*, 7 = *large influence on decision-making and opinions in groups*).

RESULTS AND DISCUSSION

As in Study 1, we first explored the personality correlates of actual and perceived intellectual self-enhancement. As shown in Table 1, both forms of self-enhancement were positively linked to narcissism and openness and were negatively linked to neuroticism. Hence, the two forms of self-enhancement had somewhat overlapping nomological networks, as in Study 1. However, even though the correlation between actual and perceived intellectual self-enhancement was almost identical in size to the one in Study 1, it was now not significant—a null effect probably due to the smaller sample size.

We then examined the social impressions evoked by actual and perceived intellectual self-enhancement. For each outcome variable, we tested linear and quadratic predictions of each type of self-enhancement. We capped values higher than $z = 2.5$ or lower than $z = -2.5$ on actual intellectual self-enhancement (two cases) or perceived intellectual self-enhancement (six cases) at 2.5 and −2.5, respectively, before computing the squared self-enhancement indices.[5] We ran separate models for each outcome variable, and we entered simultaneously the linear and squared self-enhancement indices (z-values) as predictors.

We present results for all analyses in Table 2 and provide graphical displays of all findings in Figure 3. First, we examined the association between actual intellectual self-enhancement on the one hand and perceived emotional stability, social attractiveness, and social influence on the other. Perceived emotional stability was positively related to actual intellectual self-enhancement but was unrelated to actual intellectual self-enhancement squared. Similarly, social attractiveness was positively related to actual intellectual self-enhancement but was unrelated to actual intellectual self-enhancement squared. Finally, social influence was positively related to actual intellectual self-enhancement but was unrelated to actual intellectual self-enhancement squared. Thus, the more individuals actually self-enhanced, the more emotionally stable, socially attractive, and socially influential they were regarded.

Next, we examined the association between perceived intellectual self-enhancement on the one hand and perceived emotional stability, social attractiveness, and social influence on the other. Perceived emotional stability was positively related to perceived intellectual self-enhancement and was negatively related to perceived intellectual self-enhancement squared.[6] As can be seen in Figure 3, moderate self-enhancers were seen as most emotionally stable, whereas high self-enhancers were seen as emotionally unstable. This finding suggests an optimal margin of perceived intellectual self-enhancement with regard to perceived emotional

[5]Again, all reported effects were virtually identical when we used uncapped self-enhancement indicators.

[6]We also tested whether the relations of actual and perceived self-enhancement with peer-rated emotional stability still held when controlling for social attractiveness. Indeed, this was the case.

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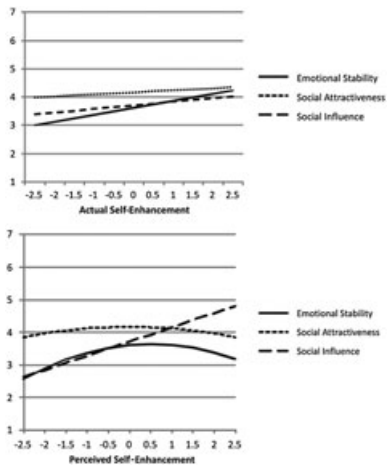

Figure 3. Top panel: Peer ratings of emotional stability, social attractiveness, and social influence predicted by actual self-enhancement (*z*-values). Bottom panel: Peer ratings of emotional stability, social attractiveness, and social influence predicted by perceived self-enhancement (*z*-values).

stability. Social attractiveness was unrelated to perceived intellectual self-enhancement but was negatively related to perceived intellectual self-enhancement squared. Thus, individuals perceived as neither self-enhancing nor self-effacing were deemed high in social attractiveness, whereas both perceived self-enhancers and self-effacers were deemed low in social attractiveness. Social influence was positively related to perceived intellectual self-enhancement but was unrelated to perceived intellectual self-enhancement squared. The absence of a curvilinear effect suggests that persons perceived as higher self-enhancers were regarded as more socially influential, even at extreme levels.

