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The effect of result publicity on self-serving attributional bias — a social comparison perspective

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Abstract

Self-serving bias suggests that people tend to attribute success to internal factors and attribute failure to external factors (Bradley, *J Pers Soc Psychol* 36:56–71,1978; Miller and Ross, *Psychol Bull* 82:213–225,1975). However, the results of the attribution of failure are not always consistent. Some studies have found that people attribute failure to external factors (Snyder, Stephan, & Rosenfileld, 1976) and others suggest that people attribute failure to internal factors (Ross et al., *J Pers Soc Psychol* 29:609–618,1974). I tested self-serving bias in two different contexts in mainland China: in one, test results were public (students had access to each other's test results) and in the other, test results were private (students only had access to his/her own results). When a context triggers individuals to compare themselves to others, individuals may alter their attribution of failure in order to preserve their self-image and self-esteem. Data were analyzed by repeated measure ANOVA, and the results show that in a public context people tend to attribute failure more to external factors than to themselves. Also, results suggest that people attribute failure less to themselves in a public context than in a private context.

Keywords: Self-serving bias, Failure attribution, Success attribution, Public context, Private context, Internal attribution, External attribution

Introduction

Human beings cannot live without motivation. We need a reason when we make a decision or make an evaluation or judgment of our actions. Much research has been done on how people attribute their success or failure to different causes in different contexts. For example, actor/observer differences: people involved in an action (actors) view things differently from people not involved (observers). People's judgments of attribution are often distorted along those lines (Block & Funder, 1986). Kelley & Michela (1980) examines how people decide whether an internal or an external attribution will be made.

Many researchers have found empirical support for a self-serving attribution bias—attributing success internally and failure externally (Brown & Rogers, 1991). More specifically, many studies show consistent results for success attribution—attributing to self (Miller & Ross, 1975). However, failure attribution seems a bit more complex. Some studies show external attributions for failure (Snyder, Stephan, & Rosenfileld,

1976) while other research establishes internal attributions for failure (Ross, Bierbrauer, & Polly, 1974). Duval and Silvia (2002) study the moderating effects of self-awareness and probability of improvement on success and failure causal attributions. Results show that failure is attributed internally when people can improve and failure is attributed externally when people cannot improve.

Despite the effect of improvement probability, we do not know much about why and how people attribute their failures differently. In this study, I argue that public or private contexts may affect an individual's attributions for failure and success. In the current working environment, competition is fierce and unavoidable. When people succeed or fail in their work projects, results may be publicly known (people know each other's results) or may be kept private (people do not know each other's results). In a public context, knowing other's results and results being known by others, may easily trigger comparison behavior. In order to preserve their self-esteem, individuals tend to attribute their failure to external factors more than to internal factors. Also, they tend to attribute success to internal factors. In a private context, without the knowledge of their peers' results and without being known by others, comparisons will not be salient, and individuals may analyze the reasons for their failure in more self-effacing and reflective ways. Therefore, they may tend to attribute failure more to internal factors than they do in public contexts. Two experiments were designed to test the interaction effects of public/private contexts and self-serving bias processes to test the above relationships.

This study contributes to attribution research in the following ways: Firstly, it investigates the possible conditions that would affect self-serving bias, especially for failure attribution, showing that the attribution may alter in different contexts. Secondly, it tries to explain the reasons behind different failure attribution types. Thirdly, it tests these hypothetical relationships in a Chinese context to see whether self-serving bias is generalizable in Chinese culture.

Self-serving bias

Individuals tend to explain the reasons for the positive or negative outcomes of their behavior in a way that serves their self-interests (Mezulis et al., 2004). Self-serving bias refers to a pattern by which individuals attribute positive outcomes to internal factors (e.g., ability, effort) and negative outcome to external factors (e.g., task difficulty, luck) (Miller & Ross, 1975). Self-serving bias not only helps individuals to maintain a positive self-evaluation, but also affects individuals' public image (Bradley, 1978). People may use self-serving bias to maintain a socially-desirable public image in order to maintain and strengthen self-esteem. For example, individuals from East Asian cultures may show less self-serving bias when their attributions are public. In East Asian cultures which emphasize collectivism and endorse self-criticism and self-reflection, individuals prefer to present an image of modesty or humility in public (Hu, Zhang & Ran, 2016). More specifically, individuals in Asian cultures may be more self-effacing in their attributions than their western counterparts to manage their impressions on others (Crittenden & Bae, 1994). In western cultures which emphasize individualism and self, individuals have a strong need for positive self-regard (Heine & Hamamura, 2007). In Mezulis et al.'s meta-analytic review of self-serving bias (2004), they find a significantly different effect size between western and eastern cultures, though people in general

