How did YOU do? Social comparison in secondary education
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CHAPTER 1

Introduction

No one will cast doubt on the importance that Western society, and also many non-Western societies, attach to academic performance. Most parents value academic achievement, and insofar as parents do not try to stimulate their children to set and attain high academic goals the importance of academic achievements are communicated through teachers and the school reward system. One reason for this concern with academic performance at a young age is that in adult life job opportunities are largely determined by the level of education one has received. For students in the Netherlands this level of education is to an important degree being decided on between the age of 12 and 14, mostly on the basis of past academic performance. This means that through academic performance access is obtained to specific academic routes. Moreover, once students find themselves in a certain track at high school, there is still a great variety in academic performance, which continues to shape the actual academic route that one will eventually follow.

The value that is attached to academic performance by Western society leads most students to be concerned with their school performance, and evokes a need for evaluating how they are doing at school. One way to obtain this evaluative information is by comparing one’s own performance with that of peers, i.e. by engaging in social comparison (Levine, 1983). For several decades, social comparison has been noted to be a pervasive aspect of the classroom environment (Pepitone, 1972; Veroff, 1969). Assuming that social comparison at school is the result of – among other things – students' need to evaluate their academic performance, one may raise the question how social comparison in turn affects academic performance itself. Thus, for instance, how is one’s own performance influenced by knowing that a classmate performed better or worse? Do feelings about how one’s performance compares to that of classmates influence one’s future performance? The present dissertation attempts to shed light on these issues by investigating in a naturalistic setting how social comparison influences the performance of students at high school. In the present chapter, first the literature on social comparison at school is outlined. Second, two of this dissertation’s main components of social comparison are illuminated: comparison choice and comparative evaluation. Lastly, a brief overview of the content of the empirical chapters is provided.
SOCIAL COMPARISON AT SCHOOL

According to social comparison theory (Festinger, 1954), people compare their opinions and abilities with those of other people, when objective criteria for evaluation are not available. For this evaluation, comparison with others similar to oneself (e.g., in age, gender, or past performance) is most informative. Although before and since the formulation of social comparison theory researchers had addressed topics associated with social comparison in the educational setting, including social relations in the classroom, cooperation and competition, and achievement-related motives in children, Pepitone (1972) was one of the first researchers to empirically test social comparison behavior at — elementary — school. She argued that the classroom environment is ideally suited to elicit social comparison behavior, because it contains all the components that are theoretically necessary for social comparison. First, the typical classroom has a strongly evaluative atmosphere, because teachers constantly evaluate students’ academic progress, and parents are concerned with the school’s evaluation of a student. This evaluative atmosphere makes students want to evaluate their academic performance. Second, objective information about how to deal with new experiences that are inherent to the classroom setting is absent. Students experience cognitive uncertainty when they learn new classroom material. Also, classroom instructions such as what page to turn to, and what assignment is to be completed often are not clear to students. The absence of objective information necessary to reduce students’ feelings of uncertainty, causes students to turn to classmates in order to obtain information on classroom standards. Third, classmates are relevant comparison targets that are abundantly available. They are not only relevant comparison targets because all students in a class go through the same classroom experiences, but also because they are relatively similar, since at most schools students are grouped into classes based on age and ability. In sum, students are expected to engage on a large scale in social comparison with relatively similar peers due to the evaluative atmosphere and the absence of objective information that are characteristic of the classroom environment.

Considering this likelihood of the occurrence of social comparisons in the classroom, it is not surprising that social comparison has been a topic of substantive investigation among researchers interested in psychological processes at school. Illustrative in this respect is a literature review of Dijkstra, Kuyper, Van der Werf, Buunk, and Van der Zee (in press) in which 107 papers on social comparison in elementary and secondary school that were published between 1966 and 2005 were identified. An important line of research on social comparison in the school context concerns age-related shifts in children’s use of and motives for social comparison. According to the Life-Span Model of Suls and Mullen (1982), children between 4 and 8 years old already engage in social comparisons as a result of cognitive
development, school experiences, and parents who communicate that relative standing is important (e.g., Feldman & Ruble, 1977; Frey & Ruble, 1985; Ruble, Feldman, & Boggiano, 1976). However, in this middle childhood period children are not able to distinguish between comparisons with similar and dissimilar others. This ability only emerges in late childhood.