We also conducted three separate regression analyses and tested whether the interaction between actual and perceived intellectual self-enhancement predicted the outcome variables when controlling for the linear and quadratic main effects of both forms of self-enhancement. The interaction term was not significant for perceived emotional stability $\beta = .06$, $p = .39$, and for social attractiveness, $\beta = .09$, $p = .24$. It was, however, significant for social influence, $\beta = .15$, $p = .01$. Further analyses revealed that the simple slope for actual intellectual self-enhancement at one standard deviation above the average perceived self-enhancement was significant, $b = 0.15$ ($SE = 0.05$), $p = .003$. This means that the association between actual intellectual self-enhancement and social influence was pronounced when perceived self-enhancement was also high.

The Study 3 findings provide further evidence that actual and perceived intellectual self-enhancement evoke differing social impressions. High actual intellectual self-enhancement predicted favourable peer evaluations on emotional stability, social attractiveness, and social influence. The social impressions of perceived intellectual self-enhancement were more complex. Lack of perceived intellectual self-enhancement predicted high social attractiveness, moderate perceived intellectual self-enhancement predicted high perceived emotional stability, and high perceived intellectual self-enhancement predicted high social influence.

GENERAL DISCUSSION

The objective of this investigation was to gauge the social impressions evoked by actual and perceived intellectual self-enhancement. We tested divergent predictions derived from three perspectives. The positive illusions perspective (Taylor & Brown, 1988; Taylor et al., 2003) posits that self-enhancement elicits favourable peer evaluations. The maladaptive illusions perspective (Colvin et al. 1995; John & Robins, 1994) posits that self-enhancement is linked to unfavourable peer evaluations. Finally, the optimal margin of illusion perspective (Baumeister, 1989; McAllister et al., 2002) posits that a slight-to-moderate degree of self-enhancement elicits the most favourable peer evaluations. We tested these perspectives with three methodologically varied studies.

Social impressions were markedly different for actual versus perceived intellectual self-enhancement.[7] For actual intellectual self-enhancement, results supported the positive illusions perspective (Taylor & Brown, 1988; Taylor et al., 2003). Overestimating one's ability engenders social benefits: Actual self-enhancers were deemed emotionally stable, socially attractive, and socially influential by their peers. These results match earlier findings (Bonanno et al., 2002, 2005; Goorin & Bonanno, 2009; Sosik, 2005; Taylor et al., 2003) and indicate that actual self-enhancement, when assessed by a comparison between self-rated and actual intelligence, confers social benefits. However, the results diverge from previous findings indicating that an overestimation of one's social influence within a group is linked to low social attractiveness (Anderson et al., 2008). This divergence may be explained by the different contents of self-evaluations. At least in groups with an explicit or implicit hierarchy, social influence is a limited resource for which group members compete. Therefore, inappropriate claims for social influence (likely a result of social status self-enhancement) may pose a threat to the social environment and be punished. An overestimation of one's intelligence, in contrast, does not directly entail negative consequences for one's peers. The finding that intellectual self-enhancers evoke positive reactions at longer acquaintance also diverges from results showing that narcissists make favourable impressions only at short acquaintances (Back et al., 2010; Campbell & Campbell, 2009; Paulhus, 1998). This divergence may be explainable by the fact that intellectual self-enhancers lack the disagreeableness that is typical of narcissists (Dufner et al., 2012; Sedikides, Campbell, Reeder, & Elliot, 2002) and that most likely accounts for the decline in their

[7]We ran additional regression analyses testing if the results hold when the linear and quadratic terms for both actual and perceived self-enhancement are used simultaneously as predictors for each outcome. The results of these analyses were similar to the reported ones. In three cases, however, the effects of actual self-enhancement were marginal. These were the following: (i) the linear effect of actual self-enhancement on emotional stability, $\beta = .10$, $p = .09$, in Study 1; (ii) the linear effect of actual self-enhancement on social attractiveness, $\beta = .14$, $p = .05$, in Study 3; and (iii) the linear effect of actual self-enhancement on social influence, $\beta = .11$, $p = .06$, in Study 3. These slight differences to our original analyses may be explainable by the fact that we assessed perceived self-enhancement using the same methodology as for the outcomes (i.e. observer report).