tend to attribute success more to internal factors than they do for failure. Therefore, for individuals in East Asian cultures, they engage in self-serving attributions at a similar level to their counterparts in western cultures. However, they prefer to present an image of modesty to the public which may not reflect their true feelings.

Previous research has also studied the effects of age and gender on self-serving bias dynamics. Children 8 to 11 years old and adults above 55 have strong tendencies for self-serving attribution, which may be due to their need for competence and expectations of future success (Mezulis et al., 2004; Guo et al., 2011). The relationship between gender and self-serving bias is complicated. If tasks are interdependent, men show a stronger self-serving bias than women because they have a stronger desire for success (Campbell & Sedikides, 1999).

Self-enhancement and social comparison

The literature suggests that self-enhancement is one of the major causes of self-serving attribution (Sanjuan & Magallares, 2014). When a task is perceived as important, individuals tend to attribute success to internal factors because it can greatly increase positive self-evaluations (Von Hippel, Lakin, & Shakarchi, 2005).

Festinger (1954) theorized that human beings have a drive to evaluate their own opinions and abilities through comparison with similar others. The social comparison literature suggests three basic motives underlie social comparison behavior: self-evaluation, self-enhancement, and self-improvement (e.g., Festinger, 1954; Suls & Miller, 1977; Wills, 1981). Individuals with low self-esteem—whose self-concept is particularly unstable or uncertain—are thought to be especially interested in social comparison (Wayment & Taylor, 1995). Those who feel their self-concept threatened in particular use self-serving bias as a self-esteem protection strategy (Hu et al., 2016).

In this paper, result publicity refers to the context or situation in which the evaluated outcomes of one's performance or endeavor (individual, team or organization) is known by others (colleagues, family members or social acquaintances) and in which one also knows one's peers' evaluated outcomes. When an individual's performance or test result is known by others and he/she know others' performance or test results (referred to as the public context), he/she is exposed to a context that is similar to his/her own and where others' information is available to use in comparison. If their performance feedback or test results are positive, to strengthen one's self-esteem, individuals are likely to take credit for the success. If the performance feedback or test results are negative, to protect one's self-esteem, individuals may tend to attribute failure to external factors.

When an individual's performance or test results are kept private and he/she does not know others' performance or test results (referred to as the private context), he/she is not exposed to a comparison context. In this situation, an individual's self-concept is less sensitive to threat than in a public context. Individuals are likely to analyze the causes of their results more objectively. They may make more modest attributions — attributing success to both internal and external factors as well as attributing failure to internal factors and external factors.

More specifically, when facing negative results or failure, individuals more easily feel threatened in an interpersonal comparison context (public context). To protect their self-esteem, individuals tend to attribute failure externally rather than internally. They may feel more responsible for failure in a private context than in a public context.

Based on the above theoretical arguments, I propose that:

Hypothesis 1a. Result publicity (public or private) moderates the self-serving bias process, such that the self-serving bias process is more pronounced in a public context—individuals attribute success more to internal factors than to external factors and attribute failure more to external factors than to internal factors in comparison to individuals in a private context.

Hypothesis 1b. For failure attribution, there is an interaction effect between result publicity (public or private) and attribution type (internal or external), such that in a public context, people attribute failure more to external factors than to themselves, while in a private context, people attribute failure to both internal and external factors.

Study 1

Method

Overview

The whole experiment was separated into two stages. In stage one, participants were asked to take a test on “spatial awareness evaluation (see Additional file 1)”. After the test, the experimenter collected all the tests and pretended to grade them. At stage two, the experimenter returned a feedback sheet with test results to participants and asked them to take a self-evaluation questionnaire about attribution process.

