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Abstract

The present research tested competing approaches to individual differences in impression management (as measured with social desirability scales) and their implication for behavior in social contexts. A defensiveness approach argues that impression management is a source of defensive self-presentation, which causes performance impairment in public social settings. The competing adjustment approach argues that impression management measures friendliness and self-control, which should bring about performance facilitation in public social settings. To decide between these approaches, two experiments utilized a social facilitation paradigm, whereby task performance was compared between an alone and a public condition. The results supported the predictions of the adjustment approach. Across different tasks, a high impression management score was associated with performance facilitation in social presence, expressed in greater creativity, positive implicit affect, and high self-control. The results reveal previously unnoticed constructive effects of impression management, supporting the reframing of the trait as reflecting interpersonally oriented self-control.

Keywords

impression management, interpersonally oriented self-control, social desirability, social facilitation, creativity

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Many people change their behavior in the transition from private to public social situation. Scholars in personality and social psychology have studied this issue from different perspectives. Personality researchers have devoted much attention to a predisposition to engage in impression management (IM). This line of research has identified individuals who are prone to portray an overly positive image of themselves on being in (an actual or implied) public social context (Paulhus, 1984). These individuals have high scores in social desirability scales or in the refined subscales of IM. Although scholars agree about the tendency among high IM scorers to change their behavior in public social contexts, no consensus exists on the underlying motivation that guides this behavior. Suggestions range from associating it with defensiveness (e.g., Weinberger, Schwartz, & Davidson, 1979) to associating it with emotional stability (e.g., Borkenau & Ostendorf, 1992). However, objective tests that compare these approaches are lacking.

In social psychology, changes taking place in one's behavior in public social contexts have long been the focus of research on the social facilitation effect (e.g., Allport, 1920/1967; Guerin, 1993). In this research tradition the reaction to social presence is studied experimentally by comparing task performance of a group of participants working alone to a group of participants working in social presence. Evidence now suggests

that individual differences moderate the omnibus group effect, but until recently little was done to systematically explore this possibility (Uziel, 2007).

The goal of the two experiments reported in this article is to fill the gap with respect to our knowledge on both individual differences in IM and social facilitation. The studies aimed to test the competing arguments about individual differences in IM and to explore the role of personality in moderating performance in public social conditions.

Impression Management

Interest with individual differences in IM emerged out of a recognition that people often respond to personality questionnaires in accordance with predetermined response sets.¹ IM was first described as one such bias (e.g., Crowne & Marlowe, 1960). However, researchers quickly realized that scales of IM actually measure a richer concept than mere response style;

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IM scores appeared to reflect psychological substance in the form of a trait or a stable motivation with potentially elaborate effects on behavior (e.g., Bradburn et al., 1979; Crowne & Marlowe, 1964). From this point onward the literature has promoted two competing meanings for this trait, as is described here (for a review, see Uziel, 2010).

Defensiveness Approach

One of the early ideas about the trait-like nature of individual differences in IM has been that they reflect an approval motive (Crowne & Marlowe, 1964). Situations involving social evaluation stimulate this motive and enhance the tendency to adopt conformist and socially accepted behaviors. Ironically, to earn approval, individuals with a high IM score were described as willing to bias information and deceive others. Later, it has been argued that these behaviors stem from a want to avoid social disapproval (Crowne, 1979). That is, IM scales have been described as measuring defensiveness that serves to protect a vulnerable (i.e., low and insecure) self-esteem. Such vulnerability leads to cognitively depleting anxiety in social contexts, which carries myriad negative implications, such as inadequate problem solving, poor school achievement, and low intelligence.

The concept of defensiveness was an integral part in an influential description by Weinberger et al. (1979) of the repressive personality type. Repressors were said to be invested in proving that they are not prone to negative affect. This process leads to cognitive and behavioral deficiencies along with various information-processing biases in socially demanding contexts (Weinberger, 1990).

According to another influential approach (Paulhus, 1984, 2002), individuals who score high in IM scales are sensitive to changes in the social context, such that under public conditions they actively and consciously deceive others to meet their self-presentational goals (cf. Sackeim & Gur, 1979).

In sum, the defensiveness approach suggests that IM sets the stage for a concentrated defensive-driven self-presentation effort. Individuals with a high IM score are said to utilize deception, bias information, and manipulate their surroundings. These behaviors show in particular under socially induced stress, implying the activation of a negative (i.e., threat-based) interpersonal orientation (cf. Uziel, 2007). Consciously prioritizing self-protection is expected to take its toll on task performance at the micro (e.g., carefully editing responses could slow reaction times) and macro (e.g., depletion of cognitive resources, overly rigid behavior) levels, resulting in impaired public performance.

Adjustment Approach

Recently, an alternative approach has been suggested by researchers who advocate considering IM scores at face value, that is, as reflecting a trait that combines emotional stability,

friendliness, and self-control (e.g., McCrae & Costa, 1983; Ones, Viswesvaran, & Reiss, 1996; Uziel, 2010).

One line of supportive evidence for this approach comes from comparisons of self-reports to informant reports about personality traits. In several studies, ostensibly favorably biased self-reports were actually corroborated by reports of knowledgeable informants (spouses and peers; e.g., Borkenau & Ostendorf, 1992; Diener, Sandvik, Pavot, & Gallagher, 1991; McCrae & Costa, 1983; Piedmont, McCrae, Riemann, & Angleitner, 2000).

