

# WHO STRIVES AND WHO GIVES UP? THE ROLE OF SOCIAL COMPARISON DISTANCE AND ACHIEVEMENT GOALS ON STUDENTS' LEARNING INVESTMENT

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## Abstract

*The current survey tests the effects of social comparison distance on investment in learning. The social comparison is known to have two directions: upward and downward. It is hypothesized that, apart from these two directions, there are two distances: moderate and extreme. These distances are supposed to have an impact on the learning investment (when students will strive) or the disinvestment (when they will not make a great effort). Globally, students seem to put more effort in the case of moderate-distance conditions than in the case of extreme-distance conditions. However, the effect of distance is different according to the achievement goals reported by participants (interaction between comparison distance and achievement goals): the participants with performance goals strive more in the moderate-distance condition, whereas those with mastery goals seem to put a quite stable effort regardless of the distance. Implications in educational settings are discussed.*

**Key words:** achievement goals, learning investment, social comparison distance.

## Introduction

In the classic experiment by Whittemore (1925), participants seated around a table received tasks to work on. There was a large opportunity to observe other participants. Introspective reports by the participants demonstrated that they spontaneously chose someone with a close level of performance to compare themselves to. Social comparison is a general mechanism that may be beneficial or detrimental. A person can perform differently depending with whom he/she compares him/herself. Choosing someone slightly better or worse, or much better or worse, does not have the same consequences on learning investment. Somebody who is much better may be considered a genius and dishearten the observer, and somebody extremely inferior may encourage a person to rest on their laurels. Somebody slightly different may stimulate the person to progress or to not regress. Each of these targets can be chosen by an individual for different aims, either to feel better (self-enhancement) or to perform better (self-improvement). These aspects of possible choice and goals of comparison are important for teachers' practice. Understanding these mechanisms can help teachers influence pupils' or students' comparisons. If they see that a student considers another person who performs very well a genius, and considers his/her competence level as unattainable, teachers may elaborate their feedback to influence pupils' perception of this distance and thus change their perception of difficulty.

Festinger (1954) assumed that an individual has a drive to assess his/her opinion and abilities, and in the absence of objective assessment he/she will choose another person to compare him/herself with. The researchers agree on the existence of two directions in social comparison: Upward and downward. The former is often defined as the one which causes a feeling of inferiority, dubbed the big-fish-little-pond-effect (BFLPE) by Marsh and Hau (2003), or worse-than-average (WTA) by Moor (2006) and Kruger (1999); while the second is defined as the one that increases a feeling of superiority, dubbed better-than-average (BTA) by Goethals, Messick, and Allison (1991). Thus, the first is regarded as having a negative impact (Alicke, Loschiavo, Zerbst, & Zhang, 1997) and the second as having a positive impact (Taylor, Wayment, & Collins, 1993). However, many researchers studying social comparison have placed the participant slightly or extremely up, or slightly or extremely down. In many studies, the authors spoke implicitly, or explicitly, of moderate or extreme differences between the subject and the target of comparison.

Yet, in the aim to study the effects of upward comparison, other researchers considered different kinds of targets: The superstars (Lockwood and Kunda, 1997), the targets with a huge success versus a huge failure (Buunk, Ybema, Gibbons, & Ipenburg, 2001), the students with extreme success versus moderate achievement (Blanton, Gibbons, Buunk, & Kuyper, 1999), or the students having slightly better versus slightly lower self-esteem (Seta, 1982). The results of these studies show that each of these distances triggers different dynamics depending on the focalized aspect. Mussweiler (2003) had already seen the comparison distances in these terms when he developed his selective accessibility model. He claimed that most often, individuals assimilate the targets belonging to the same category (Mussweiler & Bodenhausen, 2002), or having a moderate position in relationship to oneself on the relevant dimension (Mussweiler, Rüter, & Epstude, 2004a). Given that, the present paper explores the effects of this moderate distance on the relevant dimension (important learning domain), compared with extreme distance. It is hypothesized that the dynamics underlying each distance differ in learning investment.