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popularity over time (Campbell & Campbell, 2009; Küfner, Nestler & Back, 2013).

Our findings further indicate that perceived intellectual self-enhancement is linked to social impressions. Hence, they provide further evidence that informant or peer perceptions of one's level of self-enhancement are linked to evaluative judgments of that person (Anderson et al., 2012; Malkin et al., 2013). These findings, however, were more intricate than the ones pertaining to actual intellectual self-enhancement. In all three studies, individuals perceived to self-enhance moderately (vs extremely) were deemed the most emotionally stable. In both studies that assessed social attractiveness (i.e. Studies 2 and 3), individuals who were low on perceived self-enhancement (and self-effacement) were deemed the most socially attractive. Concerning social influence, the findings were somewhat contradictory. In Study 2, a moderate degree of perceived self-enhancement predicted the highest social influence, whereas in Study 3 high perceived self-enhancement predicted the highest social influence. We consider Study 3 a more ecologically valid test of the social impressions of perceived intellectual self-enhancement. Whereas in Study 2 participants made judgments in a contrived setting, in Study 3 participants interacted with the target persons in work groups and based their judgment on actual experiences with them. In this naturalistic setting, the more individuals were seen as self-enhancing, the more socially influential they were deemed.

Actual and perceived intellectual self-enhancement overlapped only minimally. The correlation between these two variables was weak in Study 1 and was nonsignificant in Study 3 where the sample size was smaller. These findings are rather unsurprising given the complexity involved in judging another person's level of self-enhancement. To make a valid judgment, informants or peers must do the following: (i) estimate accurately a target's actual level of intelligence; (ii) estimate accurately his or her privately held intelligence self-view; and (iii) compute the difference between the two. Informants or peers were unsuccessful at this task. They were hardly able to identify actual self-enhancers, albeit evaluated them positively. These findings are congruent with Von Hippel and Trivers' (2011) theory, which posits that actual self-enhancement has evolved, in part, as an effective means for social deception (also Anderson et al., 2012).

Limitations and future directions

In Study 1, targets may have chosen informants who shared and thus verified the targets' self-enhancing views on intelligence (Swann, Rentfrow, & Guinn, 2002). In Study 3, however, self-enhancers were rated by randomly assigned group members. Thus, selective choice of informants cannot account for favourable impressions.

Other potential limitations cannot be ruled out. In Study 1, for example, some participants may have used external help when taking the vocabulary test. In Study 3, the match between actual and perceived intellectual self-enhancement measures was not optimal, as the actual intellectual self-enhancement measure was specific to the intellectual domain, whereas the perceived intellectual self-enhancement measure was more general. Furthermore, whereas the use of different intelligence tests in Studies 1 and 3 increased the generalizability of our findings, it also prevented exact replication. Future research might use both measures in both studies, along with broader assessments of intelligence. Future research could also involve more specific questions for the assessment of self-rated intelligence to ensure that participants have the same construct in mind when judging their intelligence. In all, though, considering the consistency of the result patterns across the three studies, we regard it as unlikely that these study-specific shortcomings systematically biased our findings.

Even though the current findings indicate that actual intellectual self-enhancement is linked to several social impression indicators, there are generalizability restrictions. For example, do the results generalize in domains above and beyond intelligence such as communion (Campbell, Rudich, & Sedikides, 2002; Gebauer, Sedikides, Verplanken & Maio, 2012; Paulhus & John, 1998) or broader personality (Colvin et al., 1995; Robinson & Sedikides, 2009; Taylor et al., 2003)? In addition, are the findings generalizable to indices of self-reported psychological adjustment or functioning such as well-being or task performance (Chang, 2008; Sedikides & Hepper, 2009; Taylor & Brown, 1988)? We hope that future research agendas address these questions.