Further evidence in support of the adjustment approach to individual differences in IM was summarized in Uziel (2010). For example, analyses of brain activity revealed that high IM was associated with approach-related activity pattern (i.e., greater activity in the left frontal cortex; e.g., Kline, Blackhart, & Joiner, 2002); additional physiological evidence showed that IM facilitated a more adaptive coping response to interpersonal rejection (Blackhart, Eckel, & Tice, 2007). Various life data, such as success in marital life (e.g., Fowers, Lyons, & Montel, 1996) or measures of broad social adjustment (e.g., Twenge & Im, 2007), have also indicated that high IM is generally adaptive. In light of the evidence, Uziel (2010) has suggested that IM should be renamed “interpersonally oriented self-control,” reflecting the capacity by high scorers to demonstrate high levels of self-control, especially in public social contexts. According to this view, individuals with a high IM score are expected to hold a positive (i.e., approach-based) interpersonal orientation and to show performance improvement in social presence (cf. Uziel, 2007).

To summarize, two contrasting views exist with regard to individual differences in IM. One view associates it with defensiveness and a vulnerable self-esteem. The opposite view associates it with emotional stability, friendliness, and self-control. The two approaches, however, are not in complete disagreement: They concur that IM reflects interpersonal sensitivity, such that the behavior of individuals with a high score changes greatly in public contexts. The approaches disagree on the level of control and competence that these individuals demonstrate in this condition. The position of the defensiveness approach is that they show little competence, whereas the adjustment approach argues that they show high competence.

One of the better ways to test these competing predictions is to experimentally study the social behavioral outcomes associated with individual differences in IM. The next section focuses on social facilitation, a research paradigm that offers a suitable platform for such a test.

Social Facilitation

The Effect

The social facilitation effect refers to an individual’s reaction, usually in the context of task performance, to being in the

presence of others (as observers or coactors). In spite of being one of the first questions in social psychology, it was not until 1965 that a significant progress was made in consolidating the literature into a comprehensive theory (Zajonc, 1965).

Following Zajonc (1965), a consensus has emerged that equates the social facilitation effect with performance improvement in simple tasks and performance impairment in complex tasks, that is, with placing the nature of the task—simple or complex—as the central moderator of the effect. Consequently, the theoretical discourse has focused on the process that mediates the reaction to social presence, whether it is uncertainty (Guerin & Innes, 1982), evaluation apprehension (Cottrell, 1972), self-awareness (Carver & Scheier, 1981), or distraction (Baron, 1986). These processes, along with considerations in favor of each, have been discussed at length in several reviews (e.g., Guerin, 1993; Uziel, 2007).

Notwithstanding, a meta-analysis has highlighted the need to reconsider some of the basic conceptions about this effect (Bond & Titus, 1983). Two of its most substantial conclusions were (a) that social presence accounts, on average, for only a small amount of variance (between 0.3% and 3.0%) in both simple and complex task performance and (b) that comparable studies typically yield inconsistent and often contradictory results. These conclusions indicated that other factors in addition to task complexity moderate this effect. However, until recently, no such variables have been systematically studied.

Individual Differences in the Social Facilitation Effect

A recent review has suggested that mere social presence represents important yet ambiguous social condition (Uziel, 2007). The centrality of others in our lives makes their presence important to us; however, the lack of knowledge about the consequences that may follow makes it also ambiguous.

A critical factor in shaping the reaction to social presence is the interpersonal orientation that the actor adopts, whether it is negative or positive. The former is reflected in greater sense of threat, apprehension, or distraction, whereas the latter is expressed in self-assurance and enthusiasm. Each orientation sets off a cascade of affective (anxiety, depression vs. challenge, enthusiasm), motivational (withdrawal vs. approach), and cognitive (rumination and distraction vs. active generation of ideas) processes. These processes, in turn, cause negative orientation to be associated more often with performance impairment and positive orientation to be associated more often with performance improvement in public conditions.

What determines one's interpersonal orientation? Sure enough, task complexity is a viable candidate; individuals expecting to perform complex tasks in front of observers are likely to adopt a negative orientation (Blascovich, Mendes, Hunter, & Salomon, 1999). Still, for some individuals even the simplest of tasks is experienced as complex when

performed in the presence of others. This raises the possibility that personality moderates this effect.

The relative contributions of personality and task complexity were tested in a meta-analysis, which found that the personality of the actor was a substantial moderator of the effect, whereas the independent contribution of task complexity was small (Uziel, 2007). Traits that reflect positive interpersonal orientation (e.g., high self-esteem) were associated with performance facilitation in social presence (regardless of the complexity of the task performed), whereas traits that reflect negative orientation (e.g., trait anxiety) predicted impaired performance in social presence (again, regardless of task complexity).

A social facilitation paradigm is thus an appropriate context for testing the competing predictions by the two approaches to individual differences in IM. To the extent that IM reflects defensiveness, social performance by individuals with a high IM score should be impaired, and if IM reflects adjustment, high scores should contribute to performance facilitation in social presence.

The Present Studies

The two experiments in this report compare task performance alone to performance in the presence of audience. A few early studies have applied similar procedures (Barger, Kircher, & Croyle, 1997; Baumeister & Cairns, 1992; Derakshan & Eysenck, 1997; Kline et al., 2002; Newton & Contrada, 1992). However, they differed from the present research in two ways: They manipulated aversive social conditions (e.g., by asking participants to publicly discuss their shortcomings), and most were interested in only physiological reactions. The results across these studies were inconsistent insofar as no reliable evidence was found for greater reactivity among individuals high in IM (Uziel, 2010). The current research is unique in focusing on a neutral public social setting, in measuring cognitive capacity, and in evaluating explicit and implicit behavioral outcomes.

Participants in the current studies were asked to work on relatively complex tasks. Complex performance better differentiates between the predictions by the competing approaches: Performance impairment would show more readily in the context of a complex task (supporting the defensiveness approach), and performance improvement would be more telling in this context (supporting the adjustment approach). In particular, the focus was on creative performance, which is especially challenging for individuals high in IM, considering that this trait is associated with closeness (vs. openness) to experience and with personal values favoring stability over change (e.g., McCrae & Costa, 1983; Schwartz, Verkasalo, Antonovsky, & Sagiv, 1997). Measures of creative performance were accompanied by additional measures—content analyses, reaction time, and persistence—which aimed to provide insight into participants' implicit emotional experience

and self-regulatory resources. In addition, both studies focused on objective behavioral outcomes rather than on subjective self-reports (cf. Uziel & Baumeister, 2009).