What about the effects of these distances? A number of studies demonstrate that the results regarding negative or positive feelings related to comparison direction are inconsistent. Buunk, Taylor, Collins, van Yperen, and Dakof (1990) found that downward comparison—except for its positive impact on self-esteem—may have a negative result, Burleson, Leach, and Harrington (2005) demonstrated that upward comparison can provide a sense of inferiority, but at the same time inspire. In short, these results are pushing researchers to characterize social comparison as a “double-edged sword” (Major, Testa, & Bylsma, 1991). On the basis of these results, it is difficult to say whether different kinds of comparison (upward vs. downward combined with slight vs. extreme distance) are positive or negative for learning investment. Whereas a threat could paralyze, a slight threat, under some conditions, can stimulate. Recently, Bagès and Martinot (2011) studied the success of role models’ explanation in relationship to comparison distance. Hence, the role models (extreme distance) do not have the same impact on learning when they are explained by gift or hard work (the hard-working model seems to be more inspirational than the gifted one). Along this line, it may be assumed that the role of comparison distances in learning investment may depend on the type of motivation the learner develops when faced with accomplishment situations. More precisely, the impact of comparison processes may depend on the type of motivation in learning, since a motivation focused on the self may be more dependent on social comparison than a motivation focused on the task.

### *The Role of Achievement Goals*

According to abundant literature on motivation in accomplishment situations, two major types of goals can be distinguished: Performance goals (success and/or positive judgment-focused goals) and mastery goals (task-focused goals) (Nicholls, 1984). Most likely, the type of goal may lead an individual to compare him/herself with others. Indeed, a student motivated to excel in the eyes of others may compare him/herself to others more accurately than a student primarily motivated to master the task. Thus, an approach to the achievement situation according to performance goals should be more dependent on comparison processes than an approach according to mastery goals, which should be more stable throughout comparison situations. Given that helping students to develop autonomy and stability in learning processes is an interesting perspective in pedagogy, the study of social comparison processes in the domain of learning should take into account the psychological dimensions of learning goals in order to study the conditions favoring students' learning independence and control.

Assuming that those goals influence students' decision on whether or not to allocate their time and energy to the task, the aim of the present paper is to explore the potential role of achievement goals in the learning investment according to the social comparison situation. It has been shown that the individuals with mastery goals are used to learn with more profoundness (Weinstein & Mayer, 1986), keep positive relations (Kaplan & Maehr, 1999), and are more self-confident and thus less afraid of questions and demand for help (Ryan, Pintrich & Midgley, 2001). Moreover, a number of studies demonstrate that individuals with mastery goals often choose challenging tasks rather than simple ones (Dweck & Legget, 1988) and that they use social comparison (Régner, Escribe & Dupeyrat, 2007) to acquire information about how to enhance their competence (Lockwood & Kunda, 1997).

By contrast, the individuals with performance goals have been shown to study in a rather superficial way (Nolen, 1988), to cheat (Anderman & Danner, 2008), to not cooperate with others (Kaplan & Maehr, 1999), to put forth less effort (Ames & Archer, 1988), to interpret their failure as lack of ability (Dweck & Leggett, 1988), and to choose easy tasks rather than challenging ones (Dweck & Leggett, 1988). Therefore, students with mastery goals can be expected to be less dependent on social comparison processes than students with performance goals, and should be more stable through comparison situations and distances. Conversely, taking into account the learning characteristics associated with performance goals, we could suppose that participants with performance goals will strive more in the case of moderate distance than in the case of extreme distance. Indeed, while a moderate-comparison distance could be stimulating for the participants with performance goals, the extreme distance is supposed to generate a possible threat due to the psychological salience of a potential audience and the supposed willingness of publicly demonstrating one's competence. In extremely distant comparison situations, the individual may face the fear of not attaining a high level of performance or the fear of chronic failure. Thus, it can be predicted that a moderate-comparison distance will favor learning investment more so than an extreme-comparison distance, especially for individuals with performance goals compared with individuals with mastery goals.

### *Research Focus*

The present paper focuses on the study of comparison conditions favoring learning investment and, specifically, of the possible impact of comparison distances. Drawing upon the distinction between performance goals and mastery goals as general orientations toward achievement, it predicts that the effect of comparison distances on learning investment should be obtained for individuals particularly sensitive to self-enhancement, i.e. those driven by performance goals, more so than for individuals concerned with mastering the task, i.e. those

driven by mastery goals. Furthermore, an important distinction is made in this paper between the possible effects of comparison distances, i.e. moderate vs. extreme comparison distances, regardless of comparison directions.

