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Competition in Education

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Competition in Education

Competition is a ubiquitous factor in educational institutions, from their organizational values and norms to the socialization of students. In the present chapter we adopt a social influence approach and discuss how competitive values and norms are transmitted from society to educational institutions, how competitive structures within these institutions shape students' values, goals and behaviors, and how such a socialization of students may impact society in a feedback loop (see Figure 1). In doing so, we limit our analysis to mechanisms at work in industrialized countries, as it is in these countries that the vast majority of studies have been conducted.

Competitive Societies

Educational systems (from kindergarten to higher education) are the institutions in charge of the transmission of knowledge and skills through the generations, and as such they are deeply rooted in the social functioning of the societies in which they are embedded. As a matter of fact, the history of modern educational systems has been one of dependency from state-driven policies and specific demands from the economy. In several historical accounts of the development of educational systems, the emergence and rise of generalized education appears to be linked to the development of nation-states (e.g., Archer, 2013). For example, Green (1990) notes that from the nineteenth century onwards, "education system came to assume a primary responsibility for the moral, cultural and political development of the nation" (p. 13), by forging the Country's national identity through the promotion of dominant values, habits, language, religion, and political and economic creeds. Such a tight relationship between the development of the nation-state and the formal organization of education is apparent in the training of the ruling class, but also in the expansion of mass education. For example, a study carried out with enrollment data of over 120 countries for the period 1870-1980 revealed that "mass education spread around the world with the spread of the Western

system, with its joined principles of national citizenship and state authority" (Meyer et al., 1992, p. 146). Actually, archival data showed that well before the modern organization of educational institutions, during the Middle Ages, higher education was controlled by power-holders (kings, princes, popes) and used as a means to shape the political and administrative organization of a given territory, "by training individuals for specific professional statuses" (Goastellec, 2020, p. 287, our translation).

It is therefore unsurprising that educational systems evolve as a function of the historical, political, cultural and economic context of a given country, both in terms of the specific policies that lie at the core of its organization and in terms of the dominant culture it vehiculates (e.g., Perry, 2009). Indeed, several authors have noted that education transmits the dominant values and ideologies of a given society (Zajda, 2009) and socializes children in such values and ideologies (Apple, 2018; Bronfenbrenner, 1977). In particular, as far as competition is concerned, it has been argued that competitive values and ideologies at the societal level spill over into educational policies and practices (Rich & DeVitis, 1992), and that there is a growing call in industrialized countries for increased competitive selection and excellence in education (Van de Werfhorst, 2014). Which are, then, the competitive ideologies and values of industrialized countries that surround their educational systems?

Competitive Ideologies and Values

System justification theory posits that people are motivated to justify the existing social order of the society in which they live, both to reduce uncertainty in life and avoid questioning the legitimacy of the social system (Jost et al., 2004). People living in industrialized, capitalist countries are therefore motivated to adhere to a set of interrelated competitive ideologies such as meritocracy and the fairness of free market economy (Jost & Hunyady, 2005), as well as neoliberalism (Beauvois, 2005).

Meritocracy

The belief that upward social mobility is available to the entire population, also called the "American dream", lays its foundations on the ideology of merit: People are rewarded as a function of their effort and ability, and not because they belong to a specific (privileged) social group (e.g., Son Hing et al., 2011). In other words, meritocracy refers to the belief that in a competitive society—where privileged positions in terms of wealth, power and prestige are scarce—all citizens can potentially access such positions, provided they display greater levels of effort and ability than others (Butera, 2006). This ideology is so pervasive in industrial societies, and the "rhetoric of rising" so widespread, that support spans the entire political spectrum from left to right (Sandel, 2020). However, although democratic societies are in theory permeable and allow upward social mobility, research showed that belonging to an underprivileged or discriminated group represents in fact a disadvantage (McNamee & Miller, 2004), as competition does not take place in a level playing field but rather reproduces existing inequalities (Haney & Hurtado, 1994; Son Hing et al., 2002). Nevertheless, people believe in meritocracy and justify existing inequalities in terms of lack of ability or effort (Son Hing et al., 2011), even when they belong to an underprivileged group (Jost et al., 2003b).

The same applies to educational systems. Merit, and not wealth, has been the basic principle used to assess and promote pupils in schools, ever since the American and French revolutions (Butera et al., in press). Merit is also the principle that justifies equal access to all children in primary education, following the call for generalized, free and compulsory education formulated in the Universal Declaration of Human rights: Children are granted equal opportunities, and then relative ability and effort determine the subsequent educational path that they will follow (Batruch et al., 2019). Again, even though the school system appears to reproduce existing social disparities (Bourdieu & Passeron, 1977; Falcon, 2012), pupils and parents by and large believe in school meritocracy (Darnon et al., 2018a and b;

Duru-Bellat & Tenret, 2012; Wiederkehr et al., 2015b), even disadvantaged pupils (Wiederkehr et al., 2015a). According to these authors, belief in school meritocracy plays a palliative role for disadvantaged pupils in dealing with an uncertain future. Indeed, school meritocracy feeds the belief that class boundaries are permeable and that at least some disadvantaged pupils will be able to achieve upward social mobility (a phenomenon also called *tokenism*, cf. Wright, 2001). To conclude this section with a quote from a famous article on merit in education by Deutsch (1979, p. 379), "merit based on individual performance will be the dominant principle of distributive justice in situations where an economic orientation predominates", that is where competition predominates.

Fair free market

The association between the economy and competition is epitomized by the free market ideology. Although markets in capitalist countries can be more or less regulated by state institutions (Hall & Gingerich, 2009), the concept of free market has become an ideology. As noted by Piketty (2020), markets, profits, and capital are historical constructs, mainly coined and used for political motives. Importantly, Jost et al. (2003a) have remarked that, although market-driven inequalities have been on the rise for the past four decades (Frank & Cook, 1995; Piketty, 2020), the free market ideology seems well accepted by the general public. Jost et al. (2003a) even noted that in a large-scale Gallup poll, the majority of American respondents considered that the economic system is fair, including more than a half of the low-income respondents (p. 56). Thus, since free market ideology represents the *status quo*, people who are motivated to justify the existing social order are likely to accept such an ideology as being fair (Jost & Hunyady, 2005).

Several scholars have noted that, in industrialized countries, the corporate models of the market economy have been used to shape the competitive functioning of, and values transmitted in, public education (e.g., Apple, 2006; Engel, 2000). Entrepreneurial efficiency,

unconstrained competition and the market's permanent quest for performance are metaphors that school managers have adopted to promote the idea that competition in education can boost performance just like it can in the marketplace (Apple, 2006). This state of affairs has produced two intertwined trends of public and scholarly debate. On the one hand, the question of "school choice"— parents' freedom to choose the best school for their children—has fueled the debate on whether or not a market of freely competing schools leads to a more efficient and effective education system (e.g., Dudley-Marling, 2020; Jabbar et al., 2019). On the other hand, the question of merit pay for teachers—paying teachers as a function of their results—has fueled the debate on whether or not paying teachers as a function of performance does indeed promote their performance (e.g., Dee & Keys, 2004; Nathaniel et al., 2016). Whatever the answer to these questions, and the jury is still out, research shows that there is a clear tendency to transfer market-level policies, in particular competitive ones, to education-level practices.

Neoliberalism

"Neoliberalism, originally a loose economic theory, has evolved into a sociopolitical ideology and extended its hegemonic influence to all areas of life (…)" (Bettache & Chiu, 2019, p. 9). This quote is taken from the introductory article to a special issue on the social psychology of neoliberalism in the *Journal of Social Issues*, and summarizes how yet another competitive ideology has spilled over well beyond the political and economic spheres. As noted by Plehwe (2009), since its inception in the 1920s, and through its formalization by the Mont Pélerin Society, neoliberalism promoted the idea that only effective competitive markets and decentralized control can foster individual liberty, via freedom to choose one's employment or means of production, select ways and goods to consume, and manage one's life choices and outcomes. The transfer from the emphasis on the importance of economic exchange in a free marketplace to the entrepreneurialization of all personal activities and

social relationships is also a major feature of the depiction of neoliberalism made by several philosophers and psychologists, from Foucault (1984/2010) to Beauvois (2005).

Although neoliberalism has been criticized for having generic political, economic and philosophical underpinnings, its influence has been steadily growing, with a peak in the 1980s and the advent of the Thatcher-Reagan era (Bettache & Chiu, 2019). If we focus on the psychological consequences of living in a neoliberal environment, research has shown that making neoliberalism salient reduces feelings of bonding with, and trust toward others, both in traditionally capitalistic countries (Hartwich & Becker, 2019) and in a transition economy like China (Zhang & Xin, 2019). Kasser et al. (2007) made a similar analysis and showed how what is called American corporate capitalism—an ideology whose description is similar to that of neoliberalism—promotes a set of goals, namely self-interest, financial success, and competition, that conflict with pro-social goals such as being helpful, honest, loyal, and caring for other. Some authors have even noted that such an influence is also apparent in the way mainstream psychological science has developed: "Neoliberal systems build on and reinforce characteristic psychological tendencies of liberal individualism—including radical abstraction of self from context, an entrepreneurial understanding of self as an ongoing development project, an imperative for personal growth and fulfillment, and an emphasis on affect management for self-regulation" (Adams et al., 2019).

Neoliberalism's "hegemonic influence to all areas of life" extends to education. Two trends of research that have emerged to study such an extension are of interest for the question of competition in education. On the one hand, it has been noted that teachers are growingly under pressure to abide by the representation of their profession as an entrepreneurial activity, with enhanced accountability as regards their productivity (e.g., Attik, 2017). On the other hand, the competitive climate that permeates schools and universities in neoliberal societies has prompted in students a representation of education as a means of prevailing in the struggle

for a valuable position in the marketplace, thereby maximizing their future salary (e.g., Busch, 2017). These trends underline that the neoliberal ideology has far-reaching consequences in the educational systems of countries that espouse it, from the representation of what teaching is worth to the representation of what learning is for.