Study 1

Overview

Participants engaged in two tasks that served to measure their creativity, implicit affect, and self-control, albeit in quite different ways. With detail, one of the tasks was to write a story based on a Thematic Apperception Test (TAT) picture (cf. Smith & Petty, 1995). There was no time limit, and creativity and affective valence were judged subjectively. The time spent working on this task served to measure persistence and self-control. The second task, single-word association (cf. Madigan & Bollenbach, 1982), involved intense time pressure. In this reaction time task, participants' first associations in response to stimuli words were objectively rated for originality. There was also a subjective rating of the affective valence of the responses. Reaction time measures assessed whether speed was compromised for careful editing.

The hypotheses were straightforward: To the extent that IM measures defensiveness, it should be associated with less creative performance, more negative affective valence, less self-control, and slower (i.e., edited) reaction time in the public social condition compared to the alone condition. The opposite pattern should unfold if IM scores reflect adjustment.

Method

Participants. Participants were 168 students of the Hebrew University (78 in the experimental group). The average age was 24 (range = 19–40), and 62.5% (105) were females.

Materials: Impression management. Individual differences in IM were measured with the Lie scale of the short version of the Eysenck Personality Questionnaire–Revised (EPQ-RS; Eysenck, Eysenck, & Barrett, 1985). This scale has been applied as a valid measure of individual differences in IM in a large number of studies (e.g., Borkenau & Ostendorf, 1992; Kline et al., 2002; McCrae & Costa, 1983). Sample items include “Do you always practice what you preach?” and “Are all your habits good and desirable ones?” To maximize reliability, a 4-point Likert-type response format was utilized (1 = *definite no*, 2 = *no*, 3 = *yes*, 4 = *definite yes*; see Muniz, Garcia-Cueto, & Lozano, 2005). The present reliability was satisfactory ($\alpha = .73$).

Materials: Story writing task. A variation of a task used by Smith and Petty (1995) was used as a measure of affective state and affect regulation efforts. The participants were asked to write a story based on an ambiguous picture presented to them (TAT Picture 14 depicting in black and white a man looking out of a window). They were instructed to describe the main character's thoughts and feelings. There was no time

limit. Several indices were derived from the performance on this task: (a) *pleasantness of the complete story*, (b) *pleasantness of the first complete idea in the story* (this measure was used to evaluate the initial affective reaction to social presence and was therefore applicable only to participants who performed the task as the first task in the experiment), (c) *creativity of the complete story*, and (d) *persistence in writing the story*. Persistence served to measure self-control and as such was applicable only to participants who performed this task as the final task in the experiment (cf. Vohs, Baumeister, & Ciarocco, 2005).

The following procedures were applied in calculating the above indices:

The *pleasantness of the complete story* and of the *first complete idea* were rated by two female judges who were blind to the purpose of the study. Ratings were made on a 9-point scale ranging from 1 (*low pleasantness*; e.g., sadness, loneliness, sorrow) to 9 (*high pleasantness*; e.g., happiness, content, friendliness). Agreement between the ratings was high ($r_s = .91$ and $.83$ for the complete story and for the first idea, respectively), and they were subsequently averaged.

Creativity of the complete story was quantified as outlined in Amabile (1982): two female judges who were blind to purpose of the study rated each story using a 7-point scale (1 = *not at all creative* to 7 = *very creative*). Creativity was defined to represent “what you [the judge] consider creative.” The judges reached a satisfactory level of agreement ($r = .73$) between their ratings, which were averaged.

Persistence in writing the story: Unknowingly to the participants, the experimenter measured the time spent writing the story.

The *single-word association task* had two parts. The first part was based on stimulus words presented in Madigan and Bollenbach (1982, Experiment 2), who found that reactions to these words were reflective of emotional states. The second part was developed by the author and was used for reaction time measurement. In the two parts of the task (which participants experienced as one task) participants had to respond as quickly as possible with the first word that comes to mind to each stimulus word on the screen by pressing the space bar and writing the word in a pop-up box. The first part included 15 stimulus words (such as *snow*, *love*, *energy*). The associations made in response to these words were judged for *pleasantness* and for *creativity*. The second group of stimulus words included 40 words: 20 had neutral content (e.g., *paper*, *clock*, *tomato*) and 20 had embarrassing or emotionally loaded content (e.g., *failure*, *murder*, *prostitute*). Five words from each group appeared in rotation until all 40 were presented. To the extent that IM measures defensiveness, one could expect a noticeable *difference in the reaction time* for the embarrassing words compared to the neutral words by individuals high in IM especially in social presence.

The following procedures were followed in the calculation of the above indices:

Pleasantness of the associations was rated by two female judges who were blind to the purpose of the study. Each judge was asked to rate the level of pleasantness of each stimulus–association combination on a 9-point scale (1 = *low pleasantness* to 9 = *high pleasantness*). The two raters had a correlation .95 between their ratings, which were averaged.

Creativity of the associations was quantified by using objective criteria. Each response word was assigned a score based on its relative frequency as a response to a particular stimulus word. After having calculated the relative frequency of each association, the file was rearranged such that each participant had 15 (the number of associations) individual relative frequency scores, which were averaged. Each participant's average score was then deduced from 1 to create a scale in which a high score meant less frequent and more original associations.

Reaction times were calculated for the 40 stimulus words in Part 2 of the task. A procedure detailed by Tamir and Robinson (2004) was followed in processing the data: For each participant, an average response time and average standard deviation were calculated. Reaction times slower than “the participant's average +3.5 standard deviations” were transformed to this upper limit score. A new average reaction time score was calculated for each participant. Data were normalized with a log transformation. For each participant, a *residual score* was calculated, representing the statistical difference between the reaction time for the embarrassing words and the neutral words. The larger the residual, the slower the participant's relative response time to the embarrassing content.