In the self-enhancement literature, methodological-inclinations or biases may be responsible for discrepancies in findings. For example, a researcher can showcase favourable self-enhancement implications by correlating self-enhancement measures based on self-report with self-reported intrapersonal adjustment indices (Kwan et al., 2004). A researcher can also showcase unfavourable self-enhancement implications by correlating self-enhancement measures based on observer ratings (as a benchmark self-enhancement) with informant-reported interpersonal adjustment indices (Asendorpf & Ostendorf, 1998). Are our findings concerning perceived self-enhancement due to method bias, as they are, at least in Studies 1 and 3, based on correlations between two informant-reported or peer-reported measures? We consider this possibility unlikely, for three reasons. First, in Study 2, perceived self-enhancement was manipulated rather than assessed and still showed an effect on outcome variables (i.e. interpersonal adjustment indices). Second, the associations between perceived self-enhancement and social impressions reported in all three studies were not simply positive or negative (as would be expected if they were purely artificial); instead, the associations manifested complex, outcome-specific, and yet replicable patterns (i.e. different combinations of linear and quadratic effects). Finally, in Studies 1 and 3, perceived self-enhancement was also negatively linked to neuroticism, an intrapersonal adjustment indicator assessed with an alternative methodology (i.e. self-report). Of course, future research would benefit from inclusion of more methodologically independent outcome measures.

A lingering issue concerns the processes underlying the reported effects. In the case of actual intellectual self-enhancement, privately held self-views affected observer judgments. Therefore, the effects are likely mediated by behavioural cues and, in particular, displays of

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confidence and social skills, which are typical for self-enhancers in social interactions (Anderson et al., 2012; Gregg, Hart, Sedikides, & Kumashiro, 2008; Von Hippel & Trivers, 2011). The mediators of the effects of perceived intellectual self-enhancement on interpersonal adjustment, however, may not be behavioural, as both perceived intellectual self-enhancement and social impressions represent informant or peer evaluations. Instead, the low perceived emotional stability and social attractiveness, but high social influence, of perceived intellectual self-enhancers may be explained by implicit theories of personality (Schneider, Hastorf, & Ellsworth, 1979) or cognitive consistency theory (Festinger, 1957).

Another open question refers to the antecedents of perceived intellectual self-enhancement. What kind of behaviours do individuals who are judged as self-enhancers display? Future research may use a lens model approach (Brunswik, 1956; Vazire et al., 2008) to examine which behavioural cues follow from actual intellectual self-enhancement and which ones lead to perceived intellectual self-enhancement.

Finally, our studies do not provide a comprehensive test of the causality underlying the reported effects. In line with our reasoning, the Study 2 findings indicate that perceived intellectual self-enhancement influences peer impressions. Nevertheless, it is also possible that the links between perceived self-enhancement and peer impressions are bidirectional. In this case, evaluations of emotional stability, social attractiveness, and social influence would also impact on perceived intellectual self-enhancement. Future research should therefore examine the interplay among actual intellectual self-enhancement, perceived intellectual self-enhancement, and social impressions more directly using longitudinal designs.

In closing

The reported research contributes to a long-debated issue about the costs and benefits of self-enhancement. The results demonstrate that self-evaluations compared with an objective criterion (i.e. actual intellectual self-enhancement) and informant or peer inferences about an individual's self-evaluations (i.e. perceived intellectual self-enhancement) predict divergent social reactions. The findings also have practical implications for social or occupational settings. An individual who actually self-enhances can have a modest demeanour and be valued as a peer or leader. In contrast, an individual who is perceived as a high self-enhancer will be unpopular but may nevertheless attain leadership positions.

REFERENCES

Alicke, M. D., & Sedikides, C. (2009). Self-enhancement and self-protection: What they are and what they do. *European Review of Social Psychology*, *20*, 1–48.

Alicke, M. D., & Sedikides, C. (Eds.) (2011), *Handbook of self-enhancement and self-protection*. New York, NY: Guilford Press.