Ideologies and values

In the above sections, we have discussed the links between competitive ideologies and values on the one hand and educational systems on the other hand. This may have suggested that we treat ideologies and values as interchangeable concepts, and we must now specify the relationship they entertain with each other. Values are defined as higher-order life goals at the individual level (Schwartz et al., 2012), but they are influenced by a country's dominant higher-order social goals that are part of the dominant ideologies in that country. Such a relationship is illustrated in a study on the link between the level of deregulated capitalism in industrialized countries and the adherence of these countries' population to competitive values (Schwartz, 2007). More precisely, this study has correlated the degree to which a set of OECD countries pursue neoliberal free-market capitalism (on an index ranging from strategic to competitive market coordination) with the level of self-enhancement values of power and achievement reported by people living in those countries. The results have shown a positive association between the neoliberal pursuit of competitive market coordination and the adherence to competitive self-enhancement values. In sum, there appears to be a link between ideologies that regulate the political and economic life of a country, and the values that its citizens adopt.

Competitive Norms

In addition to the competitive ideologies and values reviewed above, educational systems are also submitted to the influence of competitive norms. Unlike ideologies and values, which provide the cultural context in which educational institutions are embedded,

norms provide direct guidance as to the desired outcomes that education should deliver. Most modern industrialized countries have developed tools aimed at monitoring the performance of students, schools and local authorities, and use those tools as a means to regulate their educational systems. Indeed, several studies have shown that international standardized testing, such as the Programme for International Student Assessment (PISA), has fulfilled this specific role in most OECD countries (Mons, 2009). In this respect, we refer here to injunctive norms, i.e., those that specify the behaviors and outcomes a given society approves or disapproves of, along with the set of measures intended to reward or punish normative and counter-normative behaviors (Cialdini et al., 1990). Two competitive norms appear to be particularly relevant for educational institutions: productivism and employability.

Productivism

Productivism, also called performativity, refers to the call for schools and universities to train pupils and students to acquire skills needed in the job market (Lyotard, 1984). The development of knowledge is therefore subordinated to the criteria of usefulness, salability, and efficiency of the training (Segal, 2014). Productivism has been identified as a fundamental norm in modern societies because the production of useful skills in pupils and students is seen as a guarantee of economic growth (Anderson, 2008). As a consequence, the evaluation of schools, teachers and students is based on the same competitive criteria as in the job market, in particular their potential economic worth.

Employability

Parallel to productivism, employability is an indicator of performance for educational institutions, in particular vocational training (e.g., Kratz et al., 2019) and higher education (e.g., Morley, 2001). Employability is to be considered as a norm because it exerts a pressure on the educational system to produce individuals that will be useful and adaptable to the job market (Masdonati et al., in press). Human capital is “the stock of individual skills,

competencies and qualifications" (Morley, 2001, p. 132), and in industrialized countries higher education is meant to provide these skills, competencies and qualifications, following an input-output logic. In this respect, employability is an end for higher education, but also a means for society, to the extent that higher employability is seen as competitive advantage in the global market (Knight & Yorke, 2004).

Competition from Society to Educational Systems

In this section we have discussed the competitive ideologies and values—in particular meritocracy, free market and neoliberalism—that constitute the backbone of most capitalist countries. Given their pervasive nature and the need for system justification that they induce (Jost & Hunyady, 2005), they appear to permeate all areas of activity in a given society, including education. We have also discussed the competitive norms—in particular productivism and employability—that define the quality of an educational system as a function of its ability to produce outcomes that will serve the competitive nature of the marketplace. But how does competition flow from society to education?

The link between competition at the social and educational levels has been well documented in a comparative study with more than 30 countries: The higher the economic competition and the influence of diplomas on salary, the stronger the implementation of competitive structures in the educational system (Dubet, Duru-Bellat, & Vérétout, 2010). Two major features of educational systems account from such a transfer of competition: competitive selection structures and competitive climates. On the one hand, competitive ideologies and norms promote a hierarchical representation of society whereby some individuals and groups are seen as having higher worth than others. For instance, meritocracy requires that some individuals receive greater rewards because of their higher level of effort and ability (Mijs, 2016). As a consequence, educational systems are equipped with tools that allow educators and assessors to measure differential merit and distribute differential rewards.

The next section will focus on three such tools, namely normative assessment, tracking and *numerus clausus*. On the other hand, competitive ideologies and norms are internalized by teachers who transmit them to their classrooms (Pérez Gómez, 1998). Teachers know that students should be able to adapt to a neoliberal economy (Davies & Bansel, 2007), and that their worth will also be judged based on their ability to present themselves as independent, autonomous and accountable individuals (Pansu et al., 2008). As a consequence, teachers reproduce in their classroom the competitive ethos present in society at large (Nicholls, 1989) by creating a competitive climate. The next section will focus in particular on classroom climate, goal structure and error climate (see Figure 1).

Competitive Educational Systems

In the context of competitive societies, educational systems have developed two intertwined sets of competitive features, namely competitive selection structures and competitive teaching climates.

Competitive Structures

The educational function of educational systems —the role of improving the knowledge and skills of pupils and students—is probably their most relevant, salient, and noticeable feature, almost a tautology. However, a number of studies have noted that selection is an equally central feature of educational systems, as it corresponds to the function to "provide a rational means of selecting persons in order that the most able and motivated persons are sorted into the highest status positions" (Dornbusch, 1996, p. 405). In line with the meritocratic principle, such a function is considered to help society match abilities and effort with more or less valued positions in the social hierarchy (e.g., Dubet & Duru-Bellat, 2004). It also acts as a filter that assigns students to the economic roles that they merit, based on their educational performance (Arrow, 1973). Although not advertised as the most desirable function, selection is so well rooted in the educational system that students

recognize that pursuing competitive goals is indeed useful to succeed in the system (Darnon et al., 2009; Dompnier et al., 2008). Since selection is a major role of educational systems, several structures have been developed to ensure that selection actually takes place. Here we discuss three such structures, namely normative assessment, tracking and *numerus clausus*.

Normative assessment

Educational critic Alfie Kohn recently reported that, according to Harvard political science professor Harvey Mansfield, "the essence of grading is exclusiveness" (Kohn, 2019). This blunt statement summarizes the strong relationship between grades and normative assessment. Grades take different forms in different systems—letters, numbers, percentages—but they all aim at quantifying pupils' and students' performance (Glaser, 1963). Whether or not grading systems that are, and have been, used accurately represent the students' performance is still under debate (e.g., Rom, 2011). In this chapter, however, we focus on the functions of grading, rather than its accuracy, and in particular its contribution to the selection function of educational systems.

Grades can be used to represent the extent to which a student has learned, as compared to a desired standard; this is generally termed "criterion-referenced assessment" (e.g., Glaser, 1963). For example, a grade of 75% may indicate that three quarters of a lesson has been learned or that three quarters of the answers in a test were correct. Grades can also be used to provide a formative feedback, accompanied by detailed comments, aimed at providing the students with useful information as to improve their learning; this is generally termed "formative assessment" (e.g., Black & Wiliam, 2009). However, in the vast majority of systems, grades are used because they make performance easy to compare across students (Knight & Yorke, 2003), which in turn allows teachers to make selective and competitive decisions such as retention, awards, and ranking. In this respect, grades are used most of the time as "norm-referenced" or "normative" assessment (Pulfrey et al., 2011; 2013). In other

words, competence is considered as other-based in normative assessment —unlike criterion-referenced and formative assessment, where competence is task-based and self-based, respectively (Elliot et al., 2011)—which encourages and justifies comparison across students (Butera & Darnon, 2017).

The competitive nature of normative assessment has two important consequences on assessment itself. First, if assessment is comparative, teachers' judgment of each of their pupils depends of the average level of the relevant group of pupils, usually the classroom. This phenomenon is known as the "context effect" and is defined as the fact that "after factoring out actual performance, it appears that a pupil is judged better in a classroom in which the average achievement level is low than another pupil in a classroom in which this level is high" (Dompnier et al., 2006, p. 120). The second, related consequence is that such comparative effects can also be found at the school level, whereby "equally able students earned higher grades in lower ability schools" (Marsh, 1987, p. 280). Thus, normative assessment leads evaluators to distribute grades as a function of the need to produce a ranking among students, rather than as a function of actual performance.

This state of affairs explains why "the essence of grading is exclusiveness": As soon as grading is used as a normative assessment tool, and it is most of the time, only some students can get the highest grades and the benefits in terms of academic and social positions that will follow from those grades. Such an association between selection and grades is clearly perceived by students: Autin et al. (2015) showed that the more students believed that the role of the educational system is to select, the more favorable they were toward the use of normative assessment. In a nutshell, normative grading is the tool that facilitates decision making in a competitive and selective system.

Tracking

Decision making in a competitive and selective system often implies tracking (also called streaming), which is defined as "the practice of assigning students to instructional groups on the basis of ability" (Hallinan, 1994, p. 79). In other words, students compete to access the more prestigious instructional groups or curricula. All OECD countries implement one type of tracking or another (OECD, 2013). Some countries divide students of the same class, school or curriculum into ability groups, that is groups in which the same subject is more or less demanding depending on the group. Other countries send students of different ability to different schools or curricula, for instance to vocational or academic programs (Batruch et al., 2019).

Although it has been argued that tracking allows to provide a better fit between specific curricula and the students' specific needs and ability (Chmielewski, 2014; Hallinan, 1994), the difference between tracks is not merely descriptive or functional: Different tracks lead to different diplomas that give access to more or less prestigious professional and social positions. And, indeed, research has shown that tracking systems reproduce existing social hierarchies, as students from privileged social classes are overrepresented in more prestigious tracks (e.g., Van de Werfhorst & Mijs, 2010). It is worth noting that research on tracking reveals a network of strong relationships between meritocracy at the ideological level, and normative grading and tracking at the structural level: In countries where meritocracy is a dominant ideology, more or less prestigious professional and social positions are occupied as a function of more or less prestigious diplomas, earned by attending more or less prestigious curricula whose access is determined by higher or lower grades (a mechanism also called "predictive assessment", assessment that provides information for decisions about admission, cf. Allal, 2010).

Numerus clausus

Another way to select students is *numerus clausus*, a Latin expression that means "closed number" and refers to a curriculum that accepts only a fixed number or proportion of students (Spence, 1981). In most OECD countries, *numerus clausus* has been mainly used to regulate the number of students that enter medical and nursing training (Moreira & Lafortune, 2016), but it can be found in many high-prestige curricula in higher education, such as Law and Business Administration, as well as in private schools of all levels. Each school and university has its specific rules, but two main types of *numerus clausus* can be found (Sommet et al., 2013). On the one hand, pre-curriculum selection takes place when students must take an exam (and/or must present their past grades) to enter a specific curriculum. As a function of the needs and requirements of that curriculum, only a certain number or proportion of the students will be allowed to enter, selecting those with the highest results on the admission exam. On the other hand, in-curriculum selection takes place when students are evaluated on the basis of the results of their first year. In this case, many institutions standardize grades in order to make comparison and selection easier (Kaufman, 1994).