Explicit emotions were measured using the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), which consists of 20 items depicting positive feelings (e.g., enthusiastic) and negative feelings (e.g., distressed). Participants described their state “right now” on a scale ranging from 1 (*very slightly or not at all*) to 5 (*extremely*). Scales reliabilities were adequate: alphas were .80 and .83 for positive and negative affect, respectively.

Procedure. Participants arrived individually to an experiment on the use of language. After signing a consent form, each participant was left alone in the room to complete the IM questionnaire. Next, participants were randomly assigned to a control or an experimental group. In the experimental group, an observer entered the room (for 41 participants the observer was a female and for 37 a male) sitting 1.5 m behind the participant, facing the participant. The participants were informed that (the observer's name) will be observing their behavior in the coming minutes. They were asked (and all complied) not to initiate conversation with him or her. The observer was instructed to sit quietly for the whole duration. In the control group, participants stayed (truly) alone in the room. Next, all participants were asked to complete the affect questionnaire, followed by the story writing and single-word association tasks. The order of tasks was counterbalanced across participants. On completion, the observer was excused

(in the experimental group) and participants were asked to provide some demographic info and were then fully debriefed and compensated.

Results

Results of the story writing task are presented first, followed by the single-word association task. Throughout, hierarchical multiple regression analyses tested the main effects of social presence and IM (Step 1) and their interaction (Step 2) in affecting the various performance outcomes.²

Story writing: Pleasantness. A regression model to predict the pleasantness of the complete stories revealed only a main effect for IM, $\beta = .23$, $t(163) = 3.01$, $p < .01$, indicating that high IM scores were associated with writing more pleasant complete stories. Although the expected interaction between IM and social presence condition did not reach statistical significance, the association between IM scores and stories pleasantness was significant only in social presence condition ($r = .32$, $p < .01$) and not in the alone condition ($r = .14$, *ns*).

To study the temporal dynamics of the affective reaction to social presence, the pleasantness of the first complete idea of the stories (i.e., participants' initial implicit reaction to the presence of others) was compared to the pleasantness of the complete stories (reflecting the overall implicit pleasantness of working in social presence). The analyses revealed a small, nonsignificant, yet positive correlation between IM scores and the pleasantness of the first idea ($r = .19$, *ns*) and a strong positive correlation with the pleasantness of the complete story ($r = .54$, $p < .01$). That is, the initial spontaneous reaction by individuals high in IM to the presence of others was positive, albeit moderate, and crucially their pleasantness gained momentum as the social situation extended.

Still, writing pleasant stories could reflect a successful self-presentation effort by individuals high in IM. If that was the case, then according to the defensiveness approach, high IM scores should be associated with impairment on other aspects of the task. Specifically, individuals high in IM should come short of having the cognitive resources required to think creatively. The creativity of the stories was therefore analyzed to explore this possibility.

Story writing: Creativity. The regression analysis to predict the effect of IM and social presence on the creativity of the stories yielded a significant interaction, $\beta = .22$, $t(163) = 1.99$, $p < .05$. Probing the interaction revealed that in the alone condition a high IM score was associated with writing less creative stories ($r = -.16$), whereas in the social presence condition a high IM score contributed to writing more creative stories ($r = .15$; see Figure 1).

Considered together, the above findings indicate that a high IM score contributed to writing more pleasant and more creative stories in social presence, the one not excluding the other. To directly explore the possibility of a pleasantness–creativity trade-off, I examined the correlations between these two

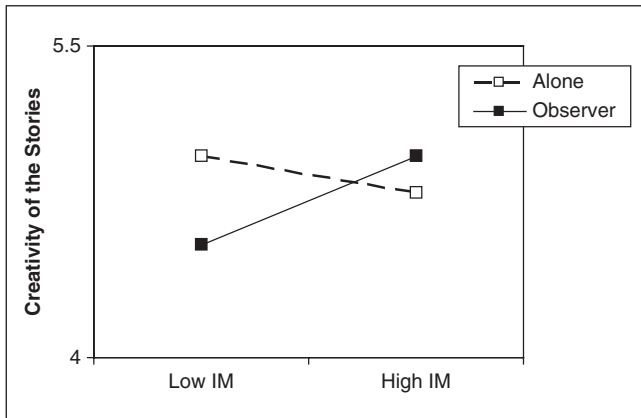


Figure 1. Interaction between impression management score (IM) and social presence in predicting the creativity of the stories

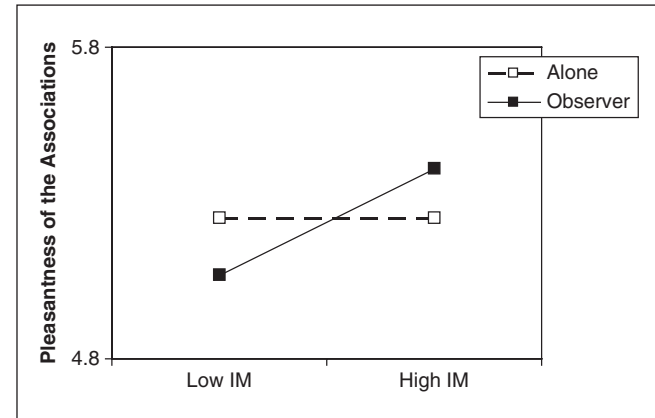


Figure 2. Interaction between impression management score (IM) and social presence in predicting the pleasantness of the single-word associations

Table 1. Correlations Between Pleasantness and Creativity of Stories Written by Individuals High and Low in Impression Management (IM) Alone and in Social Presence

	Condition	
	Alone	Social presence
High IM	-.16	.26 ^b
Low IM	.12 ^b	-.32 ^{ab*}

Note: The pleasantness–creativity correlation for the entire sample was $-.04$, ns ; correlations denoting different superscripts significantly differ at the $p < .05$ level.