With regard to children’s motives for comparison, apart from some exceptions (e.g., Butler, 1998), researchers tend to agree that children do not use social comparison information for purposes of self-evaluation until they are about 8 years old (e.g., Ruble, Boggiano, Feldman, & Loebl, 1980). The most important reason for 5-year old children to compare themselves is to increase their ability at a task whereas among 10-year olds the concern with demonstrating high ability relative to others, partly due to the acquisition of normative understandings, and self-evaluation are more important reasons for engaging in social comparison (Butler, 1989b, 1996; Butler & Ruzany, 1993). For example, Butler (1989a, 1989b) found that during a creative task in a competitive context children’s interest in peers’ work at age 7 and older was larger than that of children at age 5, while children of the different ages did not differ with respect to glancing at the experimenter and an example task outcome. However, this age related shift in comparison motives as a result of normative understandings may depend on the school atmosphere. For example, in a study in Israel, this shift was only found among children attending urban schools – which emphasize competition – and not among children attending kibbutz schools – which emphasize cooperation (Butler & Ruzany, 1993).

In sum, children already compare themselves with others at a young age. Their motives to engage in social comparison become more diverse as they grow older, and by the time students in western society enter high school social comparison has become an integral part of school life: students are well able to compare themselves with similar others, and comparisons are increasingly stressed through school grades and grade levels.

Another well-established line of research on social comparison in the school context has focused on the influence of social comparison on the academic self-concepts of students at high school, i.e. how students feel they are doing at school, and is known as the Big-Fish-Little-Pond-Effect (BFLPE). According to the BFLPE theory schools’ average ability levels are negatively related to students’ academic self-concepts. Schools differ in average ability level, and therefore each school provides a particular frame of reference that students use for the evaluation of their academic achievement. As a result, equally able students who attend schools of different school-average achievement levels will use correspondingly different frames of reference in evaluating their academic accomplishments, which subsequently will affect their academic self-concept. In his classic study on the influence of the academic quality of a college on students’ career aspirations, Davis (1966) was the first to refer to the so-called ‘frog pond’
phenomenon, according to which it is better for students’ self-concepts to be a big fish in a little pond, i.e. to be counted among the best performing students at a low level school, than a small fish in a big pond, i.e. to be counted among the worst performing students at a high level school. Since the 1980s Marsh and colleagues have produced substantial evidence demonstrating the existence of the BFLPE (e.g., Marsh, 1987; Marsh, Köller, & Baumert, 2001; Marsh, Kong, & Hau, 2000; Marsh & Parker, 1984). The BFLPE has been replicated for 26 countries (Marsh & Hau, 2003), does not seem to affect general self-esteem or general self-concept, but is specific to academic self-concept (e.g., Marsh, 1987), and has been found to affect academic outcomes such as school grades and educational and occupational aspirations two years later (Marsh, 1991). Even though the results on the BFLPE are quite consistent, Marsh et al. (2000) also found that school status exerted a positive effect on students’ self-concepts. Following this, Marsh et al. argued that the BFLPE is the net effect of two counterbalancing influences: stronger negative contrast effects, and weaker positive assimilation effects. That is, attending a high ability school exposes students to the dominant influence of less favorable social comparisons, but at the same time provides a source of pride.

These most important research foci with regard to social comparison in the school context being outlined, the remainder of this chapter is dedicated to two of this dissertation’s main components of social comparison – comparison choice, i.e. choice of a comparison target, and comparative evaluation – before providing a brief overview of the content of the empirical chapters.

**Comparison choice at school**

A social comparison can be described in terms of several characteristics, among which dimension, motive, and direction of comparison.

**Dimension of social comparison**

With regard to the dimension, in the present dissertation, social comparison concerns the comparison of academic performance by students at high school. This is in line with research examining social comparison in the classroom, which, as noted by Dijkstra et al. (in press), has focused mainly on social comparison on the dimension of (academic) performance (e.g., Blanton, Buunk, Gibbons, & Kuyper, 1999; Butler, 1989a, 1989b, 1992; Huguet, Dumas, Monteil, & Genestoux, 2001; Ruble et al., 1980). In most of these studies, the dimension on which participants chose their comparison targets was manipulated by the researcher, for example by providing participants with information on their own and other participants’ performance (e.g., Ruble et al., 1980). However, students in a university context also
mentioned social comparison of academic performance most frequently when they were asked to keep track of their daily comparisons for several weeks (Wheeler & Miyake, 1992). This of course is not surprising since school performance is very important at student age and the classroom is the social environment where students spend a large part of their days.