Interestingly, as far as competition is concerned, the students who are confronted with such systems clearly perceive the competitive pressure, even though quite often—especially in the case of in-curriculum selection—*numerus clausus* is hidden. Indeed, in a series of three studies with university students, Sommet et al. (2013) showed that students in departments with *numerus clausus* developed lower levels of self-efficacy than students in departments without *numerus clausus*. The same was found when comparing students who believed or not that *numerus clausus* was in force in their department (in a department where it was hidden), and when comparing students in an experiment where the presence vs. absence of *numerus clausus* was manipulated. Self-efficacy is an interesting measure because it highlights the effect of *numerus clausus*: Students understand that they are in a relation of negative interdependence with the other (aspirant) students, and their self-efficacy is therefore

reduced because their chance of succeeding is not only determined by how much they study, but also by how much their contenders do. A structure that creates objective negative interdependence perfectly fits the classic definition of competition (Deutsch, 1949).

Competitive Climates

Competitive structures in educational institutions are shaped by democratic deliberation and political decision making, at least as far as public education is concerned. There is, however, a less institutionalized mechanism that promotes competition in education, namely the implementation of competitive climates in schools and especially classrooms. Teachers are socialized to adopt a competitive ethos and to apply the neoliberal principle of performance accountability in their professional practice (Webb et al., 2009). In this respect, not only do they work in and with the existing competitive structures (normative grading and tracking), they also create competitive climates. In this section, we discuss how this is done through classroom climate, goals structure and error climate.

Classroom climate

Narrative and meta-analytical reviews of work on classroom climate have documented the relationship between this construct and a wealth of academic, behavioral, and socioemotional outcomes (Fraser, 1989; Wang et al., 2020a). They have also documented the important variations in how classroom climate has been operationalized—for example, teaching quality, classroom organization, teacher-student relationship—although the variability found in the literature can be reduced to three basic components that refer to teacher-student interactions: instructional support, socioemotional support, and classroom organization and management (Wang et al., 2020a). School-level mechanisms have also been identified as important in the development of specific climates (Wang & Degol, 2016), but Wang et al. (2020a; b) have noted that proximal processes, like those occurring in the interaction between teachers and students, are more likely to yield substantial and long-lasting

influence, as they are the ones that students experience daily and over an extended period of time.

In their meta-analysis, Wang et al. (2020a) report that performance-based and socially comparative instructional practices appear to negatively affect important psychological needs such as competence and relatedness (Ryan & Deci, 2000; see also Wang, 2012). As noted above when discussing *numerus clausus*, the presence of a competitive structure affects the representation of students' own competence, to the extent that one's competence is negatively interdependent with the competence of others; the same holds for competitive climates.

Goal structure

Instructional practices also influence the specific goal structure of a given classroom (e.g., Kaplan et al., 2002). The work initiated by Ames and Archer (1988), and formalized by Ames (1992a; b), identified five key dimensions in such practices that are likely to influence the goals of the students socialized in a given class. Her TARGET system proposed that the five organizing dimensions are task assignments (T), authority relations (A), recognition systems (R), grouping procedures (G), evaluation practices (E), and use of time (T). Based on this work, Midgely and colleagues developed an instrument, the Patterns of Adaptive Learning Survey (PALS) that measures how students perceive the goal structure in their classroom (Anderman & Midgely, 2002; Midgely et al., 2000): Their research showed that students concur in their perception of the surrounding goal structure, which also happens to be in line with the goal structure that teachers report about their class (see also Urdan et al., 1998).

Importantly, the literature review conducted by Meece et al. (2006) reveals that there is a consistent relationship between the goal structure in which the students are embedded and the goals they endorse. In particular, they found ample evidence that students who perceive that their teachers promote competition for grades and social comparisons of ability—e.g.,

"My teacher calls on smart students more than on other students" or "My teacher tells us how we compare with other students"—also develop competitive goals of their own, such as for instance "I want to do better than other students in my class". Thus, the competitive goals that teachers set for students of their class through their instructional practices create a competitive goal structure that the students perceive and recognize, and with which they align their own goals. Actually, subsequent research has shown that classroom goal structure and personal achievement goals may be tied in three different ways: (a) classroom goal structure predict personal achievement goals, as noted above; (b) they can be parallel processes; and (c) they can interact (Murayama & Elliot, 2009). Interestingly, repeated exposure to a competitive structure may create a self-sufficient competitive ethos that requires little additional input from the teachers. Indeed, a recent study has shown that when students have internalized competition (trait competitiveness), they project competition onto their environment (perceived environmental competitiveness): "…a highly competitive person may enter an achievement situation, construe it as highly competitive, and behave accordingly, which may lead others in that situation to respond with competitive behavior in reciprocal fashion. In this way, competitiveness projection can be self-fulfilling" (Elliot et al., 2018, p. 361).

Error climate

Among instructional practices, teachers' interpretation of the nature and consequences of errors appears to be highly important for their students in decoding the possibly competitive climate of a given classroom. Although errors have been described by several scholars as an opportunity for learning (e.g., Kapur, 2008; Zamora et al., 2018), they are used in everyday assessment as a basis for grading, especially in standardized, end-of-the-year or summative tests, as well as in predictive assessment. Thus, students know too well that errors may have far-reaching consequences on their grades and the future of their education. Teachers, however, do not hold uniform attitudes toward errors, and students perceive that

errors may be more or less tolerated or even encouraged: This corresponds to what has been called "perceived error climate" (Steuer et al., 2013). These authors have described perceived error climate as a "bundle of interrelated, but nevertheless distinguishable aspects of the learning environment" (p. 198). Four aspects relate to the teacher (Error tolerance by the teacher, Irrelevance of errors for assessment, Teacher support following errors, Absence of negative teacher reactions), two aspects relate to the reactions of classmates (Absence of negative classmate reactions and Taking the error risk), and two aspects relate to the process of learning from errors (Analysis of errors and Functionality of errors for learning). Importantly, their multi-level analysis revealed that these dimensions also appear at the class level, thereby suggesting that such perceptions indeed constitute a climate. Their results also showed that perceived error climate is related to, but separate from perceived classroom goal structure, and uniquely predicts learners' individual reactions to errors.

The role of teachers in the development of the error climate has been documented by several correlational and observational studies (Santagata, 2005; Tulis, 2013), and more recently by an experimental study (Soncini et al., in press). In the latter, the manipulation of error handling via a fictitious teacher (more punitive vs. more supportive) significantly affected the pupils' perception of the error climate between a pre- and a post-test. In sum, errors are routinely used to rank and select students, as they provide an important basis for grading, but they may be used to promote learning. This line of research shows that students adapt their reaction to errors as a function of the more punitive and selective vs. promotive and supporting view of errors conveyed by their teachers.

Competition from Educational Systems to Students' Characteristics

In this section we have discussed the educational structures—in particular normative assessment, tracking and *numerus clausus*—that promote competition among students. We have also discussed the climates implemented by teachers' instructional practices—in

particular classroom climate, goal structure and error climate—that encourage more or less competitive reactions in students. Now, how does competition move from the educational environment, with its structures and climates, to the functioning of students? In this section, we have already noted that the environment in which students are embedded (e.g., goal structure) is likely to affect students' functioning (e.g., the goals they endorse).

This is consistent with work on educational socialization. In particular, regarding socialization with competitive ideologies, a cross-sectional study showed that people who have studied business are more likely than those who have studied social sciences to endorse the dominant ideology (Baer, 1990). Moreover, a longitudinal study showed that university students enrolled in a commerce department (but not students in social sciences) became more favorable to capitalism and more prone to attribute poverty to internal dispositions over the course of their curriculum (Guimond & Palmer, 1996; see also Guimond 2001). Such socialization processes also concern other constructs, for example competitive goals (Świątkowski & Dompnier, 2017), and in fact any other individual factor. Indeed, the Social Comparison Model of Competition holds that individual factors (e.g., individual differences in competitiveness) are embedded in contextual factors (e.g., incentive structures such as grading), and together they elicit social comparison concerns and competitive behavior (Garcia et al., 2013). In line with such a socialization approach, four studies revealed that competitive goals are effectively transmitted from leaders (coaches, PhD supervisors, team leaders and teachers) to followers (soccer players, PhD students, video-games players and pupils) over time (Sommet et al., 2017). The next section will focus on individual-level competitive values, goals, and behaviors (see Figure 1).

Competitive Students

In a complex and integrated system such as the circulation of competition within society, it is important to consider the role of individual-level variables such as values, goals,

and behaviors. On the one hand, they are influenced by the surrounding ideologies and structures through the socialization of students, as noted above. On the other hand, they represent sometimes stable dispositions that ensure long-lasting consequences of the socialization or contextual effects.

Competitive Values

The study of values has a long history in psychology; here we will only focus on the Schwartz (1992) theory of basic human values because it is by far the most widespread framework, and because it organizes values in a structure that explicitly identifies competitive values. In this framework, values are defined as "trans-situational goals, varying in importance, that serve as guiding principles in the life of a person or group. (…) basic values are organized into a coherent system that underlies and can help to explain individual decision making, attitudes, and behavior" (Schwartz et al., 2012, p. 664). Schwartz and colleagues have shown that the structure of values is the same across situations and cultures (Schwartz et al., 2001), and that it comprises 19 values (in the latest version of the model, Schwartz et al., 2012). These values are organized in a circumplex that opposes four higher-order goals: Openness to change values are opposed to conservation values, and self-transcendence values are opposed to self-enhancement values. The latter is the most relevant category for the present chapter: Self-enhancement higher-order values refer to the pursuit of one's own interest, and their core basic values are achievement and power. In this respect, not only are self-enhancement values individualistic values, but they are also competitive values in that power implies domination over others.

The stable structure of values notwithstanding, their relative importance varies across individuals, situations and countries. Actually, the theory holds that it is the relative importance of values that guides behavior (Schwartz, 1992). For example, self-enhancement values are present in all value systems, but it is the prioritization of these values over the

others that accounts for competitive behaviors. Interestingly, and as noted above, Schwartz (2007) showed that self-enhancement values are endorsed to a higher extent in countries adhering to neoliberal free-market capitalism. A recent study tested the idea that in all fields of study in higher education self-enhancement values are predominant, which is at odds with values prioritized by female students, thereby reducing their feelings of belonging (Aelenei et al. 2020). The results indeed showed that if success was defined in terms of self-enhancement values, female—more than male—students expressed a lower sense of belonging, reported lower self-efficacy and were less likely to pursue a given academic opportunity, whatever the field of study. In sum, competitive ideologies lead educational systems to prioritize self-enhancement values, which creates unequal chances between students who prioritize these values to a lower or higher extent.