* $p < .05$.

measures among four groups of participants (high/low IM score in alone/social presence condition). As seen in Table 1, among observed high IM individuals there was a positive correlation between creativity and pleasantness, whereas a clear resource trade-off was found only among observed low IM individuals ($r = -.32$, $p < .05$).

Story writing: Persistence. One expression of self-control is persistence in task performance in the face of difficulties (e.g., Baumeister, Bratslavsky, Muraven, & Tice, 1998). Such was the case for the time invested in writing the stories when the story writing task was the final task in the experiment (i.e., after participants were somewhat depleted by early performance).

Analyses of the data showed that participants spent on average more time writing stories when they were alone in the room (analyses were made on log-transformed normalized data; seconds are presented here for interpretability; $M_{\text{sec}} = 375.6$, $SD = 198.9$) compared to when they were in the presence of an observer ($M_{\text{sec}} = 303.4$, $SD = 156.7$), $t(79) = 1.99$, $p = .05$. Importantly, individual differences in IM significantly contributed to persistence in writing stories in social presence ($r = .33$, $p < .05$) but not while alone ($r = .06$, ns).

The above results imply that individuals high in IM showed more creativity, greater pleasantness, and more self-control in social presence, supporting the assertions of the adjustment approach. Notwithstanding, the results may reflect to some extent the nature of the story writing task. For example, with no time pressure, individuals high in IM managed to be both pleasant and creative, albeit being motivated by defensive self-presentation. The robustness of these results was tested under a different set of demands in the single-word association task. In this task, participants worked under intense time pressure. Their responses were objectively rated for creativity (originality) and subjectively judged for pleasantness. In addition, reaction times served to track defensive editing processes.

Single-word association: Pleasantness. The pleasantness of the single-word associations was regressed on the independent variables and revealed a similar pattern of results to those found in the story writing task: IM interacted with social presence, $\beta = .34$, $t(163) = 2.84$, $p < .01$, such that high IM scores were associated with more pleasant associations in social presence ($r = .35$) but not alone ($r = .01$). Figure 2 illustrates this interaction.

Single-word association: Creativity. The creativity of the associations was evaluated objectively by calculating the uniqueness of each association, thus addressing the concept of cognitive fluency with a different operationalization. A regression analysis yielded a marginally significant interaction between IM and social presence, $\beta = .22$, $t(163) = 1.85$, $p < .07$. Probing the interaction revealed that high IM scores were associated with more creative associations in social presence ($r = .10$) but with less creativity while alone ($r = -.18$). Figure 3 illustrates the interaction.

It appears that individuals high in IM were more positive and somewhat more creative in social presence on this task as well. Next, I sought to explore whether individuals high in IM were more prone than low scorers to activate psychological

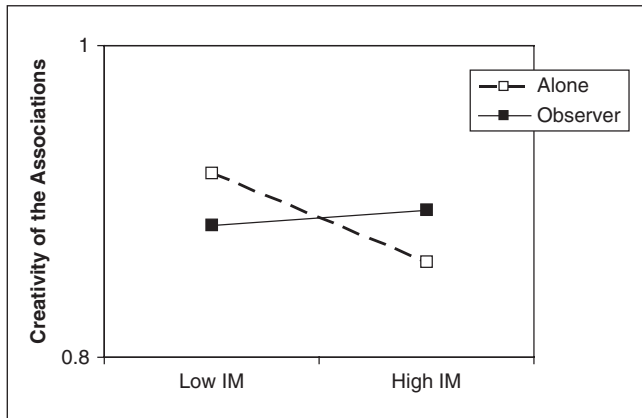


Figure 3. Interaction between impression management score (IM) and social presence in predicting the creativity of the single-word associations

defenses in social presence, as reflected in their reaction times to embarrassing stimuli.

Single-word association: Reaction time. A residual was derived, which represented the difference between reaction time to the embarrassing associations and reaction time to the neutral associations (see the method section for the exact procedure).

The first stage in the analysis involved testing whether the embarrassing stimuli yielded slower reaction times than the neutral stimuli, as would be expected if a more stringent editing process took place. The analysis revealed that reaction times were indeed much slower for the embarrassing stimuli (analyses were made on log-transformed normalized data; milliseconds are presented here for interpretability; $M_{ms} = 3312$, $SD = 1149$) than for the neutral stimuli ($M_{ms} = 2590$, $SD = 770$), $t(154) = 17.28$, $p < .01$. Next, the reaction time residual was regressed on the independent variables. The results were non-significant, $ts < 1$: IM was not associated with slower reaction time alone ($r = -.01$, ns) nor in social presence ($r = .01$, ns). This pattern of results indicates that individual differences in IM were not associated with an exceptionally careful editing of responses to embarrassing content even when self-presentation was an obvious concern.

Affect. Positive and negative affect were regressed (separately) on the independent variables to explore the role of conscious emotional experience in the reaction to social presence. The analyses yielded no significant effects. The implication from these results is that individuals high in IM did not report low levels of negative affect or exaggerated their reports on positive affect in social presence, as the defensiveness approach for this trait had predicted.

Discussion

The results of Study 1 are more consistent with the predictions of the adjustment approach than with those of the defensiveness

approach. With detail, in the presence of others, high IM scores were associated with implicit pleasantness, creativity and originality, and persistence and with no evidence for defensiveness. Furthermore, the various positive elements in high IM individuals' task performance were not mutually exclusive, meaning that they had sufficient self-control and cognitive resources to be at their best in social presence. Study 2 aimed to explore the robustness of these findings with a new sample and a different set of tasks.