Generally, the upward comparison is considered threatening, but a number of studies have demonstrated that individuals like to compare themselves to people who are slightly better than them (Collins, 2000; Crahay, 2000). They perceive this level of competence as attainable (Lockwood & Kunda, 1997). Taylor, Kemyny, Reed, Bower, and Gruenwals (2000) argued that individuals perceive a possibility of positive output, and that is why they are likely to put in an effort. The authors hypothesized that a slight threat should motivate individuals to persevere more than a strong one. Analogically, the downward comparison may be stimulating when the difference with the person with whom the individual compares is slight (Mussweiler, Rüter, Epstude, 2004b). Indeed, in this situation, the individuals perceive that their positions are close and thus could change or be inverted—in short, they are both modifiable. This perceived probability of change of one's position has appeared in literature under the term of "mutability,"—the belief that a modification is possible (Roese & Olson, 2008). It is likely that this mechanism occurs when the individual decides whether it is worthwhile to make an effort, or it is better to give up. The possibility of change may therefore be motivating not only for performing but also for not regressing, and it is likely to be the outcome of moderately distant-upward as well as distant-downward social comparisons.

Conversely, concerning extremely distant social comparisons, there is a range of studies examining situations in which the individual is invited to compare him/herself with a person who is extremely better than him/her. The studies show that the position of the person to whom the individual compares him/herself is perceived as unattainable (Strahan, Wilson, Cressman, & Buota, 2006). This person may often be identified as a genius because of his/her extremely distant position (genius effect) (Alicke, Loschiavo, Zerbst & Zhang, 1997; Mussweiler, Gabriel & Bodenhausen, 2000) or a superstar (Lockwood & Kunda, 1997). In learning settings, the individual who compares himself/herself to the person with extremely better achievement often gives up before trying. Why? Fishbein and Ajzen (1975) pointed out the importance of anticipated output: When the individual anticipates a negative output, he/she will be less able to act. In addition, comparison with the person who is perceived as extremely far on the assessed dimension can lead, upwards, to the conclusion of extreme complexity of the task (Darnon, 2009), and, downwards, to the feeling of extreme superiority concerning one's competence in the task.

On the other hand, the same result (low learning investment) can be obtained in the case of extreme downward comparison. Although Menon, Kyung, and Agrawal (2009) found that increasing the distance in the downward comparison promotes comparative optimism, perceived control, and intention to work, Lockwood (2000) considers it risky in learning settings. She argues that this state of "savoring of superiority" is more likely to promote stagnation (resting on the laurels) than to motivate one to learn. Besides, the role of perceived mutability of one's position could be applied in the case of extreme distances, both upward and downward, for deriving the prediction that the greater the perceived distance, the lower the perceived mutability, and therefore the lower the learning investment as well. Hence, it is hypothesized that the learning investment should be higher in the case of moderate distance (high likelihood of modification) than in the case of extreme distance (low likelihood of modification), especially for those individuals who are highly dependent on social comparisons for learning investment (performance goals oriented) compared with the individuals who supposedly are more independent from social comparisons with others (mastery goals oriented).

## Methodology of Research

### *General Background of Research*

Undergraduate students were asked to describe their feelings and reactions about specific comparisons in their school career (recall of persons who were slightly better or worse or extremely better or worse). Since in the field of learning, individuals often compare themselves spontaneously and constantly (Gilbert, Morris, & Giesler, 1995), but often unconsciously and not always with a person who is located on the average, we considered most relevant for the effect of comparison distance to induce comparisons with a “specific” target. In doing so, we gave everyone the opportunity to choose the person who represented the comparison distance identified in the questionnaire.

### *Sample of Research*

Forty undergraduate students in a social psychology introductory course (thirty three women, three men, four students didn't indicate their sex; mean age = 23.7 years) participated in the research, which was presented as a way to improve the training course. The survey was conducted for the first time; hence, its reliability cannot be confirmed. However, developments on this point will be dealt with in a subsequent report.

### *Design and Procedure*

A two (moderate vs. extreme comparison distance) by two (performance vs. mastery goals) experimental design was realized in order to test the impact of moderate- and extreme-comparison distances on learning investment among students with performance or with mastery achievement goals.