Competitive Goals

Goals are crucial in guiding individuals toward a specific action, given their dispositional tendencies and situational constraints (Elliot & Niesta, 2009). This area of research is vast, and here we focus on achievement goals, defined as the "purpose (…) or cognitive-dynamic focus (…) of competence-relevant behavior (Elliot & McGregor, 2001, p. 501). These goals vary as a function of their definition—whether they are mastery goals, focusing on intra-individual standards of competence, or performance goals, focusing on normative and comparative standards. They also vary as a function of their valence—whether they are directed toward approaching success or avoiding failure. Performance goals, be they approach- or avoidance-oriented, are relevant in competitive situations, especially in educational contexts (Darnon et al., 2012), as they focus on relative competence and seek to position one's competence within a pertinent social hierarchy (i.e., outperform other students vs. being outperformed, respectively). Accordingly, a meta-analysis by Murayama and Elliot

(2012) has shown that competition—structural, perceived or dispositional—predicts the endorsement of both performance-approach and performance-avoidance goals.

We have already noted that competitive goals, in particular performance-approach goals are considered as useful to succeed at university by students (e.g., Dompnier et al., 2008). Moreover, it has been shown that utility judgements made by teachers are particularly favorable in the appreciation of students (Dompnier et al., 2007). It is therefore unsurprising that students express performance-approach goals to a higher extent when the selection function of the educational system is salient (Jury et al. 2017). Moreover, the second study presented by these authors revealed that students endorsed performance-approach goals when selection was at stake because they considered that these goals were useful, in that they allow them to show teachers that they are students "who possess all the qualities to succeed at university" (idem, p. 244). Performance-avoidance goals are also endorsed to a higher extent in selective contexts, but for different reasons. A study by Pulfrey et al. (2011) manipulated the presence or absence of normative grading for an academic task, and observed that performance-avoidance goals were more adopted when grades were present. This effect appeared to be mediated by a reduction in autonomous motivation; in other words, grading—because it is an extrinsic incentive—reduces the students' feelings of being in control of their engagement in a task, and results in higher strivings to avoid failure. Performance goals thus clearly proceed, for different reasons, from competitive and selective environments.

Competitive Behaviors

Several competitive behaviors, relevant for education, have been shown to proceed from competitive ideologies, structures and goals.

Cheating

Cheating at school and at university is an extremely prevalent behavior. For example, Teixera and Rocha (2010), in an international study with students from more than 20

countries, found that 90% of the respondents had observed others cheating at least once. Cheating is a competitive behavior to the extent that it amounts to increasing one's performance or achievement without paying the price that the educational community has set for recognizing competence (e.g., studying). And indeed, numerous lines of research have shown that several factors related to competition do predict individual cheating. Murdock and Anderman (2006) have reviewed a great deal of such studies on cheating and have summarized the results in a motivational framework (p. 130). These authors observed that pressure for grades (from teachers, parents and peers), competitive social comparison in classrooms and performance-oriented classroom goal structures all concur in eliciting extrinsic and performance-oriented personal goals, which in turn result in a greater propensity to cheat. In line with this framework, Pulfrey and Butera (2013) showed that self-enhancement goals predicted leniency towards cheating through performance-approach goals, and directly predicted cheating behavior. It is noteworthy that all of the above studies focus on individual cheating. Collective cheating appears to be predicted by a different set of values, namely benevolence values, which refer to the defense and promotion of one's group (Pulfrey et al., 2018). Interestingly for the present chapter, benevolence can be a competitive set of values when the defense and promotion of one's own group occurs in an intergroup context.

Sabotage

Sabotage resembles cheating in that it is also an unethical behavior based on succeeding without paying the set price. However, while cheating entails unduly increasing one's performance, sabotage aims at reducing the others' performance. Research has shown that sabotage is also predicted by competition, for example by status seeking (Charness et al., 2014) and the need to protect one's status (Garcia et al., 2010).

Exploitation

Exploitation of others' work is another anti-social behavior that is reinforced by competitive factors. Poortvliet et al. (2007) showed that performance goals predicted exploitation of others in information sharing (see also Poortvliet et al., 2009); Sommet et al. (2019) found that this effect is stronger when selection is salient, and it is explained by controlled reasons connected to performance goals. Thus, selection as a competitive structure and performance goals as competitive strivings contribute to the emergence of exploitation behaviors.

Bullying

Finally, moving from covert anti-social behaviors to explicit aggression, bullying has also been described as a consequence of competitive environments. Bullying refers to the repeated physical, verbal or social (ostracism) aggressions performed by one or several persons on a chosen victim. Di Stasio et al. (2016), for example, modeled the teaching practices in dozens of classrooms and measured bullying outcomes at the student level. Their results revealed that classroom-level social comparison and competition predicted student-level self-reported bullying. In another study, Sutton and Keogh (2000) showed that competitive tendencies in the classroom, in particular the desire for social success, are related to a self-report measure of bullying. Moreover, as far as competitive values are concerned, a study by Menesini et al. (2013) showed that self-enhancement values predicted both cyber and traditional bullying in high-school students. In sum, a series of anti-social behaviors—here, cheating, sabotage, exploitation and bullying—appear to be the result of competitive ideologies, competitive classroom structures and climates, and competitive values.

Outcomes of a Competitive Education

The above review leaves unanswered the question of the educational outcomes of a competitive education. This section will summarize the links that the reviewed literature has established between competition at various levels (society, educational systems, intra-

individual variables in students) and educational outcomes. The term educational outcomes may seem rather generic, but we use it here to highlight that both Psychology and the Educational Sciences have used a very large array of measures to assess what results from education.

Learning, performance and achievement

Learning is probably the gold standard of what the outcome of education is expected to be. However, studying learning requires educators (and researchers) to measure a difference in competence (before and after), and to define the depth of learning that one wants to assess, from surface learning (reciting, naming) to deep learning (analyzing, generalizing; see for instance Bloom, 1956; Butera et al., in press). This is why many studies rather assess performance (e.g., to a test) or collect specific or end-of-the-year grades from schools as a measure of achievement. In this respect, many comprehensive reviews collapse learning, performance and achievement. We will be no exception.

A thorough meta-analysis of the relation between competition and performance did not find any notable effect (Murayama & Elliot, 2012), and a meta-analysis of four meta-analyses that specifically focused on student learning found a small positive effect that does not exceed developmental and teacher effects (Hattie, 2009). Interestingly, however, a second meta-analysis by Murayama and Elliot (2012) revealed that the null relation between competition and performance hides two opposing processes: Competition predicts performance-approach goals that favor performance, and at the same time performance-avoidance goals that inhibit performance. Thus, not all competitive structures or dispositions lead to increased performance, but this link depends on the performance goals that are prompted by competition (cf. Murayama, Elliot, & Jury, in press).

In addition to these comprehensive results, the question of the relation between performance-approach goals and performance, learning or achievement has been abundantly

debated. Some authors have argued that performance-approach goals predict task performance when there is a delay between the measure of performance-approach goals and that of task performance, but performance is impaired in experiments where the measure immediately follows the manipulation (Crouzevialle & Butera, 2013; 2017). This work is in line with studies that showed that evaluative pressure to perform impairs executive functions (e.g., working memory) that are crucial in learning (Beilock et al, 2004). Others have argued that performance-approach goals have a deleterious effect on performance when measured through their appearance ("demonstrate one's competences") rather than normative ("outperform others") component (Hulleman et al., 2010). Some authors have suggested that these two types of performance-approach goals each relate to different kinds of reasons that sustain their endorsement – controlled reasons for appearance and autonomous reasons for normative– which in turn account for the difference in predictive validity of performance-approach goals (Senko & Tropiano, 2016). A parallel effort has focused on uncovering the mechanisms that make performance-approach goals predictive of performance. For instance, Senko et al. (2013) argued that performance-approach goals promote a vigilant state in students, which leads them to look for factors that their teachers seem to find important for succeeding and invest in those; when students correctly spotted the right factors, their achievement was increased. Similarly, Dompnier et al. (2013) found that performance-approach goals positively predicted achievement when students thought that these goals were useful to succeed; however, these goals negatively predicted achievement when students though that they helped convey a desirable image of themselves in the eyes of their teachers. Finally, a small-scale meta-analysis recently showed that performance-approach goals positively predict performance when students pursue a promotion regulatory focus, that is when they are particularly attentive to the gains that their actions may entail, and focus on positive results (Świątkowski & Dompnier, 2020).

The above debate is mainly concerned with the question of the effect of performance-approach goals on performance/achievement. Regarding their effects on other important educational outcomes, the picture is more homogeneous. Performance-approach goals have been found to predict surface—rather than deep—study strategies, to impair task interest and resistance to failure, and to promote self-handicapping (for a review, see Darnon et al., 2012).

Social relations

At the relational level, we have already noted that performance-approach goals predict cheating and exploitation behaviors; moreover, they reduce the ability to take into account and learn from a partner's diverging point of view (Darnon et al., 2006; 2007; Sommet et al., 2014; see Butera et al., 2019, for a review). Even when a cooperative structure is in place, a competitive regulation of disagreement between partners leads to reduced peer learning (Buchs et al., 2010).

Moving to more structural variables, it has been shown that competitive settings (negative interdependence) lead to reduced information exchange with partners (Toma & Butera, 2009). In particular, several studies have shown that the presence of normative grading leads students to withholding useful information during cooperative work (Hayek et al., 2015), and to impaired coordination in a collective task (Hayek et al., 2017). Finally, in terms of intergroup relations, the pursuit of performance-approach goals impaired the academic performance of students who experienced low (as compared with high) relative social class (Crouzevialle & Darnon, 2019). Moreover, the use of grading as a selective tool—and more generally, the salience of the selection function of education—were associated with an increase in the achievement gap between higher- and lower-SES students (Smeding et al. 2013), as well as between boys and girls on a science subject (Souchal et al., 2014). The contribution of assessment contexts to the achievement gap is massive (see Easterbrook & Hadden, in press, for a recent review), but these effects are not limited to

students: Recent research has shown that normative grading also leads evaluators to artificially increase the achievement gap between higher and lower socio-economic status (SES) students (Autin et al., 2019; Batruch et al., 2019).