Anderson, C., Ames, D. R., & Gosling, S. D. (2008). Punishing hubris: The perils of overestimating one's status in a group. *Personality and Social Psychology Bulletin*, *34*, 90–101.

Anderson, C., Brion, S., Moore, D. A., & Kennedy, J. A. (2012). A status-enhancement account of overconfidence. *Journal of Personality and Social Psychology*, *103*, 718–735.

Asendorpf, J. B., & Ostendorf, F. (1998). Is self-enhancement healthy? Conceptual, psychometric, and empirical analysis. *Journal of Personality and Social Psychology*, *74*, 955–966.

Back, M., Schmukle, S., & Egloff, B. (2010). Why are narcissists so charming at first sight? Decoding the narcissism–popularity link at zero acquaintance. *Journal of Personality and Social Psychology*, *98*, 132–145.

Baumeister, R. F. (1989). The optimal margin of illusion. *Journal of Social and Clinical Psychology*, *8*, 176–189.

Bonanno, G. A., Field, N. P., Kovacevic, A., & Kaltman, S. (2002). Self-enhancement as a buffer against extreme adversity: Civil war in Bosnia and traumatic loss in the United States. *Personality and Social Psychology Bulletin*, *28*, 184–196.

Bonanno, G. A., Rennicke, C., & Dekel, S. (2005). Self-enhancement among high-exposure survivors of the September 11th terrorist attacks: Resilience or social maladjustment? *Journal of Personality and Social Psychology*, *88*, 984–998.

Brunswik, E. (1956). *Perception and the representative design of experiments*. Berkeley, CA: University of California Press.

Buffardi, E. L., Campbell W. K. (2008). Narcissism and social networking web sites. *Personality & Social Psychology Bulletin*, *34*, 1303–1314.

Buhrmester, D., Furman, W., Wittenberg, M. T., & Reis, H. T. (1988). Five domains of interpersonal competence in peer relationships. *Journal of Personality and Social Psychology*, *55*, 991–1008.

Campbell, W. K., & Campbell, S. M. (2009). On the self-regulatory dynamics created by the peculiar benefits and costs of narcissism: A contextual reinforcement model and examination of leadership. *Self and Identity*, *8*, 214–232.

Campbell, W. K., Rudich, E., & Sedikides, C. (2002). Narcissism, self-esteem, and the positivity of self-views: Two portraits of self-love. *Personality and Social Psychology Bulletin*, *28*, 358–368.

Carlson, E. N., Vazire, S., & Furr, R. M. (2011). Meta-insight: Do people really know how others see them? *Journal of Personality and Social Psychology*, *101*, 831–846.

Carlson, E. N., Vazire, S., & Oltmanns, T. F. (2011). You probably think this paper's about you: Narcissists' perceptions of their personality and reputation. *Journal of Personality and Social Psychology*, *101*, 185–201.

Chang, E. C. (Ed.). (2008). *Self-criticism and self-enhancement: Theory, research, and clinical implications*. Washington, DC: American Psychological Association.

Colvin, C. R., Block, J., & Funder, D. C. (1995). Overly positive self-evaluations and personality: Negative implications for mental health. *Journal of Personality and Social Psychology*, *68*, 1152–1162.

Denissen, J. J. A., Geenen, R., van Aken, M. A. G., Gosling, S. D., & Potter, J. (2008). Development and validation of a Dutch translation of the Big Five Inventory (BFI). *Journal of Personality Assessment*, *90*, 152–157.

Dufner, M., Denissen, J. J. A., van Zalk, M., Matthes B., Meeus, W. H. J., van Aken, M. A. G., & Sedikides, C. (2012). Positive intelligence illusions: On the relation between intellectual self-enhancement and psychological adjustment. *Journal of Personality*, *80*, 537–572.

Festinger, L. (1957). *A theory of cognitive dissonance* (Vol. 2). Stanford, CA: Stanford University Press.