**Motive for social comparison**

Students at school can have different motives for engaging in social comparison. They not only compare themselves for the purpose of self-evaluation, i.e. to see how they are doing at school, but also for the purposes of self-improvement, i.e. to become better at a task, and self-enhancement, i.e. to feel better about themselves. Indeed, Wood (1989) was the first to provide a general overview of all three motives, which also turned out to be among the most frequently cited reasons among university students for engaging in social comparison (Helgeson & Mickelson, 1995). In the school context, Butler and colleagues have related social comparison motives to achievement goals. The assumption behind their research was that the distinction between social comparison for the purpose of self-improvement and social comparison for the purposes of self-evaluation and self-enhancement parallels the distinction between mastery goals – where the aim of behavior is to promote learning and proficiency at a task – and performance goals – where the aim is to maintain self-worth by demonstrating high ability. Therefore, it was expected that students aiming for mastery goals would seek more self-improvement social comparison information, i.e. information relevant to learning about the task, while students aiming for performance goals would seek more self-evaluation and self-enhancement social comparison information, i.e. information on relative standing. Even though in a study among grade 6 students this expectation was confirmed (Butler, 1992) these results soon were refined (Butler, 1995, 1996) in that self-improvement social comparison information appeared to not only serve mastery goals (e.g., “I looked at what X was doing, so that I could improve my product”), but also performance goals (e.g., “I looked at what X was doing, so that I would win”). Likewise, self-evaluative social comparison information appeared to not only serve performance goals (e.g., “I looked at what X was doing, because I wanted to see if I was going to win”), but also mastery goals (e.g., “I looked at what X was doing, because I wanted to see if my product looked finished or if I should work on it more”).

**Direction of social comparison**

In the social comparison literature a distinction is made between upward and downward comparisons. Upward comparison means comparison with a better-off other, downward comparison is comparison with a worse-off other. Choosing to compare upward or downward can increase the likelihood that a particular social comparison motive will be satisfied.
Typically, the assumption is that upward targets are most likely to satisfy the motive of self-improvement, and downward targets are most likely to satisfy the motive of self-enhancement. However, research has identified factors such as identification or contrast with a target (Buunk & Ybema, 1997) that can influence the relationships between comparison motives and directions of comparisons. For instance, one would generally not expect the motive of self-enhancement, i.e. wanting to feel better, to be satisfied by upward comparison. However, when one identifies with a better-off comparison target, one may feel better about oneself indeed. Similarly, for self-improvement an upward comparison target may provide information on how to attain success, but a downward target may also be useful for self-improvement by providing information on what not to do (Helgeson & Mickelson, 1995). With regard to the motive of self-evaluation, the basic assumption is that people prefer to compare with similar others, i.e. they engage in lateral comparisons. According to Festinger’s (1954) similarity hypothesis comparison with someone who is similar to oneself enables one to make the most precise evaluation of one’s ability. However, what exactly constitutes a similar other has been a topic of great debate (e.g., Goethals & Darley, 1977; Suls, 1977). As Wood (1989) pointed out, similarity between oneself and a target can concern the central dimension which is the focus of the comparison, a related dimension, or even an unrelated dimension. In addition, evidence from studies on the so-called rank-order paradigm suggests that under certain circumstances people may even prefer to compare with dissimilar others (e.g., Wheeler et al., 1969). In the rank order paradigm participants typically are given bogus information that their score on a test, which is revealed to them, ranks in the middle of the scores of other participants. Participants to whom their own score is revealed are then given the opportunity to see the score of one other person by indicating the rank of the person whose score they would like to see. It has been found that when people only know their own scores, but not the scores on the extreme ends, i.e. the range of scores, they first want to find out the highest and lowest score, i.e. the scores of the persons most dissimilar to themselves. Next, they typically choose to see scores of ranks closer to their own, which implies comparison with others who are similar on the central dimension (Wheeler, 1966; Wheeler et al., 1969).