To summarize, competition appears to have a null effect on performance, whereas performance-approach goals have a positive effect, under certain conditions that we have reviewed, while performance-avoidance goals have a consistent negative effect. Ideological, structural and dispositional competition, however, results in an overall impairment of other educational outcomes, be these at the individual level—from task interest to study strategies—or at the level of social relations—from cheating to exploitation, and from information sharing to coordination.

Conclusions: Education as a Feedback Loop

In this chapter we aimed at showing that education is an integrated system that resonates with the society in which it is embedded, and that socializes its students to adopt its values and practices. We have shown that, as far as competition is concerned, it is possible to trace an influence pathway that leads from dominant competitive ideologies, values and norms to the implementation of competitive structures and climates in schools and universities. These educational institutions, in turn, lead students to adopt competitive values, goals and behaviors. Is this the end of the story?

At some point, students become adults, begin to vote, take up professional positions and become active agents of society. In this respect, they begin to contribute to shaping their society's ideologies, values and norms. What then is the nature of the influence students may yield upon society when they become citizens? At least two scenarios are possible. The first amounts to social reproduction, whereby society perpetuates itself in terms of values and structures because educational institutions socialize students to those values and structures. A few years ago, Attick (2017) wrote: "Teachers today are held responsible for developing in

students the skills that the neoliberal economic system requires for its ongoing survival" (p. 42; see also Rikowski, 2001, for a similar idea). Whether it is skills or values and norm, this idea is in line with the theory of social reproduction, and the observation that school perpetuates the social hierarchies that can be found in society (Bourdieu & Passeron, 1977). It is also consistent with system justification theory, and the observation that people tend to comply with dominant ideologies and norms, even when they are members of an underprivileged group (Jost et al., 2004). Thus, according to the social reproduction scenario, students socialized at school with values derived from the dominant ideologies in society, will later contribute to those same ideologies by perpetuating them.

The second possible scenario is that of minority influence, whereby students develop values and norms that are not the dominant ones, and engage in social activism in order to replace the *status quo.* The mechanism through which minorities may produce individual and social change are well known (e.g., Butera et al., 2017, for a review), but this second scenario begs the question of how students can be socialized with non-dominant values and norms. On the one hand, educational institutions maintain a sufficient degree of freedom, and in some cases instill values that are at odds with those of the surrounding society. Students may be inspired by a Marxist teacher or attend a school that promotes degrowth in their practices. Moreover, at the level of school systems, it should be noted that in the past century a number of schools have been established on the basis of non-competitive ideologies and values. The most well-known and widespread around the world are probably the Steiner-Waldorf, the Freinet and the Montessori schools, but many other progressive schools can be found at a more local level. The specifics of their pedagogies may differ, but they share a focus of the peculiar development of every child—thereby reducing the weight of social comparison and competition—, the encouragement of critical thinking, the promotion of cooperation and the equal importance given to the cognitive, moral, spiritual, social and physical aspects of

development (e.g., Carnie, 2003). Interestingly, these schools are based on the philosophy of their initiators—as well as many other intellectuals such as John Dewey and Jean Piaget—who were equally interested in the promotion of child development and the reform of the overly strict and competitive educational systems in force in their respective countries (for an overview of progressive education systems on the five continents, see Röhrs & Lenhart, 1995). In other words, these theoretical and educational frameworks have been conceived as much as pedagogical systems as levers intended to promote different, less competitive forms of society (or even revolutionize society, as in the work by Paulo Freire, 1970). However, the number and liveliness of these methods notwithstanding, they remain a very small minority within educational practices (e.g., Pianta et al., 2007). In sum, the possibility for schools to transmit alternative values currently relies on the dissident action of some schools or teachers.

On the other hand, it is possible to consider that socialization takes place not only in the family and at school, but also in other circles. Political scientists have long studied political socialization, and several models are currently debated. The important point here is that some scholars consider it possible that political socialization take place outside of school and family, for example in local or global social movements (e.g., Filleule, 2013). Social media have rendered distant social movements immediately available (Wray-Lake, 2019); the case of Greta Thunberg and the Fridays for Future movement is a clear example of sudden engagement of thousands of adolescents (and beyond) in a movement in stark contrast with dominant ideologies and values. Therefore, it is possible. Which path—of social reproduction or minority influence—will be followed by students in their contribution to society, and in which contexts and through which mechanisms, is left to future research.

References

Adams, G., Estrada-Villalta, S., Sullivan, D., & Markus, H. R. (2019). The psychology of neoliberalism and the neoliberalism of psychology. *Journal of Social Issues*, *75*, 189-216. https://doi.org/10.1111/josi.12305

Aelenei, C., Martinot, D., Sicard, A., & Darnon, C. (2020). When an academic culture based on self-enhancement values undermines female students' sense of belonging, self-efficacy, and academic choices. *The Journal of Social Psychology*, *160*, 373-389. https://doi.org/10.1080/00224545.2019.1675576

Ames, C. (1992a). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, *84*, 261-271. https://doi.org/10.1037/0022-0663.84.3.261

Ames C. (1992b). Achievement goals and the classroom climate. In D. H. Schunk & J. L. Meece (Eds.), *Student Perceptions in the Classroom* (pp. 327–48). Hillsdale, NJ: Erlbaum.

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology*, *80*, 260-267. https://doi.org/10.1037/0022-0663.80.3.260

Anderman, E. M., & Midgley, C. (2002). Methods for studying goals, goal structures, and patterns of adaptive learning. In C. Midgley (Ed.), *Goals, goal structures, and patterns of adaptive learning* (1-20). Hillsdale, NJ: Erlbaum

Anderson, D. (2008). Productivism, vocational and professional education, and the ecological question. *Vocations and Learning*, *1*, 105-129. doi: 10.1007/s12186-008-9007-0

Apple, M. W. (2006). *Educating the" right" way: Markets, standards, God, and inequality*. New York, NY: Taylor & Francis.

Apple, M. W. (2018). Ideology and cultural and economic reproduction. In M. Apple & M. W. Apple (Eds.), *Ideology and curriculum* (pp. 26-44). New York: Routledge.

Archer, M. S. (2013). *Social origins of educational systems*. New York: Routledge.

Arrow, K. (1973). Higher education as a filter. *Journal of Public Economics, 2*, 193–216. https://doi.org/10.1016/0047-2727(73)90013-3

Attick, D. (2017). Homo economicus at school: Neoliberal education and teacher as economic being. *Educational Studies*, *53*, 37-48. https://doi.org/10.1080/00131946.2016.1258362

Autin, F., Batruch, A., & Butera, F. (2015). Social justice in education: How the function of selection in educational institutions predicts support for (non)egalitarian assessment practices. *Frontiers in Psychology, 6:707*. https://doi.org/10.3389/fpsyg.2015.00707

Autin, F., Batruch, A., & Butera, F. (2019). The function of selection of assessment leads evaluators to artificially create the social class achievement gap. *Journal of Educational Psychology, 111,* 717–735.

Baer, D. E. (1990). Socialization into dominant vs. counter ideology among university-educated Canadians. *Canadian Review of Sociology/Revue Canadienne de Sociologie*, *27*, 487-504. https://doi.org/10.1111/j.1755-618X.1990.tb00136.x

Batruch, A., Autin, F., & Butera, F. (2019). The paradoxical role of meritocratic selection in the perpetuation of social inequalities at school. In J. Jetten & K. Peters (Eds.), *The social psychology of inequality* (pp. 123-137). Cham, Switzerland: Springer Nature.

Batruch, A., Autin, F., Bataillard, F., & Butera, F. (2019). School selection and the social class divide: How tracking contributes to the reproduction of inequalities. *Personality and Social Psychology Bulletin, 45*, 477–490. https://doi.org/10.1177/0146167218791804

Beauvois, J. L. (2005). *Les illusions libérales: individualisme et pouvoir social (Liberal illusions: individualism and social power)*. Grenoble: Presses Universitaires de Grenoble.

Beilock, S. L., Kulp, C. A., Holt, L. E., & Carr, T. H. (2004). More on the fragility of performance: Choking under pressure in mathematical problem solving. J*ournal of Experimental Psychology: General, 133*, 584–600. https://doi.org/10.1037/0096-3445.133.4.584

Bettache, K., & Chiu, C. Y. (2019). The invisible hand is an ideology: Toward a social psychology of neoliberalism. *Journal of Social Issues*, *75*, 8-19. https://doi.org/10.1111/josi.12308

Black, P., Wiliam, D. (2009). Developing the theory of formative assessment. *Educational Assessment, Evaluation and Accountability*, 21, 5–31. https://doi.org/10.1007/s11092-008-9068-5

Bloom, B. S. (Ed.). (1956). *Taxonomy of educational objectives, Handbook I: Cognitive domain.* New York, NY: David McKay Company.

Bourdieu, P., & Passeron, J. C. (1977). *Reproduction in education, society and culture*. Beverly Hills, CA: Sage.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist*, *32*, 513-531. https://doi.org/10.1037/0003-066X.32.7.513

Buchs, C., Pulfrey, C., Gabarrot, F., & Butera, F. (2010). Competitive conflict regulation and informational dependence in peer learning. *European Journal of Social Psychology*, *40*, 418-435. https://doi.org/10.1002/ejsp.631

Busch, L. (2017). *Knowledge for sale: The neoliberal takeover of higher education*. Cambridge, MA: MIT Press.

Butera, F. (2006). La meritocrazia a scuola: Un serio ostacolo all'apprendimento (Meritocracy at school: a serious obstacle to learning). *Psicologia Sociale*, *1*, 431-448.

Butera, F., Batruch, A., Autin, F., Mugny, G., Quiamzade, A., & Pulfrey, C. (in press). Teaching as social influence: Empowering teachers to become agents of social change. *Social Issues and Policy Review.*

Butera, F., & Darnon, C. (2017). Competence assessment, social comparison and conflict regulation. In A. Elliot, C. Dweck & D. Yaeger (Eds.), *Handbook of Competence and Motivation (2nd Edition: Theory and Application*, pp. 192-213*)*. New York: Guilford Press.

Butera, F., Falomir-Pichastor, J. M., Mugny, G., & Quiamzade, A. (2017). Minority influence. In S. Harkins, K. D. Williams & J. Burger (Eds.), *The Oxford Handbook of Social Influence* (pp. 317-337). New York: Oxford University Press.