Funder, D. C., & Colvin, C. R. (1988). Friends and strangers: Acquaintanceship, agreement, and the accuracy of personality judgment. *Journal of Personality and Social Psychology 55*, 149–158.

DOI: 10.1002/per

Gebauer, J. E., Sedikides, C., Verplanken, B., & Maio, G. R. (2012). Communal narcissism. *Journal of Personality and Social Psychology*, *103*, 854–878.

Gregg, A. P., Hart, C. M., Sedikides, C., & Kumashiro, M. (2008). Lay conceptions of modesty: A prototype analysis. *Personality and Social Psychology Bulletin*, *34*, 978–992.

Gregg, A. P., Hepper, E. G. D., & Sedikides, C. (2011). Quantifying self-motives: Functional links between dispositional desires. *European Journal of Social Psychology*, *41*, 840–852.

Gregg, A. P., Sedikides, C., & Gebauer, J. E. (2011). Dynamics of identity: Between self-enhancement and self-assessment. In S. J. Schwartz, K. Luyckx, & V. L. Vignoles (Eds.), *Handbook of identity theory and research* (Vol. *1*, pp. 305–327). New York, NY: Springer.

Goorin, L., & Bonanno, G. (2009). Would you buy a used car from a self-enhancer? Social benefits and illusions in trait self-enhancement. *Self and Identity*, *8*, 162–175.

Hoorens, V. (2011). The social consequences of self-enhancement and self-protection. In M. D. Alicke & C. Sedikides (Eds.), *Handbook of self-enhancement and self-protection* (pp. 235–257). New York, NY: Guilford Press.

Hoorens, V., Pandelaere, M., Oldersma, F., & Sedikides, C. (2012). The hubris hypothesis: You can self-enhance, but you'd better not show it. *Journal of Personality*, *80*, 1237–1274.

John, O. P., & Robins, R. W. (1994). Accuracy and bias in self-perception: Individual differences in self-enhancement and the role of narcissism. *Journal of Personality and Social Psychology*, *66*, 206–206.

John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In A. Pervin, & O. P. John (Eds.), *Handbook of personality theory and research* (pp. 102–138). New York: Guilford Press.

Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. New York, NY: Guilford Press.

Kiesler, D. J. (1983). The 1982 interpersonal circle: A taxonomy for complementarity in human transactions. *Psychological Review*, *90*, 185–214.

Krueger, J. I., & Wright, J. C. (2011). Measurement of self-enhancement (and self-protection). In M. D. Alicke, & C. Sedikides (Eds.), *Handbook of self-enhancement and self-protection* (pp. 235–257). New York, NY: Guilford Press.

Küfner, A. C. P., Nestler, S., & Back, M. D. (2013). The two pathways to being an (un-)popular narcissist. *Journal of Personality*, *81*, 185–194.

Kurt, A., & Paulhus, D. L. (2008). Moderators of the adaptiveness of self-enhancement: Operationalization, motivational domain, adjustment facet, and evaluator. *Journal of Research in Personality*, *42*, 839–853.

Kwan, V. S. Y., John, O. P., Kenny, D. A., Bond, M. H., & Robins, R. W. (2004). Reconceptualizing individual differences in self-enhancement bias: An interpersonal approach. *Psychological Review*, *111*, 94–110.

Kwan, V. S. Y., John, O. P., Robins, R. W., & Kuang, L. L. (2008). Conceptualizing and assessing self-enhancement bias: A componential approach. *Journal of Personality and Social Psychology*, *94*, 1062–1077.

John, O. P., & Robins, R. W. (1993). Determinants of interjudge agreement on personality traits: The Big Five domains, observability, evaluativeness, and the unique perspective of the self. *Journal of Personality*, *61*, 521–551.

Leary, M. R., Bednarski, R., Hammon, D., & Duncan, T. (1997). Blowhards, snobs, and narcissists. Interpersonal reactions to excessive egotism. In R. M. Kowalski (Ed.). *Aversive interpersonal behaviors* (pp. 111–131). New York, NY: Plenum Press.