Dijkstra et al. (in press) concluded that even though in general the social comparison literature has been plagued by discrepant findings with regard to the direction of comparisons (Buunk & Gibbons, 2000), findings on social comparison in the classroom indicate that students prefer to compare upward on the central dimension, i.e. academic performance, and lateral on related or unrelated dimensions. Dumas, Huguet, Monteil, Rastoul, and Nezlek (2005) showed that the tendency to compare upward with regard to academic performance became stronger as children progressed through elementary school. Examples of dimensions that are related to
academic performance and that students use to choose their comparison targets, are gender and especially age (e.g., Blanton et al., 1999; Huguet et al., 2001; Meisel & Blumberg, 1990; Suls, Gastorf, & Lawhon, 1978). Considering the importance that is attached to academic achievement it is not surprising that by comparing lateral and upward students seem to be concerned mainly with self-evaluation and self-improvement. However, as Dijkstra et al. pointed out, in social comparison research in the school context motives have not been related to actual directions of comparison.

Consequences of social comparisons

Initially, the focus in social comparison studies was on the selection of a target of comparison (e.g., research on the fear-affiliation relationship by Schachter, 1959; research on the rank-order paradigm by Hakmiller, 1966; Thornton & Arrowood, 1966; Wheeler, 1966; and research on Wills’ downward comparison theory, 1981). However, since the 1990s the consequences of comparison choices have received increased attention (Buunk & Gibbons, 2007). In the school context, studies on the affective consequences of social comparison have focused mainly on negative emotions, such as anxiety. The most often studied cognitive consequence of social comparison in the classroom is academic self-concept, but other cognitive consequences such as school attitudes, and expectations of achievement have also received attention. The behavioral consequence of classroom social comparison that has by far received the most attention is (academic) performance (for a review of affective, cognitive, and behavioral consequences of social comparison at school see Dijkstra et al., in press). The most relevant longitudinal studies in this respect showed that comparison with high-performing classmates led to higher own grades than comparison with low-performing classmates (Blanton et al., 1999; Huguet et al., 2001). In line with the change of research focus from the selection of a comparison target to the consequences of comparison choices that has taken place over the past decades, the present dissertation attempts to shed more light on the reactions to and performance consequences of social comparison in the classroom.

Academic comparative evaluation

Academic comparative evaluation refers to how students feel they are doing at school compared to their classmates. It shares similarities with concepts such as the better-than-average effect (e.g., Alicke, 1985; Alicke, Vredenburg, Hiatt, & Govorun, 2001) and the worse-than-average effect (e.g., Kruger, 1999; Moore, 2007) where people are typically asked how they rate themselves compared to (average) others. Even though people tend to grossly overestimate their relative standing on many dimensions, and under certain circumstances underestimate their relative
standing, the evidence for the occurrence of these biases in the school context is rather scarce. Partly this is due to the fact that only a small number of studies have focussed on this topic in the classroom. For another part this is due to the fact that results from studies that did test it mostly indicated that on average students do not seem to over- or underestimate their relative academic standing. A favorable academic comparative evaluation has been found to be beneficial for academic performance (e.g., Blanton et al., 1999; Felson, 1984; Huguet et al., 2001).

**Social comparison and comparative evaluation**

According to Wood (1996), comparative evaluation has incorrectly been labelled as social comparison by several researchers. Wood defined social comparison as “the process of thinking about information about one or more other people in relation to the self” (p. 520). She argued that judgments of relative standing should not be called social comparisons, because no real thought about social information is implied. Instead, according to Wood comparative evaluation constitutes a self-serving strategy, and she outlined evidence supporting her contention that participants do not take social information into account when they rate themselves compared to others. For example, Wood referred to the fact that self-serving biases are reduced by forcing participants to think about their comparison targets before making their ratings (e.g., Weinstein & Lachendro, 1982). This finding suggests that participants normally do not think carefully about their targets when making comparative ratings. On the other hand, in two studies on order effects in social judgment, Buunk (1998) showed that when a comparative evaluation question preceded an absolute evaluation question, the correlation between the two variables was higher than when the questions were asked in reversed order. Buunk interpreted this finding as indicating that in the first case individuals used social comparison information as a reference point for making a judgment of their situation, whereas in the second case absolute evaluations were based on a variety of factors. After all, if participants do not think about their targets when making comparative evaluations, then it should not matter for the correlation between comparative evaluation and absolute evaluation questions which question is asked first.