Butera, F., Sommet, N., & Darnon, C. (2019). Sociocognitive conflict regulation: how to make sense of diverging ideas. *Current Direction in Psychological Science, 28*, 145–151.

Carnie, F. (2003). *Alternative approaches to education: A guide for parents and teachers*. London: Psychology Press.

Charness, G., Masclet, D., & Villeval, M. C. (2014). The dark side of competition for status. *Management Science*, *60*, 38-55. https://doi.org/10.1287/mnsc.2013.1747

Cialdini, R. B., Kallgren, C. A., & Reno, R. R. (1991). A focus theory of normative conduct: A theoretical refinement and reevaluation of the role of norms in human behavior. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 24, pp. 201–234). New York, NY: Academic Press. https://doi.org/10.1016/S0065-2601(08)60330-5

Crouzevialle, M., & Butera, F. (2013). Performance-approach goals deplete working memory and impair cognitive performance. *Journal of Experimental Psychology: General, 142*, 666–678. https://doi.org/10.1037/a0029632

Crouzevialle, M., & Butera, F. (2017). Performance goals and task performance: Integrative considerations on the distraction hypothesis. *European Psychologist*, *22*, 73-82. https://doi.org/10.1027/1016-9040/a000281

Crouzevialle, M., & Darnon, C. (2019). On the academic disadvantage of low social class individuals: Pursuing performance goals fosters the emergence of the achievement gap. *Journal of Educational Psychology*, *111*, 1261-1272. http://dx.doi.org/10.1037/edu0000349

Darnon, C., Butera, F., & Harackiewicz, J. M. (2007). Achievement goals in social interactions: Learning with mastery vs. performance goals. *Motivation and Emotion*, *31*, 61-70.

Darnon, C., Dompnier, B., Delmas, F., Pulfrey, C., & Butera F. (2009). Achievement goal promotion at university: Social desirability and social utility of mastery and performance goals. *Journal of Personality and Social Psychology, 96,* 119-134. https://doi.org/10.1037/a0012824

Darnon, C., Dompnier, B., & Poortvliet, M. (2012). Achievement goals in educational contexts: A social psychology perspective. *Social and Personality Psychology Compass*, *6*, 760-771. https://doi.org/10.1111/j.1751-9004.2012.00457.x

Darnon, C., Muller, D., Schrager, S. M., Pannuzzo, N., & Butera, F. (2006). Mastery and performance goals predict epistemic and relational conflict regulation. *Journal of Educational Psychology*, *98*, 766-776. https://doi.org/10.1037/0022-0663.98.4.766

Darnon, C., Smeding, A., & Redersdorff, S. (2017). Belief in school meritocracy as an ideological barrier to the promotion of equality. *European Journal of Social Psychology, 48,* 523–534. https://doi.org/10.1002/ejsp.2347

Darnon, C., Wiederkehr, V., Dompnier, B., & Martinot, D. (2018). 'Where there is a will, there is a way': Belief in school meritocracy and the social-class achievement gap. *British Journal of Social Psychology, 57*, 250–262. https://doi.org/10.1111/bjso.12214

Davies, B., & Bansel, P. (2007). Neoliberalism and education. *International Journal of Qualitative Studies in Education*, *20*, 247-259. https://doi.org/10.1080/09518390701281751

Dee, T. S., & Keys, B. J. (2004). Does merit pay reward good teachers? Evidence from a randomized experiment. *Journal of Policy Analysis and Management*, *23*, 471-488. https://doi.org/10.1002/pam.20022

Deutsch, M. (1949). A theory of co-operation and competition. *Human Relations*, *2*, 129-152.

Di Stasio, M. R., Savage, R., & Burgos, G. (2016). Social comparison, competition and teacher–student relationships in junior high school classrooms predicts bullying and victimization. *Journal of Adolescence*, *53*, 207-216. https://doi.org/10.1016/j.adolescence.2016.10.002

Dompnier, B., Darnon, C., & Butera, F. (2013). When performance-approach goals predict academic achievement and when they do not: A social value approach. *British Journal of Social Psychology*, *52*, 587-596.

Dompnier, B., Darnon, C., Delmas, F., & Butera F. (2008). Achievement goals and social judgment: The performance-approach paradox. *International Review of Social Psychology, 21,* 247-271. https://doi.org/10.1111/bjso.12025

Dompnier, B., Pansu, P., & Bressoux, P. (2006). An integrative model of scholastic judgments: Pupils' characteristics, class context, halo effect and internal attributions. *European Journal of Psychology of Education*, *21*, 119-133.

Dompnier, B., Pansu, P., & Bressoux, P. (2007). Social utility, social desirability and scholastic judgments: Toward a personological model of academic

evaluation. *European Journal of Psychology of Education*, *22*, 333-350. https://doi.org/10.1007/BF03173431

Dornbusch, S. M., Glasgow, K. L., & Lin, I. C. (1996). The social structure of schooling. *Annual Review of Psychology*, *47*, 401-429. https://doi.org/10.1146/annurev.psych.47.1.401

Dubet, F., & Duru-Bellat, M. (2004). Qu'est-ce qu'une école juste? (What is a fair school?) *Revue Française de Pédagogie, 146*, 105–114.

Dubet, F., Duru-Bellat, M., & Vérétout, A. (2010). *Les sociétés et leur école. Emprise du diplôme et cohésion sociale (Societies and their schools: influence of diplomas and social cohesion)*. Paris: Le Seuil.

Dudley-Marling, C. (2020). School choice and inclusive education. In *Oxford Research Encyclopedia of Education*. https://doi.org/10.1093/acrefore/9780190264093.013.1241

Duru-Bellat, M. (1996). Social inequalities in French secondary schools: From figures to theories. *British Journal of Sociology of Education, 17*, 341–351. https://doi.org/10.1080/0142569960170307

Duru-Bellat, M., & Tenret, E. (2012). Who's for meritocracy? Individual and contextual variations in the faith. *Comparative Education Review*, *56*, 223-247. https://www.jstor.org/stable/10.1086/661290

Easterbrook, M. J., & Hadden, I. R. (in press). Tackling educational inequalities with social psychology: Identities, contexts, and interventions. *Social Issues and Policy Review*. https://doi.org/10.1111/sipr.12070

Elliot, A. J., Jury, M., & Murayama, K. (2018). Trait and perceived environmental competitiveness in achievement situations. *Journal of Personality*, *86*(3), 353-367. https://doi.org/10.1111/jopy.12320

Elliot, A. J., & McGregor, H. A. (2001). A 2× 2 achievement goal framework. *Journal of Personality and Social Psychology*, *80*, 501-519. http://dx.doi.org/10.1037/0022-3514.80.3.501

Elliot, A. J., Murayama, K., & Pekrun, R. (2011). A 3× 2 achievement goal model. *Journal of Educational Psychology*, *103*, 632- 648. http://dx.doi.org/10.1037/a0023952

Elliot, A. J., & Niesta, D. (2009). Goals in the context of the hierarchical model of approach-avoidance motivation. In G. Moskowitz & H. Grant (Eds.), *The psychology of goals*. New York, NY: Guilford Press.

Engel, M. (2000). *The struggle for control of public education: Market ideology vs. democratic values*. Temple University Press.

Falcon, J. (2012). Temporal trends in intergenerational social mobility in Switzerland: a cohort study of men and women born between 1912 and 1974. *Swiss Journal of Sociology*, *38*, 153-175.

Fillieule, O. (2013). Political socialization and social movements. *The Wiley-Blackwell Encyclopedia of Social and Political Movements.* London: Blackwell. https://doi.org/10.1002/9780470674871.wbespm199

Foucault, M. (2010). *The birth of biopolitics: Lectures at the College de France, 1978–1979* (G. Burchell, Trans.), New York, NY: Picador. (Original work published 1984).

Frank, R. H., & Cook, P. J. (1995). *The winner-take-all society: Why the few at the top get so much more than the rest of us*. New York, NY: Penguin Books.

Fraser, B. J. (1989). Twenty years of classroom climate work: Progress and prospect. *Journal of Curriculum studies*, *21*(4), 307-327. https://doi.org/10.1080/0022027890210402

Freire, P. (1970). Pedagogia do oprimido [Pedagogy of the oppressed] (11th ed.). São Paulo: Paz e Terra.

Garcia, S. M., Song, H., & Tesser, A. (2010). Tainted recommendations: The social comparison bias. *Organizational Behavior and Human Decision Processes*, *113*, 97-101. https://doi.org/10.1016/j.obhdp.2010.06.002

Garcia, S. M., Tor, A., & Schiff, T. M. (2013). The psychology of competition: A social comparison perspective. *Perspectives on Psychological Science*, *8*, 634-650. https://doi.org/10.1177/1745691613504114

Glaser, R. (1963). Instructional technology and the measurement of learning outcomes: Some questions. *American Psychologist*, *18*, 519-521. https://doi.org/10.1037/h0049294

Goastellec, G. (2020). Le sens de la justice dans l'accès à l'université: les apports de la longue durée (Sense of justice in access to university: the contribution of a long-term perspective). *L'Annee Sociologique*, *70*, 283-312.

Green, A. (1990). *Education and state formation*. London, UK: Palgrave Macmillan.

Guimond, S. (2001). Epistemic authorities in higher education: The relative influence of peers, faculty and courses on attitude formation and change. In F. Butera & G. Mugny (Eds.), *Social influence in social reality* (pp. 211-223) Seattle and Bern: Hogrefe & Huber.

Guimond, S., & Palmer, D. L. (1996). The political socialization of commerce and social science students: Epistemic authority and attitude change. *Journal of Applied Social Psychology*, *26*, 1985-2013. https://doi.org/10.1111/j.1559-1816.1996.tb01784.x

Hall, P. A., & Gingerich, D. W. (2009). Varieties of capitalism and institutional complementarities in the political economy: An empirical analysis. *British Journal of Political Science*, 449-482. https://doi.org/10.1017/S0007123409000672

Hallinan, M. T. (1994). Tracking: From theory to practice. *Sociology of Education, 67*, 79-84. https://doi.org/10.2307/2112697

Haney, C., & Hurtado, A. (1994). The jurisprudence of race and meritocracy: Standardized testing and "race neutral" racism in the workplace. *Law and Human Behavior, 18*, 223–248. https://doi.org/10.1007/BF01499586

Hartwich, L., & Becker, J. C. (2019). Exposure to neoliberalism increases resentment of the elite via feelings of anomie and negative psychological reactions. *Journal of Social Issues. 75*, 113–133. https://doi.org/10.1111/josi.12311

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. New York, NY: Routledge.