Participants and procedure

Participants in this study were undergraduate students ($N = 28$; 21 women and 7 men) enrolled in an organizational behavior class in Hong Kong. The average age of participants was 21.5 (ranging from 19 to 25). Most students were from the School of Business, and the rest came from the Science or Psychology Departments. All students volunteered to participate in this study during a normal class session in their organizational behavior classroom.

At stage one, during the first break of the class, I distributed the so-called “spatial awareness” test to each student. Students were told that this research was going to investigate spatial cognition among college students: the ability to make quantitative judgments in three dimensions. This task was adapted from Duval and Silvia’s experiment on self-serving bias (2002). In this two-page paper test, students were asked to visually estimate 10 cuboids’ three dimensions based on the printed pictures. At the beginning of this test, I introduced the research purpose and what was needed for the participants to finish as follows:

This research aims to investigate college students’ spatial awareness. Please focus on the figures below and then write down your quantitative judgments on their three dimensions. You’ll have about 120 s to observe them and write down your answers (estimate the size of the subjects based on these pictures but not the size in reality). After the test, we will provide feedback on your judgments. (Please don’t use rulers or discuss with others).

At the end of this test, students were asked to fill in their names, gender, age, major and other information. About 5 min later, finished tests were collected by the experimenter and participants were told that they would receive a feedback sheet during the second

break. The function of this “spatial awareness” test is deception— to hide the real purpose of this experiment. Through this event, the feedback sheet which indicated successful or failing results was designed to make participants feel a real sense of success or failure.

Test results & context manipulation

After all the tests were collected, the organizational behavior course began. The experimenter sat at the last row of the room and pretended to carefully grade the tests. Feedback sheets with bogus test result (success or failure) and exposure type (public or private) were randomly assigned to the 28 students. In other words, these students were randomly assigned to one of the four conditions: a) success and results publicly known; b) success and results kept private; c) failure and results publicly known; d) failure and results kept private. The four conditions were described as follows:

Results for xxxx: Great! Your score ranks in the top 5%!

(Sorry! Your score is lower than the average level by 10%.)

*You’ve been randomly chosen to be a “**public one**”. In order to enhance teaching and understanding of students’ needs on this particular subject, your results (with your name) will be uploaded to Web CT. These results can be seen only by students in this class and will be available for only one week (until April 1st, 2 pm). Also, we can provide you with lecture notes on spatial awareness training if you are interested.*

*(You’ve been randomly chosen to be a “**private one**”. Your results will be carefully kept for research use and won’t be announced to other students. You can only see your results on Web CT and the data will be available for only one week (until April 1st, 2 pm). Also, we can provide you with lecture notes on spatial awareness training if you are interested.*

After reading the above information, participants were asked to sign a mock consent form indicating that participants authorized the researcher to use their data and indicated whether they were willing to publish their results and self-evaluation records. Then students turned over the page and finished a self-evaluation form.

Debriefing process

Right after the class, the experimenter sent a debriefing email to all students in the class (irrespective of whether he/she participated in the experiment) revealing the real research purpose of the study—self-serving bias in public or private contexts but not a spatial awareness/cognition test. I also promised the students that all information included in this experiment would be kept confidential and questions or inquiry were welcomed. One week later, no questions were raised by students and some students still indicated that they thought that the experiment was a real test on “spatial awareness”.

Measures

Causal attributions for success or failure were measured by two items: “To what extent was your performance on the test due to factors associated with yourself?” “To what extent was your performance on the test due to factors associated with

external factors?” Each question was answered on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). As a check on the exposure degree manipulation, participants were also asked, “how likely will other students know your results (name, feedback, etc.)?” The question was answered on a 7-point scale anchored by *not at all* and *very likely*.

Results

Manipulation check

Participants in the public context felt it was more likely that others would see his/her results ($M = 4.79$, $SD = 1.05$) than those in the private context ($M = 2.71$, $SD = 1.68$), $F(1,26) = 15.248$, $MSE = 1.97$, $p < 0.05$. The results show that the manipulation of context was successful.