Leary, T. (1957). *Interpersonal diagnosis of personality*. New York, NY: Ronald Press.

Lehrl, S. (1995). *MWT, Mehrfachwahl-Wortschatz-Test*. Balingen: PERIMED-spitta.

Lehrl, S. (2005). *MWT-B Mehrfachwahl-Wortschatz-Intelligenztest* (5th ed). Göttingen: Hogrefe.

Malkin, M. L., Zeigler-Hill, V., Barry, C. T., & Southard, A. C. (2013). The view from the looking glass: How are narcissistic individuals perceived by others? *Journal of Personality*, *81*, 1–15.

Mcallister, H. A., Baker, J. D., Mannes, C., Stewart, H., & Sutherland, A. (2002). The optimal margin of illusion hypothesis: Evidence from the self-serving bias and personality disorders. *Journal of Social and Clinical Psychology*, *21*, 414–426.

Morf, C. C., Horvath, S., & Torchetti, L. (2011). Narcissism: Tales of a (successful) self-enhancer. In M. D. Alicke, & C. Sedikides (Eds.), *Handbook of self-enhancement and self-protection* (pp. 399–424). New York, NY: Guilford Press.

Oyserman, D., Bybee, D., & Terry, K. (2006). Possible selves and academic outcomes: How and when possible selves impel action. *Journal of Personality and Social Psychology*, *91*, 188–204.

Paulhus, D. L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing. *Journal of Personality and Social Psychology*, *74*, 1197–1208.

Paulhus, D. L., & John, O. P. (1998). Egoistic and moralistic biases in self-perception: The interplay of self-deceptive styles with basic traits and motives. *Journal of Personality*, *66*, 1025–1060.

Paunonen, S. V. (1989). Consensus in personality judgments: Moderating effects of target–rater acquaintanceship and behavior observability. *Journal of Personality and Social Psychology*, *56*, 823–833.

Raskin, R. N., & Hall, C. S. (1979). A narcissistic personality inventory. *Psychological Reports*, *45*, 590.

Raskin, R., & Hall, C. S. (1981). The Narcissistic Personality Inventory: Alternate form reliability and further evidence of construct validit. *Journal of Personality Assessment*, *45*, 159–162.

Raven, J. C. (1990). *Advanced progressive matrices. Set II*. Oxford: Oxford Psychologists Press.

Robinson, M. D., & Sedikides, C. (2009). Traits and the self: Toward an integration. In P. J. Corr & G. Matthews (Eds.), *Cambridge University Press handbook of personality* (pp. 457–472). Cambridge: Cambridge University Press.

Saucier, G. (1994). Separating description and evaluation in the structure of personality attributes. *Journal of Personality and Social Psychology*, *66*, 141–154.

Schmukle, S. C., Schoenbrodt, F. D., & Back, M. D. (2009). *Triple R: A package for round robin analyses using R (version 0.1)*. Retrieved from http://www.persoc.net.

Schneider, D. J., Hastorf, A. H., & Ellsworth, P. C. (1979). *Person perception*. Reading, MA: Addison–Wesley.

Schupp, J., & Gerlitz, J. Y. (2008). BFI-S: Big Five Inventory-SOEP. In A. Gloeckner-Rist (Ed.), *Zusammenstellung sozialwissenschaftlicher Items und Skalen*. ZIS Version 12.00. Bonn: GESIS.

Schütz, A., Marcus, B., & Sellin, I. (2004). Die Messung von Narzissmus als Persönlichkeitskonstrukt: Psychometrische Eigenschaften einer Lang- und einer Kurzform des Deutschen NPI (Narcissistic Personality Inventory). *Diagnostica*, *50*, 202–218.

Sedikides, C., Campbell, W. K., Reeder, G., & Elliot, A. J. (2002). The self in relationships: Whether, how, and when close others put the self 'in its place'. In W. Stroebe, & M. Hewstone (Eds.), *European review of social psychology* (Vol. *12*, pp. 237–265). Chichester: John Wiley & Sons.