Study 2

Overview

In Study 1, participants were not instructed to be creative. It could be that individuals high in IM activate expensive defensive strategies only when they feel being tested for a particular achievement. Study 2 addressed this issue by having participants work on a task ("use of objects") in which creativity was a declared goal. Second, the defensiveness approach to IM argues that the behavior of individuals high in IM is aimed at protecting a vulnerable self-image. To directly address this argument, Study 2 also presented a reaction time task ("sentence completion") that comprised self-related stimuli (e.g., "Being myself is . . ."). If social evaluative conditions make individuals high in IM overly concerned about their self-image, one would expect to find a clear trade-off among the levels of pleasantness, creativity, and reaction times in their responses on this task in the social presence condition.

Method

Participants. Participants were 167 students of the Hebrew University (83 in the experimental group). Their average age was 24.4 (range = 19–46). Of the participants, 55% (92) were females.

Materials: Impression management. Individual differences in IM ($\alpha = .72$) were measured with the EPQ-RS (see Study 1).

Use of objects task. A computerized and slightly modified version of the original use of objects task (Getzels & Jackson, 1962) was utilized to test one's ability to switch frames of reference and to use the environment in an original way. In the present study, participants faced a computer screen that presented one of three names of everyday objects (a brick, a paper, toothpicks, presented in random order) and were asked to write as many uses as possible for each object, including unusual or bizarre uses. Each object was presented for 150 seconds. The following data were collected: the *overall number of uses*, the number of *use categories*, and the number of *rare categories*.

The indices were calculated with the following procedure: In total, participants wrote about 1,500 uses per object. Each use was assigned to just one use category, coming down to

about 70 categories per object. Each category was assigned a frequency score, which represented its relative prevalence. Categories with a frequency score of 3% or less were considered rare. Next, each participant was assigned two scores: number of *use categories* and number of *rare categories*. The former represented fluency of thought and the latter, originality. There was a substantial overlap between these scores ($r = .82$, $p < .01$).

Materials: Sentence completion task. Participants were presented with short incomplete sentences and instructed to complete each sentence with a word or a short sentence and to do so as quickly as possible. There were 30 sentences taken from two domains: 18 neutral sentences (e.g., “Work is . . .,” “The newspaper headline was . . .”) and 12 self-related sentences (e.g., “Sometimes I . . .,” “Being me is . . .”). The sentences were presented in the following order: 4 neutral, 4 self, 5 neutral, 4 self, 5 neutral, 4 self, 4 neutral. Akin to the single-word association task (Study 1), responses were judged for *pleasantness* and *creativity*. In addition, there was a *reaction time* measure, reflecting the difference in the reaction time to the neutral and self-related sentences.

The following procedures were followed in the calculation of the above indices:

Pleasantness of the associations was evaluated by two judges who followed the same procedure that was used in judging the pleasantness of the single-word associations in Study 1 (the correlation between the ratings of the judges was .91).

Creativity of the associations was quantified by using the same objective criteria that were used to evaluate the creativity of the single-word associations in Study 1.³

Reaction times were measured for all 30 sentences. The approach to data analysis was identical to that applied for the single-word association task in Study 1. In the present study, the reaction time *residual* reflected the result of regressing the reaction time to the self-related sentences on the reaction time to the neutral sentences. The higher the residual score, the slower the participant’s relative response time to the self-related sentences.

The PANAS served to measure explicit positive affect ($\alpha = .84$) and negative affect ($\alpha = .89$).

Procedure. Participants arrived individually to an experiment on cognition and emotion. After signing a consent form, participants were randomly assigned to a control or an experimental group. In the experimental group an observer entered the room at this point (for 42 participants the observer was a female, and for 41 a male; see the Procedure section of Study 1 for a description of the observer’s behavior). All participants were then asked to complete the affect questionnaire. On completion, participants were asked to follow instructions on the screen and complete the two tasks (use of objects and sentence completion). The order of the tasks varied randomly across participants. After concluding the tasks participants were handed the IM questionnaire and a demographic

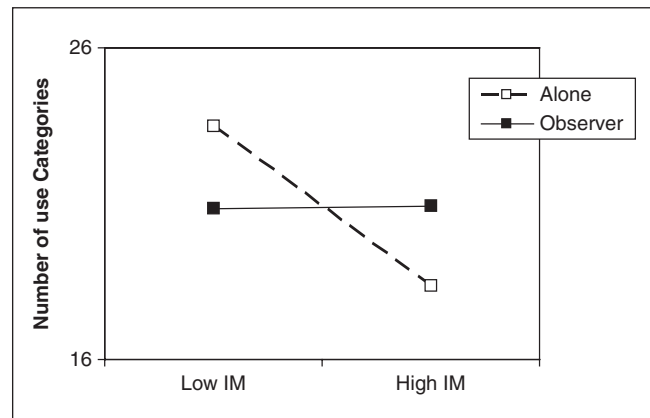


Figure 4. Interaction between impression management score (IM) and social presence in predicting creativity in the use of objects task

questionnaire, which were filled in while alone. On completion, the participants were fully debriefed and compensated.

Results

As in Study 1, all analyses included a test of the interaction between IM and social presence and the lower terms.

Use of objects. The average participant suggested 21 use categories ($SD = 5.85$; combined for the three objects), 8 ($SD = 4.72$) of which were considered rare (examples of rare use categories include “a geisha’s pillow” as a use for a brick and “building blocks of a raft” as a use for toothpicks). To test the hypotheses, the number of use categories and (on a separate analysis) the number of rare categories were regressed on the independent variables. For the number of use categories there was a main effect for IM, $\beta = -.18$, $t(162) = -2.23$, $p < .05$, indicating that IM was negatively associated with the number of categories. Importantly, the main effect was qualified by a significant interaction between IM and social presence, $\beta = .23$, $t(162) = 2.19$, $p < .05$. Probing the interaction revealed that IM scores were negatively correlated with the number of use categories only in the alone condition ($r = -.39$, $p < .01$, but not in social presence ($r = .01$, *ns*; Figure 4). The same pattern was revealed for the number of rare categories: A significant main effect for IM, $\beta = -.16$, $t(162) = -1.99$, $p < .05$, was qualified by a marginally significant interaction with the social condition, $\beta = .21$, $t(162) = 1.97$, $p = .051$, indicating that high IM scores were associated with writing fewer rare use categories only in the alone condition ($r = -.32$, $p < .01$) but not in the presence of others ($r = .01$, *ns*).