Hayek, A.S., Toma, C., Guidotti, S., Oberlé, D., & Butera, F. (2017). Grades degrade group coordination: deteriorated interactions and performance in a cooperative motor task. *European Journal of Psychology of Education, 32,* 97–112.

Hayek, A.S., Toma, C., Oberlé, D., & Butera, F. (2015). Grading hampers cooperative information sharing in group problem solving. *Social Psychology, 46,* 121–131.

Hulleman, C. S., Schrager, S. M., Bodmann, S. M., & Harackiewicz, J. M. (2010). A meta-analytic review of achievement goal measures: Different labels for the same constructs or different constructs with similar labels? *Psychological Bulletin, 136*, 422–449. https://doi.org/10.1037/a0018947

Jabbar, H., Fong, C. J., Germain, E., Li, D., Sanchez, J., Sun, W. L., & Devall, M. (2019). The competitive effects of school choice on student achievement: A systematic review. *Educational Policy*. Advance online publication. https://doi.org/10.1177/0895904819874756

Jost, J.T., Banaji, M.R., & Nosek, B.A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology, 25*, 881–919. https://doi.org/10.1111/j.1467-9221.2004.00402.x

Jost, J.T., Blount, S., Pfeffer, J., & Hunyady, G. (2003a). Fair market ideology: Its cognitive-motivational underpinnings. *Research in Organizational Behavior, 25*, 53–91. https://doi.org/10.1016/S0191-3085(03)25002-4

Jost, J. T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current Directions in Psychological Science*, *14*, 260-265. https://doi.org/10.1111/j.0963-7214.2005.00377.x

Jost, J.T., Pelham, B.W., Sheldon, O., & Sullivan, B.N. (2003b). Social inequality and the reduction of ideological dissonance on behalf of the system: Evidence of enhanced system justification among the disadvantaged. *European Journal of Social Psychology, 33*, 13–36. https://doi.org/10.1002/ejsp.127

Jury, M., Darnon, C., Dompnier, B., & Butera, F. (2017). The social utility of performance-approach goals in a selective educational environment. *Social Psychology of Education*, *20*(1), 215-235. https://doi.org/10.1007/s11218-016-9354-x

Kaplan, A., Middleton, M. J., Urdan, T., & Midgley, C. (2002). Achievement goals and goal structures. In C. Midgley (Ed.), *Goals, goal structures, and patterns of adaptive learning* (21-53). Hillsdale, NJ: Erlbaum

Kapur, M. (2008) Productive failure. *Cognition and Instruction, 26*, 379-424, https://doi.org/10.1080/07370000802212669

Kasser, T., Cohn, S., Kanner, A. D., & Ryan, R. M. (2007). Some costs of American corporate capitalism: A psychological exploration of value and goal conflicts. *Psychological Inquiry, 18*, 1–22. https://doi.org/10.1080/10478400701386579

Kratz, F., Patzina, A., Kleinert, C., & Dietrich, H. (2019). Vocational education and employment: Explaining cohort variations in life course patterns. *Social Inclusion*, *7*, 224-253. http://dx.doi.org/10.17645/si.v7i3.2045

Kaufman, N. H. (1994). A survey of law school grading practices. *Journal of Legal Education*, *44*, 415-423.

Kohn, A. (2019). Can everyone be excellent? https://www.alfiekohn.org/article/excellence/

Knight, P., & Yorke, M. (2003). *Assessment, learning and employability*. Maidenhead, UK: Open University Press.

Knight, P., & Yorke, M. (2004). *Learning, curriculum and employability in higher education*. London: RoutledgeFalmer.

Lyotard, J. F. (1984). *The postmodern condition: A report on knowledge*. Minneapolis: University of Minnesota Press.

Marsh, H. W. (1987). The big-fish-little-pond effect on academic self-concept. *Journal of Educational Psychology*, *79*, 280-295. https://doi.org/10.1037/0022-0663.79.3.280

Masdonati, J., Massoudi, K., Blustein, D. L., & Duffy, R. (in press). Moving toward decent work: Application of the Psychology of Working Theory to the school-to-work transition. *Journal of Career Development.*

McNamee, S. J., & Miller, R. K. (2004). *The meritocracy myth*. Lanham, MD: Rowan & Littlefield.

Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, student motivation, and academic achievement. *Annual Review of Psychology*, *57*, 487-503. https://doi.org/10.1146/annurev.psych.56.091103.070258

Menesini, E., Nocentini, A., & Camodeca, M. (2013). Morality, values, traditional bullying, and cyberbullying in adolescence. *British Journal of Developmental Psychology*, *31*, 1-14. https://doi.org/10.1111/j.2044-835X.2011.02066.x

Meyer, J. W., Ramirez, F. O., & Soysal, Y. N. (1992). World expansion of mass education, 1870-1980. *Sociology of Education*, *65*, 128-149. https://doi.org/10.2307/2112679

Midgley, C., Maehr, M. L., Hruda, L. Z., Anderman, E., Anderman, L., Freeman, K. E., Gheen, M., Kaplan, A., Kumar, R., Middleton, M.J., Nelson, J., Roeser. R., & Urdan, T. (2000). *Manual for the patterns of adaptive learning scales.* Ann Arbor, MI: The University of Michigan.

Mijs, J. J. (2016). The unfulfillable promise of meritocracy: Three lessons and their implications for justice in education. *Social Justice Research*, *29*, 14-34. https://doi.org/10.1007/s11211-014-0228-0

Mons, N. (2009). Effets théoriques et réels des politiques d'évaluation standardisée (Theoretical and real effects of standardized assessment policies). *Revue Française de Pédagogie, 169*, 99-140. https://doi.org/10.4000/rfp.1531

Moreira, L., & Lafortune, G. (2016). Education and training for doctors and nurses: what's happening with n*umerus clausus* policies? In OECD (Ed.), *Health Workforce Policies in OECD Countries: Right Jobs, Right Skills, Right Places* (pp. 63-102). Paris, France: Author

Morley, L. (2001). Producing new workers: Quality, equality and employability in higher education. *Quality in Higher Education*, *7*, 131-138. https://doi.org/10.1080/13538320120060024

Murayama, K., & Elliot, A. J. (2009). The joint influence of personal achievement goals and classroom goal structures on achievement-relevant outcomes. *Journal of Educational Psychology*, *101*, 432-447. https://doi.org/10.1037/a0014221

Murayama, K., & Elliot, A. J. (2012). The competition–performance relation: A meta-analytic review and test of the opposing processes model of competition and performance. *Psychological Bulletin*, *138*, 1035-1070. https://doi.org/10.1037/a0028324

Murdock, T. B., & Anderman, E. M. (2006). Motivational perspectives on student cheating: Toward an integrated model of academic dishonesty. *Educational Psychologist*, *41*, 129-145. https://doi.org/10.1207/s15326985ep4103_1

Nathaniel, P., Pendergast, L. L., Segool, N., Saeki, E., & Ryan, S. (2016). The influence of test-based accountability policies on school climate and teacher stress across four states. *Teaching and Teacher Education*, *59*, 492-502. https://doi.org/10.1016/j.tate.2016.07.013

Nicholls, J. G. (1989). *The competitive ethos and democratic education*. Harvard, MA: Harvard University Press.

OECD. (2013). *PISA 2012 results: What makes schools successful? Resources, policies and practices* (volume IV). Paris, France: Author.

Pansu P., Dubois N., Dompnier B. (2008). Internality-norm theory in educational contexts. *European Journal of Psychology of Education, 23*, 385-397. https://doi.org/10.1007/BF03172748

Pérez Gómez, Á. I. (1998). *La cultura escolar en la sociedad neoliberal (School culture in a neoliberal society)*. Madrid: Ediciones Morata.

Perry, L. B. (2009). Conceptualizing education policy in democratic societies. *Educational Policy*, *23*, 423-450. https://doi.org/10.1177/0895904807310032

Pianta, R. C., Belsky, J., Houts, R., & Morrison, F. (2007). Opportunities to learn in America's elementary classrooms. *Science, 315*, 1795-1796. https://doi.org/10.1126/science.1139719

Piketty, T. (2020). *Capital and ideology*. Cambridge, MA: Harvard University Press.

Plehwe, D. (2009). Introduction. In P. Mirowski & D. Plehwe (Eds.), *The road from Mont Pelerin: The making of the neoliberal thought collective* (pp. pp.1–42). Cambridge, MA: Harvard University Press.

Poortvliet, P. M., Janssen, O., Van Yperen, N. W., & Van de Vliert, E. (2007). Achievement goals and interpersonal behavior: How mastery and performance goals shape information exchange. *Personality and Social Psychology Bulletin, 33*, 1435–1447. https://doi.org/10.1177/0146167207305536

Poortvliet, P. M., Janssen, O., Van Yperen, N. W., & Vliert, E. V. D. (2009). The joint impact of achievement goals and performance feedback on information giving. *Basic and Applied Social Psychology*, *31*, 197-209. https://doi.org/10.1080/01973530903058276

Pulfrey, C., Buchs, C., & Butera, F. (2011). Why grades engender performance avoidance goals: The mediating role of autonomous motivation. *Journal of Educational Psychology, 103,* 683–700. https://doi.org/10.1037/a0023911

Pulfrey, C., & Butera, F. (2013). Why neoliberal values of self-enhancement lead to cheating in higher education: A motivational account. *Psychological Science*, *24*, 2153-2162. https://doi.org/10.1177/0956797613487221

Pulfrey, C., Darnon, C., & Butera, F. (2013). Autonomy and task performance: Explaining the impact of grades on intrinsic motivation. *Journal of Educational Psychology, 105*, 39–57. https://doi.org/10.1037/a0029376

Pulfrey, C., Durussel, K., & Butera, F. (2018). The good cheat: Benevolence and the justification of collective cheating. *Journal of Educational Psychology*, *110*, 764-784. https://doi.org/10.1037/edu0000247

Rich, J. M., & DeVitis, J. L. (1992). *Competition in education*. Springfield, IL: Charles C. Thomas Publisher.

Rikowski, G. (2001). Education for industry: A complex technicism. *Journal of Education and Work*, *14*, 29–49.