Test of hypotheses

To analyze the moderating effect of context, I conducted a 2 (test results: success/failure) \times 2 (context: public/private) \times 2 (attribution type: internal/external) ANOVA with attribution type as a repeated measure. Results show that there is no three-way interaction and the moderating effect of context is non-significant, $F(1, 24) = 0.17$, $p > 0.1$, which indicates that Hypothesis 1a is rejected; the interaction effect of test results and attribution type is significant, $F(1, 24) = 13.58$, $p < 0.01$ and so is the interaction effect of context and attribution type ($F(1, 24) = 5.39$, $p < 0.05$). Then a 2 (test results: success/failure) \times 2 (attribution type: internal/external) ANOVA with attribution type as a repeated measure was conducted separately in two different contexts. A significant interaction effect is observed between the test results and attribution type in the public context ($F(1, 12) = 7.94$, $p < 0.05$) and in the private context ($F(1, 12) = 5.68$, $p < 0.05$). Thus, Hypothesis 1a is not supported.

To test Hypothesis 1b, a 2 (context: public/private) \times 2 (attribution type: internal/external) ANOVA (with attribution type as a repeated measure) for failure attribution was conducted. Results indicate that for failure attribution, there is a significant interaction effect of context and attribution type ($F(1, 12) = 13.64$, $p < 0.01$). Subsequently, paired-sample *t*-tests were conducted to analyze the simple main effect of within subject factor (attribution type): in the public context, people tend to attribute failure more to external factors ($M = 5.00$, $SD = 0.58$) than to themselves ($M = 3.71$, $SD = 0.76$), $t(6) = -4.50$, $p < 0.01$; in the private context, no significant difference is found between internal attribution ($M = 5.29$, $SD = 0.95$) and external attribution ($M = 5.14$, $SD = 1.07$), which shows that people attribute failure to both themselves and external factors. Thus, Hypothesis 1b is supported (Table 1).

Study 2

Method

Overview

The experiment in study 2 comprised two stages as in study 1—“spatial awareness evaluation (see Additional file 1)” (stage 1) and manipulation of social context in order to test the attribution process (stage 2).

Table 1 Means Causal Attribution Score for Test Results and Contexts (Study 1)

Attribution Type		
Test results		
	Internal/Self	External
Public Context		
Success	5.00	4.14
Failure	3.71	5.00
Private Context		
Success	6.00	4.14
Failure	5.29	5.14

Note. The higher the score, the greater the attribution. Scores range from 1 to 7

Participants and procedure

Participants in this study were undergraduate students in a university in southern China ($N = 89$; 43 women and 46 men) enrolled in a principles of management class. The age of participants ranged from 18 to 22. Most students were from the School of Management; the rest of the students came from other schools. All students volunteered to participate in this research during class.

At stage one, during the first break of the class, the experimenter (myself) distributed the “spatial awareness” test (the same test as the one used in study1) to each student. Students were also told that this research was going to investigate spatial cognition among college students: the ability to make quantitative judgments in three dimensions. I also declared that this test had nothing to do with their scores in this course, so that participation was voluntary. Similarly, students were asked to visually estimate three dimensions of 10 cuboids based on printed pictures. At the end of this test, students were asked to fill in their names, gender, age and major. Students had about 5 min to finish the test. Later, finished tests were collected by the experimenter and participants were told that they would receive a feedback sheet in next week’s class. The function of this “spatial awareness” test was also deception— to hide the real purpose of this experiment. Through this event, the feedback sheet which indicated successful or failing results would give participants a sense of success or failure.

Test results & context manipulation

After all the tests were collected, the tests were put away and the students were told that the test results would be ready next week. One week later, feedback sheets with bogus test results (success or failure) and exposure type (public or private) were randomly assigned to the 89 students. These students were randomly assigned to one of the four condition: a) success and results publicly known; b) success and results kept private; c) failure and results publicly known; d) failure and results kept private. The four conditions were described as follows:

Results for xxxx: Excellent! Your score is above average!

(Sorry! Your score is below average..)