Participants completed an anonymous questionnaire individually at the beginning of a course. They were randomly assigned, through four versions of the questionnaire, to four experimental conditions: 1) extreme upward comparison, 2) moderate upward comparison, 3) extreme downward comparison, and 4) moderate downward comparison. The questionnaire included social demographic questions, questions about their important domain of performance in their school career, and about the reason why the domain was important (prestige, passion, high salary in the future, trendy domain, pleasure of learning, need to master this domain, competition, succeeding, reputation, and competence). After that, they were invited to think about one person who, depending on the condition, was 1) extremely better, 2) slightly better, 3) extremely worse, or 4) slightly worse than themselves (“had more/less abilities”). The following questions were related to the amount of their investment in this domain. Their answers were rated on a seven-degree scale (0=strongly disagree, 6=strongly agree or 0=minimal effort done, 6=maximal effort done).

### *Independent Measures*

The social comparison distance was extracted by the recoding from four conditions that were the combination of distance and direction. Thus, the moderate-upward and moderate-downward conditions were recoded as moderate-comparison distance, and the extreme-upward and downward conditions were recoded as extreme-comparison distance.

The achievement goals variable has two modalities (performance vs. mastery). It was computed on the basis of participants' answers on the reasons given to assess the importance of a given learning domain. These responses were categorized into two modalities of the

variable achievement goals: 1) performance (prestige, high salary in the future, trendy domain, competition, succeeding, and reputation), 2) mastery (passion, pleasure of learning, need to master this domain, and competence).

#### *Dependent Measure*

The learning investment variable was measured by questions related to the amount of effort students have put in to improve their competence/ not regress. The learning investment variable was computed as a mean of responses on a seven-point scale (0 = no effort done, and 6 = maximum effort done) on three questions related to the effective work accomplished, and the amount of effort done (Cronbach's  $\alpha = 0.80$ ).

#### *General Hypothesis*

The participants' learning investment is higher in the case of moderate social comparison distance than in the case of extreme social comparison distance, albeit this effect should be obtained especially for participants with performance rather than mastery achievement goals.

### **Results of Research**

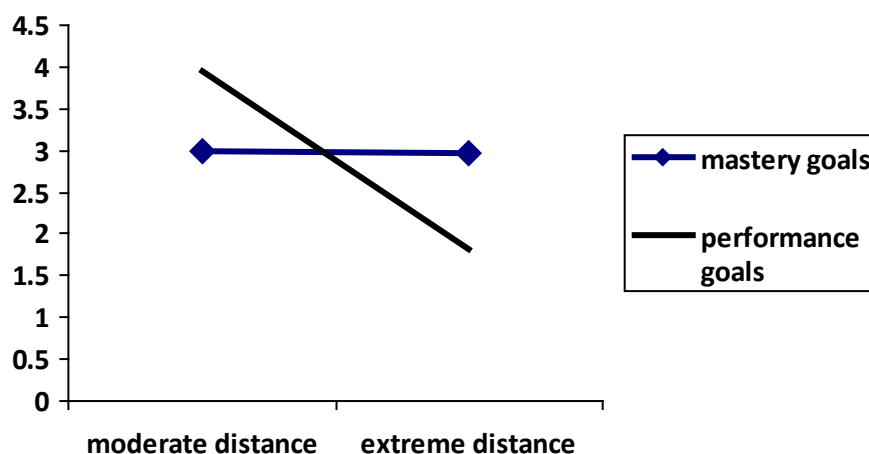
#### *Comparison Distance and Learning Investment*

On the basis of Analysis of Variance (ANOVA) 2 (upward vs. downward direction) X 2 (extreme vs. moderate distance) showing a main effect for distance (moderate  $M = 3.48$  vs. extreme  $M = 2.39$ ,  $F(1, 36) = 4.87$ ,  $p < 0.03$ ,  $\eta^2 = 0.12$ ), the variable comparison distance was used in subsequent analyses regardless comparison direction.