Röhrs, H., & Lenhart, V. (Eds.). (1995). *Progressive education across the continents: a handbook* (Heidelberger Studien Zur Erziehungswissenschaft, Vol. 44). Frankfurt am Main: Peter Lang.

Rom, M. C. (2011). Grading more accurately. *Journal of Political Science Education*, *7*, 208-223. https://doi.org/10.1080/15512169.2011.564916

Sandel, M. (2020). *The tyranny of merit: What's become of the common good*. New York, NY: Farrar, Straus and Giroux.

Santagata, R. (2005). Practices and beliefs in mistake-handling activities: A video study of Italian and US mathematics lessons. *Teaching and Teacher Education, 21*, 491-508. https://doi.org/10.1016/j.tate.2005.03.004

Schwartz, S. H. (1992). Universals in the content and structure of values: Theory and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1–65). New York, NY: Academic Press.

Schwartz, S. H. (2007). Cultural and individual value correlates of capitalism: A comparative analysis. *Psychological Inquiry, 18*, 52-57. https://doi.org/10.1080/10478400701388963

Schwartz, S. H., Cieciuch, J., Vecchione, M., Davidov, E., Fischer, R., Beierlein, C., Ramos, A., Verkasalo, M., Lönnqvist, J.-E., Demirutku, K., Dirilen-Gumus, O., & Konty, M. (2012). Refining the theory of basic individual values. *Journal of Personality and Social Psychology*, *103*, 663-688. https://doi.org/10.1037/a0029393

Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology, 32*, 519–542. https://doi.org/10.1177/0022022101032005001

Segal, J. (2014). Ideology and the Reform of Public Higher Education. *New Political Science*, *36*(4), 489-503. https://doi.org/10.1080/07393148.2014.954804

Senko, C., Hama, H., & Belmonte, K. (2013). Achievement goals, study strategies, and achievement. A test of the "learning agenda" framework. *Learning and Individual Differences, 24*, 1–10. https://doi.org/10.1016/j.lindif.2012.11.003

Senko, C., & Tropiano, K. L. (2016). Comparing three models of achievement goals: Goal orientations, goal standards, and goal complexes. *Journal of Educational Psychology, 108*, 1178–1192. https://doi.org/10.1037/edu0000114

Sommet, N., Darnon, C., Mugny, G., Quiamzade, A., Pulfrey, C., Dompnier, B., & Butera, F. (2014). Performance goals in conflictual social interactions: Towards the distinction between two modes of relational conflict regulation. *British Journal of Social Psychology*, *53*, 134-153.

Sommet. N., Nguyen, D., Fahrni, K., Jobin, M., Nguyen, H. P., Sehaqui, H., & Butera, F. (2019). When and why performance goals predict exploitation behaviors: An achievement goal complex analysis of the selection function of assessment. *Motivation and Emotion, 43*, 266–284. https://doi.org/10.1007/s11031-018-9742-y

Sommet, N., Pillaud, V., Meuleman, B., & Butera, F. (2017). The socialization of performance goals. *Contemporary Educational Psychology*, *49*, 337-354. https://doi.org/10.1016/j.cedpsych.2017.03.008

Sommet, N., Pulfrey, C., & Butera, F. (2013). Did my M.D. really go to university to learn? Detrimental effects of *numerus clausus* on self-efficacy, mastery goals and learning. *PLoS ONE 8(12)*: e84178. https://doi.org/10.1371/journal.pone.0084178

Son Hing, L. S., Bobocel, D. R., & Zanna, M. P. (2002). Meritocracy and opposition to affirmative action: Making concessions in the face of discrimination. *Journal of*

Personality and Social Psychology, 83, 493–509. https://doi.org/10.1037/0022-3514.83.3.493

Son Hing, L. S., Bobocel, D. R., Zanna, M. P., Garcia, D. M., Gee, S. S., & Orazietti, K. (2011). The merit of meritocracy. *Journal of Personality and Social Psychology*, *101*, 433–50. https://doi.org/10.1037/a0024618

Soncini, A., Matteucci, M. C., & Butera, F. (in press). Error handling in the classroom: an experimental study of teachers' strategies to foster positive error climate. *European Journal of Psychology of Education*. https://doi.org/10.1007/s10212-020-00494-1

Souchal, C., Toczek-Capelle, M.C., Darnon, C., Smeding, A., Butera, F., & Martinot, D. (2014). Assessing does not mean threatening: Assessment as a key determinant of girls' and boys' performance in a science class. *British Journal of Educational Psychology, 84,* 125–136.

Spence, J. (1981). Access to higher education in the Federal Republic of Germany: the *numerus clausus* issue. *Comparative Education*, *17*, 285-292. https://doi.org/10.1080/0305006810170305

Smeding, A., Darnon, C., Souchal, C., Toczeck-Capelle, M.C., & Butera, F. (2013). Reducing the socio-economic status achievement gap at university by promoting mastery-oriented assessment. *PLoS ONE, 8(8)*: e71678. doi:10.1371/journal.pone.0071678

Steuer, G., Rosentritt-Brunn, G., & Dresel, M. (2013). Dealing with errors in mathematics classrooms: Structure and relevance of perceived error climate. *Contemporary Educational Psychology, 38*, 196-210. https://doi.org/10.1016/j.cedpsych.2013.03.002

Sutton, J., & Keogh, E. (2000). Social competition in school: Relationships with bullying, Machiavellianism and personality. *British Journal of Educational Psychology*, *70*, 443-456. https://doi.org/10.1348/000709900158227

Świątkowski, W., & Dompnier, B. (2017). La compétition à l'Université: perspectives individuelles et sociétales (Competition at University : individual and societal perspectives). In C. Staerklé & F. Butera (Eds.), *Conflits constructifs, conflits destructifs: Regards psychosociaux* (101-117). Lausanne: Antipodes.

Świątkowski, W., & Dompnier, B. (2020). A regulatory focus perspective on performance goals' effects on achievement: A small-scale meta-analytical approach. *Learning and Individual Differences*, *78*, 101840. https://doi.org/10.1016/j.lindif.2020.101840

Teixeira, A. A., & Rocha, M. F. (2010). Cheating by economics and business undergraduate students: an exploratory international assessment. *Higher Education*, *59*, 663-701. https://doi.org/10.1007/s 10734-009-9274-1

Toma, C., & Butera, F. (2009). Hidden profiles and concealed information: Strategic information sharing and use in group decision making. *Personality and Social Psychology Bulletin, 35*, 793-806.

Tulis, M. (2013). Error management behavior in classrooms: Teachers' responses to student mistakes. *Teaching and Teacher Education, 33*, 56-68. https://doi.org/10.1016/j.tate.2013.02.003

Urdan, T., Midgley, C., & Anderman, E. M. (1998). The role of classroom goal structure in students' use of self-handicapping strategies. *American Educational Research Journal*, *35*, 101-122. https://doi.org/10.3102/00028312035001101

Van de Werfhorst, H. G. (2014). Changing societies and four tasks of schooling: Challenges for strongly differentiated educational systems. *International Review of Education*, *60*, 123-144. https://doi.org/10.1007/s11159-014-9410-8

Van de Werfhorst, H. G., & Mijs, J. J. B. (2010). Achievement inequality and the institutional structure of educational systems: A comparative perspective. *Annual Review of Sociology, 36*, 407-428. https://doi.org/10.1146/annurev.soc.012809.102538

Wang, M. T. (2012). Educational and career interests in math: A longitudinal examination of the links between classroom environment, motivational beliefs, and interests. *Developmental Psychology*, *48*, 1643-1657. https://doi.org/10.1146/10.1037/a0027247

Wang, M. T., & Degol, J. L. (2016). School climate: A review of the construct, measurement, and impact on student outcomes. *Educational Psychology Review*, *28*, 315-352. https://doi.org/10.1007/s10648-015-9319-1

Wang, M. T., Degol, J. L., Amemiya, J., Parr, A., & Guo, J. (2020a). Classroom climate and children's academic and psychological wellbeing: A systematic review and meta-analysis. *Developmental Review*, *57*, 100912. https://doi.org/10.1016/j.dr.2020.100912

Wang, M. T., Hofkens, T., & Ye, F. (2020b). Classroom quality and adolescent student engagement and performance in mathematics: A multi-method and multi-informant approach. *Journal of Youth and Adolescence*, *49*, 1987–2002. https://doi.org/10.1007/s10964-020-01195-0

Webb, P. T., Briscoe, F. M., & Mussman, M. P. (2009). Preparing Teachers for the Neoliberal Panopticon. *Educational Foundations*, *23*, 3-18.

Wiederkehr, V., Bonnot, V., Krauth-Gruber, S., & Darnon, C. (2015a). Belief in school meritocracy as a system-justifying tool for low status students. *Frontiers in Psychology, 6*, 1053. https://doi.org/10.3389/fpsyg.2015.01053

Wiederkehr, V., Darnon, C., Chazal, S., Guimond, S., & Martinot, D. (2015b). From social class to self- efficacy: Internalization of low social status pupils' school performance. *Social Psychology of Education: An International Journal, 18*, 769–784. https://doi.org/10.1007/s11218-015-9308-8

Wray-Lake, L. (2019). How do young people become politically engaged? *Child Development Perspectives*, *13*, 127-132. https://doi.org/10.1111/cdep.12324

Wright, S. (2001). Restricted intergroup boundaries: Tokenism, ambiguity, and the tolerance of injustice. In J. Jost & B. Major (Eds.), *The psychology of legitimacy* (pp. 223-254). New York: Cambridge University Press.

Yorke, M. (2009). Faulty signals? Inadequacies of grading systems and a possible response. In G. Joughin (Ed.), *Assessment, learning and judgement in higher education* (pp. 65-85). Dordrecht, The Netherlands: Springer.

Zajda, J. (2009). Values education and multiculturalism. In J. Zajda & D. Holger (Eds.), *Global values education* (pp. 13–23). Dordrecht, The Netherlands: Springer.

Zamora, A., Súarez, J. M., & Ardura, D. (2018) A model of the role of error detection and self-regulation in academic performance. *The Journal of Educational Research, 111*, 595-602. https://doi.org/10.1080/00220671.2017. 349072

Zhang, Y., & Xin, Z. (2019). Rule comes first: The influences of market-attributes on interpersonal trust in the marketization process. *Journal of Social Issues. 75*, 286–313. https://doi.org/10.1111/josi.12306

Figure 1

A Multi-Level Depiction of Competition in Education