*In order to enhance teaching and understanding of students' needs in this particular subject, your results (with your name) have been chosen to be uploaded to Blackboard. **Once uploaded, your results can be seen by your classmates and you can see other students' results.** This information will be available for one week (until 11/28, 5 pm). To thank you for participating, we can provide you some lecture notes on spatial awareness training.*

*(In order to enhance teaching and understanding of students' needs in this particular subject, your results (with your name) will be uploaded to Blackboard. **Your results will only be available to yourself and you will not be able to see other students' result.** This information will be available for one week (until 11/28, 5 pm). To thank you for participating, we can provide you some lecture notes on spatial awareness training.*

After reading the above information, participants were asked to turn over the page and finish a self-evaluation form about their attribution for their success or failure in this test.

Debriefing process. Right after the students submitted their self-evaluation forms, I explained the real research purpose of the study to the students—self-serving bias in public or private contexts as opposed to a spatial awareness/cognition test. I also told the students that all information included in this experiment would be kept confidential and questions or inquiry were welcomed.

Measures. Causal attributions for success or failure were measured separately by three items: e.g., “To what extent was your performance on the test due to factors associated with yourself?” “To what extent was your performance on the test due to factors associated with external factors?” Each question was answered on a 5-point scale ranging from 1 (*not at all*) to 5 (*very much*). As a check on the exposure degree manipulation, participants were also asked, “How likely is it that other students know your results (name, feedback, etc.)?” The question was answered on a 5-point scale anchored by *not at all* and *very likely*.

Results

Manipulation check

Participants in the public context felt it was more likely that others would see his/her results ($M = 3.86$, $SD = 0.71$.) than those did in the private context ($M = 2.11$, $SD = 1.12$), $F(1, 87) = 7.30$, $p < 0.001$). The results show the manipulation of context was successful.

Test of hypotheses

To analyze the moderating effect of context, I conducted a 2 (test results: success/failure) \times 2 (context: public/private) \times 2 (attribution type: internal/external) ANOVA with attribution type as a repeated measure. Results show that there is no three-way interaction, and the moderating effect of context is non-significant, $F(1, 85) = 3.49$, $p > 0.05$, which indicates that Hypothesis 1a is not supported in study 2; the interaction effect of test results and attribution type is significant, $F(1, 85) = 110.82$, $p < 0.001$ and so is the interaction effect of context and attribution type ($F(1, 85) = 6.84$, $p < 0.05$). Then a 2 (test results: success/failure) \times 2 (attribution type: internal/external) ANOVA with attribution type as a repeated

measure was conducted separately in two different contexts. In this case, there is a significant interaction effect of test results and attribution type in the public context ($F(1, 41) = 72.39, p < 0.001$) and in the private context ($F(1, 44) = 39.79, p < 0.001$).

To test Hypothesis 1b, a 2 (context: public/private) \times 2 (attribution type: internal/external) ANOVA (with attribution type as a repeated measure) for failure attribution was conducted. Results indicate that for failure attribution, there is a significant interaction effect of context and attribution type ($F(1, 42) = 19.59, p < 0.001$). Subsequently, paired-sample *t*-tests were conducted to analyze the simple main effect of within subject factor (attribution type): in the public context, people tend to attribute failure more to external factors ($M = 3.78, SD = 0.46$) than to themselves ($M = 2.80, SD = 0.44$), $t(21) = 10.08, p < 0.001$; in the private context, no significant difference was found between internal attribution ($M = 2.97, SD = 0.65$) and external attribution ($M = 3.22, SD = 0.64$), which shows that people attribute failure to both themselves and external factors in a private context. Thus, Hypothesis 1b is supported in study 2 (Table 2).

Discussion

Theoretical implications

In recent years, self-serving bias has attracted more and more attention from management scholars. We can see that it has been examined in different areas of management research such as leadership (Martinko, Harvey & Douglas, 2007) and entrepreneurship (Rogoff, Lee & Suh, 2004). Self-serving bias is a robust phenomena that can be observed in people’s daily lives and work. More importantly, it can affect individuals’ cognition and behavior in a substantial way, producing counterproductive work behavior (Johns & Xie, 1998), depression (Brown & Siegel, 1988), etc. This study aims to explore in certain social contexts how individuals attribute their success and failure, and to test the influence of context on self-serving bias. I tested the relationship of self-serving bias to causal attribution in two different contexts (public and private). The results show that contexts (public or private) could serve as one possible reason for inconsistent findings of failure attribution. Failure may be attributed more externally in a public context and attributed to internal or external factors at roughly the same level in a private context.