Sedikides, C., & Gregg, A. P. (2008). Self-enhancement: Food for thought. *Perspectives on Psychological Science*, *3*, 102–116.

Sedikides, C., Gregg, A. P., & Hart, C. M. (2007). The importance of being modest. In C. Sedikides, & S. Spencer (Eds.), *The self: Frontiers in social psychology* (pp. 163–184). New York, NY: Psychology Press.

Sedikides, C., & Hepper, E. G. D. (2009). Self-improvement. *Social and Personality Psychology Compass*, *3*, 899–917.

Sedikides, C., Rudich, E. A., Gregg, A. P., Kumashiro, M., & Rusbult, C. (2004). Are normal narcissists psychologically

DOI: 10.1002/per

healthy? Self-esteem matters. *Journal of Personality and Social Psychology*, *87*, 400–416.
Sedikides, C., & Strube, M. J. (1997). Self-evaluation: To thine own self be good, to thine own self be sure, to thine own self be true, and to thine own self be better. *Advances in Experimental Social Psychology*, *29*, 209–269.
Shedler, J., Mayman, M., & Manis, M. (1993). The illusion of mental health. *American Psychologist*, *48*, 1117–1131.
Sternberg, R. J. (2000). *Handbook of intelligence*. New York, NY: Cambridge University Press.
Sosik, J. J. (2005). The role of personal values in the charismatic leadership of corporate managers: A model and preliminary field study. *The Leadership Quarterly*, *16*, 221–244.
Swann, W. B., Jr., Chang-Schneider, C., & McClarty, K. L. (2007). Do people's self-views matter? Self-concept and self-esteem in everyday life. *American Psychologist*, *62*, 84–94.
Swann, W. B., Jr., Rentfrow, P. J., & Guinn, J. S. (2002). Self-verification: The search for coherence. In M. R. Leary, & J. P. Tagney (Eds.), *Handbook of self and identity* (pp. 367–383). New York, NY: Guilford Press.
Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, *103*, 193–210.
Taylor, S. E., Lerner, J. S., Sherman, D. K., Sage, R. M., & McDowell, N. K. (2003). Portrait of the self-enhancer: Well adjusted and well liked or maladjusted and friendless? *Journal of Personality and Social Psychology*, *84*, 165–176.
Thomaes, S., Stegge, H., Bushman, B. J., Olthof, T., & Denissen, J. (2008). Development and validation of the Childhood Narcissism Scale. *Journal of Personality Assessment*, *90*, 382–391.
Vazire, S. (2010). Who knows what about a person? The self-other knowledge asymmetry (SOKA) model. *Journal of Personality and Social Psychology*, *98*, 281–300.
Vazire, S., Naumann, L. P., Rentfrow, P. J., & Gosling, S. D. (2008). Portrait of a narcissist: Manifestations of narcissism in physical appearance. *Journal of Research in Personality*, *42*, 1439–1447.
von Hippel, W., & Trivers, R. (2011). The evolution and psychology of self-deception. *The Behavioral and Brain Sciences*, *34*, 1–16.
Watson, D., Suls, J., & Haig, J. (2002). Global self-esteem in relation to structural models of personality and affectivity. *Journal of Personality and Social Psychology*, *83*, 185–197.
Wiggins, J. S. (1979). A psychological taxonomy of trait-descriptive terms: The interpersonal domain. *Journal of Personality and Social Psychology*, *37*, 395–412.
Williams, R. H., & Zimmerman, D. W. (1982–1983). The comparative reliability of simple and residualized difference scores. *The Journal of Experimental Education*, *51*, 94–97.
Zeigler-Hill, V. A., Besser, A., Myers, E. M., Southard, A. C., & Malkin, M. L. (2013). The status-signaling property of self-esteem: The role of self-reported self-esteem and perceived self-esteem in personality judgments. *Journal of Personality*, *81*, 209–220.

DOI: 10.1002/per