**Table 1. Means, Standard Deviation, and numbers for students' learning investment according to comparison distance and achievement goals (performance vs. mastery).**

	Moderate distance			Extreme distance		
	N	M	SD	N	M	SD
Performance goals	7	3.95	1.81	7	1.81	1.30
Mastery goals	15	3.00	1.42	11	2.97	1.44

The results related to comparison distance in relationship to learning investment show a significant interaction between distance and achievement goals ( $F(1, 36) = 4.60$ ,  $p < 0.04$ ,  $\eta^2 = 0.11$ ; see Figure 1).



**Figure 1: Students' learning investment according to comparison distance and achievement goals (performance vs. mastery).**

As expected, social comparison appears to favor learning investment in the case of moderate-comparison distance but not in the case of extreme-comparison distance. Moreover, as also predicted, the learning investment of participants with performance goals varies according to the comparison distance (moderate  $M = 3.95$  vs. extreme  $M = 1.81$ ) whereas the learning investment of the participants with mastery goals remains quite stable throughout the comparison distance (moderate  $M = 3.00$  vs. extreme  $M = 2.97$  in extreme distance).

## Discussion

The aim of the present study was to explore whether the social comparison distance could play a role in the students' learning investment. More precisely, it was hypothesized that generally, a moderate distance should be more stimulating than an extreme one, but this effect was supposed to appear among the students with performance goals rather than those with mastery goals. The results show a significant main effect of the distance on learning investment. Globally, the students put more effort when the recalled person was in the moderate distance compared to the extreme distance. Interestingly, we found that the comparison distance (moderate vs. extreme) has an impact on learning investment both when the recalled person is clearly defined as superior and when he/she is presented as inferior in terms of abilities. This effect suggests that the study of social comparison in the learning domain should take into account the comparison distance, together with the comparison direction.

However, the contribution of the present study is the finding that the type of motivation plays a significant role in relation to social comparison dynamics in the learning domain. Indeed, as predicted, students with performance achievement goals appear to be more sensitive to the distance variations. This suggests that, conversely, the students with mastery goals must be more stable in terms of learning investment or, perhaps, less dependent on social comparison processes. Further studies could be designed in order to explore the role of attributions in this (in) stability, specifically what Weiner (1972) has called internal stable attributions such as abilities, and internal unstable attributions, such as effort.

Given the limitation of the present study, namely the small sample size, a replication, using a scale measure of goals (Darnon & Butera, 2005; Elliot & McGregor, 2001 for the French validation), should provide stronger support for the hypothesis that people with mastery goals

would be more autonomous than people with performance goals toward social comparisons in school settings. Besides, future studies are needed to test the effect of comparison distance together with other kinds of distance explanations, such as talent versus work (Bagès & Martinot, 2011) and other relevant variables such as “level of aspiration” (Gould, 1939) or diverse emotions (inspiration, admiration, envy, anxiety, and worry), which have been largely studied in relation to social comparison processes (Smith, 2000).

Moreover, a better understanding of social comparison dynamics in learning should draw upon relevant distinctions between types of social comparison proposed in the literature. Indeed, as found by Régner, Escribe and Dupeyrat (2007), there seems to exist, on the one hand, a social comparison that is conducive to distraction about others, and thus rather detrimental to learning, and, on the other hand, a comparison focused on task parameters, which would be beneficial for learning.

More generally, the study of social comparison processes in learning, and specifically the relative (in)dependence of students toward social comparisons, should provide new insights in the realm of important school phenomena such as stereotype threats (Steele & Aronson, 1995) or contextual variables (visibility versus anonymity, Monteil, 1997), which most probably involve a high degree of dependence on other people’s opinions and often concern the most vulnerable portion of the school population (Sanchez-Mazas, in press).

## Conclusions

Social comparison processes are ubiquitous and very relevant in educational settings because of their close relationship with motivation to learn (make an effort, devote time and energy, allocate the attention, and mobilize the resources). For teachers, they are of concern, and their study should be included in the professional training in order to optimize their competence in increasing students’ motivation and learning investment. Regarding the equivocal nature of achievement goals (Darnon, Dompnier, Delmas, Pulfrey & Butera, 2009), mastery goals are explicitly promoted in academic settings, while performance goals are conveyed implicitly through the institutional structure based on selection. With this understanding, it is important to develop an ability to identify what achievement goals are at stake in the school setting and what the students’ orientations are in this regard. This is necessary to question the possible discrepancies, to set up appropriate learning conditions, and to build accurate feedbacks.

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