Although the results of the use of objects task did not show that individual differences in IM are associated with greater creativity per se, they did show that in contrast to the suggestion of the defensiveness approach, high IM scores predicted better creative yield in the socially evaluative context than in

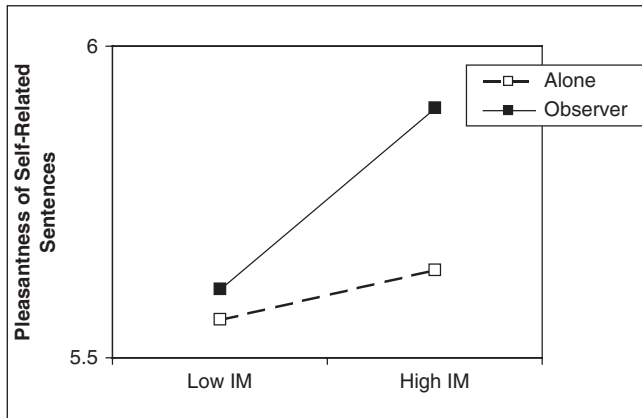


Figure 5. Interaction between impression management score (IM) and social presence in predicting the pleasantness of the self-related sentences

the relatively nonthreatening alone condition. That is, a self-presentational context actually cancelled out (rather than deepened) a negative association between IM and creativity in suggesting uses for objects.

Sentence completion. In this task participants were asked to react as quickly as possible to a series of 30 sentences. Of the sentences 12 were self-related and confronted participants with their views of themselves. The analyses focused on pleasantness, creativity, and reaction times of the responses.⁴

Sentence completion: Pleasantness. The regression analyses yielded a marginally significant two-way interaction in predicting the pleasantness of the self-related sentences, $\beta = .19$, $t(161) = 1.92$, $p < .06$. As illustrated in Figure 5, high IM scores were associated with positive self-related associations only in the presence of others ($r = .31$) but not while alone ($r = .02$). That is, the spontaneous reaction among individuals high in IM in social presence was to think positively about themselves. No other effects were found involving the self-related or neutral sentences.

Sentence completion: Creativity. Regression analyses yielded a significant two-way interaction pertaining the neutral sentences, $\beta = .23$, $t(161) = 2.31$, $p < .05$, such that IM scores were negatively associated with creativity while alone ($r = -.25$) but positively associated with creativity in social presence ($r = .12$). A trend in the same direction was found for the self-related sentences, where IM scores were negatively associated with creativity in the alone condition ($r = -.18$) but not in the social presence condition ($r = .02$). Once again, then, a high score in an IM scale was associated with a relatively better creative yield in a public social condition than in a private condition.

Sentence completion: Reaction times. Analyses of reaction time data started with a comparison between the two sets of sentences, which yielded the expected effect. Reaction times were slower for the self-related sentences (analyses were made on log-transformed normalized data; milliseconds are

Table 2. Correlations Among the Pleasantness, Creativity, and Reaction Times Pertaining the Self-Related Sentences Among Individuals High and Low in Impression Management (IM) in Social Presence

	Pleasantness	Creativity
Low IM ($n = 39$)		
Creativity	-.42*	—
Reaction time	-.19	.20
High IM ($n = 43$)		
Creativity	-.06	—
Reaction time	.04	.01

* $p < .01$.

presented here for interpretability; $M_{ms} = 3628$, $SD = 1572$) than for the neutral sentences ($M_{ms} = 2824$, $SD = 1042$), $t(166) = 15.61$, $p < .01$), implying that participants spent more time thinking about their responses when the content was personal.

Next, the reaction time residual (reflecting the difference between the two types of sentences) was regressed on the independent variables. The two-way interaction and the lower terms did not yield significant effects. In general, however, there was a trend for IM to be associated with responding relatively faster for the self-related items, particularly in the social presence condition ($r = -.16$, $p < .15$). In all, these results imply that individual differences in IM were not associated with excessive thinking time even when participants' self-image was the focus of attention and their behavior was monitored.

To extend the investigation, the next set of analyses focused on trade-offs among speed, creativity, and pleasantness. The intercorrelations among these variables in the responses to the self-related sentences in the social presence condition are presented in Table 2, separately for high- and low-IM individuals.

As seen in Table 2, among high-IM individuals in social presence, being creative was not at the expense of working quickly or of being less positive. Thus, it appears that high-IM individuals were not threatened by personal exposure in social presence and their resources were not depleted. In contrast, when low-IM individuals worked in the public social condition, coming up with pleasant self-related associations was at the expense of their originality (and vice versa; $r = -.42$, $p < .01$). That is, among low-IM individuals positive self-presentation had a clear information-processing toll.

Affect. Similar to for Study 1, analyses of explicit emotional experience in the reaction to social presence yielded null effects.

Discussion

The above findings lend further support to the arguments of the adjustment approach to individual differences in IM. Compared to their performance alone, in the presence of others

individuals high in IM displayed more creative, positive, and resourceful performance across two different tasks. Rather than displaying heightened anxiety and an array of information-processing deficiencies in a socially demanding situation—as predicted by the defensiveness approach—individuals high in IM seemed to have optimized their potential in this context by adopting an approach orientation and by succeeding in overcoming some of their relative weaknesses.