In summary, this paper contributes to the research on attribution in the following ways. Firstly, I did not find three-way interaction effects between social context (public

Table 2 Means Causal Attribution Score for Test Results and Contexts (Study 2)

Attribution Type		
Test results		
	Internal/Self	External
Public Context		
Success	3.60	2.57
Failure	2.80	3.78
Private Context		
Success	3.78	2.63
Failure	2.97	3.22

Note. The higher the score, the greater the attribution. Scores range from 1 to 5

or private), test results (success or failure) and attribution type (internal and external), indicating that the self-serving process could be observed in both public and private social contexts. Secondly, the results suggest that individuals tend to attribute failure more to external factors than to themselves in a public context, that is, they attribute failure less to themselves in a public context than in a private context. Integrating these results with a social comparison framework, I argue that individuals have a stronger desire to protect their self-esteem when facing failure in conditions of interpersonal comparison. Thirdly, conducted in a Chinese context this study provides some empirical support to the self-serving bias research in Chinese samples. Self-serving bias is not specific to western cultures but also exists in Chinese culture. More specifically, the results reveal that individuals may explain the reasons for failure differently in different social contexts in Chinese culture.

Practical implications

Based on the results, managers need to pay attention to the privacy of employees' performance evaluation results. According to the findings, if the performance results of all employees are publicly known, for poor performers, they may tend to attribute failure or negative feedback to external factors rather than to internal factors. They are more likely to search for excuses for their failure and not think of their own responsibility for negative outcomes. This would be detrimental for employees' subsequent performance and organizational effectiveness. Moreover, when performance results are made public, employees may become more aware of other employees' performance, and develop a stronger tendency for comparison and competition.

For good performers, if results are kept public or private, it seems that their explanation for their success remains the same. Whether or not to make employees' performance or project results publicly known depends on the management's purpose and organization culture. If the company culture endorses competition, then it may consider publicizing employee's results; if the organization emphasizes harmony and teamwork, then keeping results private would be more beneficial.

Limitations and future research

There are several limitations to this study: Firstly, the hypotheses were tested in an experimental design and the participants were business college students. Whether the results can be generalized to a work context needs more empirical evidence. In the future, researchers can collect data from employees and supervisors in real work settings. Secondly, the data was only collected in a Chinese cultural context so there was no comparison between Chinese and western approaches to self-serving bias. In the future, a study that includes people from diverse cultural backgrounds may produce more detailed results. Thirdly, this study only tested the effect of particular social contexts (results were public or private) on self-serving bias. In the future, researchers can explore more social contexts that may influence an individual's self-serving bias, e.g., examining attribution in a public context, in different team contexts, or task characteristics.

Future research can also study the effect of face in the Chinese context (Shi, Ichiro & Jin, 2011; Shi, Kuang & Yang, 2017) to explain how test publicity affects individuals' self-serving attributional bias. The relevance of results to an individuals' performance evaluation can be another important factor that influences the effect of test publicity. Team climate (trust, safety) and perceived leader support may also affect how people interpret their public failures. In entrepreneurship research, scholars can also study how people react to entrepreneurial failures differently when the enterprise is well-known or famous. In a service-related context, how employees attribute their service failure and the related effect on their win-back management may be examined (Tang, Chou & Chen, 2008; Tang et al., 2010).

To conclude, self-serving bias can be observed in Chinese culture as it has been in western cultures. Individuals tend to blame external factors for their failure when the failure is known by others and the individual is aware of others' results. Individuals blame themselves for failure when the context is private rather than when it is public.

Additional file

Additional file 1: Appendix. (DOCX 1274 kb)

Abbreviations

ANOVA: Analysis of Variance; SD: Standard Deviation

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Availability of data and materials

If anyone is interested, please contact me: sswen@szu.edu.cn.

Authors' contributions

The author read and approved the final manuscript.

Competing interests

The author declares she has no competing interests.

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