With regard to the school context, findings seem to be in line with Wood’s (1996) argument that participants do not take social information into account when they rate themselves compared to others. Support comes, for instance, from a study by Blanton et al. (1999) in which grades at high school over time were positively influenced by both comparison with high-performing classmates and favorable comparative evaluations. Particularly relevant here is the relationship between the two predictor variables. One might expect both predictors to
conflict with one another. After all, comparing oneself with a high-performing target may leave one with feelings of low relative academic standing. On the other hand, one might also expect both predictors to be positively related. Comparing oneself with a high-performing target may result in a favorable comparative evaluation when one identifies with the target. Neither relationship was found, however. Instead, Blanton et al. found that students’ comparative evaluations were unaffected by the performances of their preferred targets of comparison; only students’ own grades were significant predictors of students’ comparative evaluations. As these researchers pointed out, this suggests that students were not reflecting on the attributes of specific other students when rating their relative academic standing, for otherwise it seems that they would have at least given some consideration to the comparison targets that they had listed. One may ask now what is left of the comparative evaluation concept if people seem to not actually compare themselves when rating their relative standing. Does it mean that it is simply self-concept that is being measured? Research seems to indicate that this is not the case; comparative evaluation has predictive value above and beyond self-evaluations and evaluations of others (Diener & Fujita, 1997). As Blanton et al. concluded: “This strange combination of poor face validity but good predictive validity seems to be the hallmark of comparative evaluations” (p.428).

In line with Buunk (1998) and Diener and Fujita (1997), the present dissertation is based on the idea that comparative evaluation involves social comparison indeed. It is believed that, as far as students do not reflect on specific others when rating their relative academic standing, they will engage in social comparison in a more general way. In addition, with regard to the findings of Blanton et al. (1999), it is believed that social comparison might not be the only process taking place when rating one’s relative academic standing. People are quite able to hold incorrect positive or negative views of themselves (e.g., Alicke, 1985; Alicke et al., 2001; Moore, 2007), so they may take others into consideration when estimating their relative standing indeed, but still report perceptions that seem unrelated to their social comparison standards.

THE PRESENT DISSERTATION

The present dissertation focuses on the influence of comparison choice and comparative evaluation on academic performance at high school. In Chapter 2, these influences are assessed over a period of two years. By means of multilevel analysis, students’ comparison choice and comparative evaluation in their first year at high school are related to scores on objective tests for reading comprehension and mathematics, while controlling for earlier performance. In Chapter 3, it is argued that it may not be the direction of comparison itself that influences
academic performance, but rather the interpretation of a comparison, as indicated by the responses of students to upward and downward comparison situations at school. Therefore, three basic types of responses to social comparison are distinguished. Next, in a cross-sectional design these types of responses are related to performance on the objective tests for reading comprehension and mathematics by means of multilevel analysis. In Chapter 4, comparison choices in the specific situation of a failure at school are investigated. It is argued that a threatening experience at school will lead to a decrease in preferred comparison level as a means of self-protection. In this chapter a quasi-experimental study is discussed in which students indicated their preferred comparison level after imaging a failure or a success on a school test. In Chapter 5 the effect of illusory superiority and inferiority on academic outcomes is examined. Illusory superiority is the incorrect high estimate of a student’s own performance as compared to the performance of classmates; illusory inferiority is the incorrect low estimate of a student’s own performance as compared to the performance of classmates. In Chapter 5, students engaging in these cognitive illusions are identified by relating subjective comparative evaluations to objective academic performance. It is argued that illusory superiority is beneficial for progress through secondary education and dropout rates, while illusory inferiority is detrimental. Moreover, it is argued that more students from lower tracks than from higher tracks engage in cognitive illusions. Finally, in Chapter 6 an overall discussion of the empirical chapters is provided and the contribution of the present dissertation to the literature on social comparison among adolescents at high school is indicated.