General Discussion

The literature on individual differences in IM is voluminous. It is mainly composed of studies that utilize IM scales as validity scales in the process of constructing and applying personality inventories (e.g., Ones et al., 1996). Such applications rest on the assumption that high scores on IM scales are indicative of a socially desirable response style, which would undermine data validity unless controlled for. Broad theoretical models further associate individual differences in IM with defensiveness, other deception, and repressiveness.

According to the defensiveness approach, in socially demanding conditions individuals high in IM are highly invested in self-presentation. Their “obsession” with their social image is manifested in rejection of explicit negative affect, enhanced implicit anxiety, and, importantly, in an array of performance deficiencies, reflecting depleted self-control resources and cognitive overload.

Resting on evidence that connects excessive self-presentation with impaired performance outcomes (e.g., Vohs et al., 2005), the present set of studies challenged individuals high in IM in more than one respect: It created a socially evaluative setting, experienced by many people as stressing; it focused on a relatively nondominant faculty among high-IM individuals—creative performance; it involved embarrassing and personal contents, which are especially difficult to manage in public; it presented multiple simultaneous goals; and, rather than relying on self-reports, it focused on objective, behavioral, and often implicit responses.

The two studies yielded consistent findings, which are in disagreement with the defensiveness approach to IM. Specifically, Study 1 showed that only in the public social condition high IM scores predicted pleasant stories and pleasant single-word associations, creative stories and original associations, an ability to manage multiple goals (in the association task), and persistence and high self-control (in the story writing task). Study 2 replicated and extended these results. IM was again associated with adaptive social behavior. Individuals scoring high on this trait expressed in social presence pleasant implicit affect (in the sentence completion task) and a relatively more fluent stream of ideas (in the use of objects task and the sentence completion task). In both studies, individuals high in IM did not have to compromise one performance aspect to excel on other aspects. However, such effects did show among individuals low in IM.

An interesting finding that emerged in both studies is the lack of association between IM scores and self-reported explicit affect. It should be noted that the present outcome is no exception. Across many previous studies there typically is no correlation between IM and affect (Uziel, 2010). And yet in the present context this outcome is also quite telling. First, a similar null association with affective intensity is typical among high self-control individuals (Baumeister & Alquist, 2009); and second, this pattern of results is inconsistent with the predictions of the defensiveness approach. According to this approach, individuals high in IM are expected to strongly deny having negative emotions in public social contexts. After all, if one is driven by self-presentational concerns, what better way is there to appear competent than by explicitly declaring that one is challenged and not anxious (cf. Derakshan & Eysenck, 1997)?

These findings, coupled with the significant effects found for the implicit affective measures and the performance outcomes, inform us about the nature of the interpersonal orientation that characterize individuals high in IM. Quoting Lane, Merikangas, Schwartz, Huang, and Prusoff's (1990) conclusion, a high score on an IM scale appears to represent “an unconsciously motivated method of self-regulation that promotes emotional-stability” (p. 576). More broadly, the results are consistent with the main assertions of the adjustment approach, as outlined in Uziel (2010): Public social contexts indeed motivate individuals high in IM, but the core characteristic of high-IM scorers resides with their self-control capacity and with their success in optimizing this capacity in socially demanding conditions, that is, in their ability to demonstrate interpersonally oriented self-control.

The adjustment approach should not be thought of as arguing that IM always predicts good performance or enhanced cognitive capacities. The main argument of the adjustment approach is that when it comes to their interpersonal approach, individuals high in IM act in a way that reflects adjustment rather than defensiveness. This behavior is based on some desirable capacities that these individuals hold (such as self-control) and that they choose to express mostly in public social contexts. However, like other complex personality dimensions, IM predicts some negative (i.e., less desirable) outcomes as well. One such relative weakness of high IM scorers (i.e., creativity) was purposely selected to be the focus of the present studies. It is the fact that they managed to overcome their weakness in the stress-inducing public condition that indicates relative adjustment.

The current findings carry implications for the social facilitation literature as well. Across four tasks and myriad measures, mere social presence had little substantial independent effect on performance. Effects of social presence were demonstrated consistently, however, in interaction with personality. Although participants performed tasks of varying levels of difficulty, it was the interpersonal orientation of the actor that had a more substantial role in determining the final

outcome (cf. Uziel, 2007). Thus, the effect of mere social presence appears not to be weak overall (cf. Bond & Titus, 1983) but rather complex and multifaceted and to depend to a large extent on the expectations and capacities of the actor.

The present findings have several practical implications. First, they challenge the widespread practice of controlling for IM scores in validating personality questionnaires. In the current studies, not only did individual differences in IM predict actual social behavior (rather than response style), but they also appeared to be associated with adaptive behavior. Statistically removing IM scores may therefore do more harm than good. Second, a similar conclusion applies for personnel-selection procedures. Bluntly discrediting applicants with high IM scores should be reconsidered, as high scorers could be of much use to organizations. Finally, the pattern of results demonstrated that monitoring as an organizational supervision practice might harm some individuals, but it might also be quite beneficial for others in helping them to achieve optimal performance.

In conclusion, two studies demonstrated that individuals high in IM gain substantial advantage from working in public social contexts thanks to their greater self-control resources. As such, these results support the approach that asserts that individual differences in IM contribute to psychological adjustment. Future studies should further extend these results in laboratory and real-life settings.

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Notes

1. Impression management (IM) is considered the conscious, overt, and most disturbing expression of a broader socially desirable response style, which also includes a tendency for

self-deception (Paulhus, 1984). The bulk of research and relevant theoretical debate has focused on IM, and so does the present article.

2. There were no effects associated with gender or the gender by social condition interaction in Study 1 or in Study 2.
3. In addition to the objective indices, two judges made subjective ratings of creativity. The two methods yielded highly correlated outcomes ($r = .75, p < .01$). The objective measure was applied to ensure unity and to maximize reliability.
4. The content of the responses from one participant was not saved by the computer. Analyses of pleasantness and creativity were therefore based on data from 166 participants.

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