'Sometimes, the mouse gets eaten.' Initiating a boundary-spanning study on competitions in entrepreneurship education.

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Abstract:

Competitions are a highly visible practice and an enthusiastically promoted model in entrepreneurship education policy. However, studies on the effects of competitive pedagogy in entrepreneurship education are notable by their absence. For example, a recent meta-analysis of entrepreneurship education literature (Bae et al., 2014) revealed that of all the moderating factors utilised by researchers economic status, gender, education of parents etc. - no study, at any level of education could be found that investigated the effects of an intervention controlling for 'winners' and 'losers.' Within this context, this authoring team, combining practitioners and an academic, aim to initiate an exploration of competitions in entrepreneurship education which spans the boundaries of rigour and relevance, the practical and academic (Gulati, 2007). The research philosophy and logic of scientific realism (Pawson, 2006), is harnessed in this paper to analyse European policy and guidance over a ten-year period in order to make explicit the taken-for-granted assumptions which underpin the promotion and use of competitions in entrepreneurship education and policy. This process identifies that competitions are described as: effective for motivating, rewarding and inspiring learners; an effective way to develop the entrepreneurial skills of learners and, finally, are an appropriate pedagogy for classroom teachers to embed entrepreneurship in education. The paper challenges these deeply held assumptions by drawing on evidence from education, psychology and social research which suggests that competitions do not qualify for the uncritical recommendations and widespread application observed in entrepreneurship policy and practice.

Introduction:

It has been observed that a false, and socially constructed, dichotomy exists in business school research, where different tribes ('rigour' vs 'relevance', 'academic vs 'practitioner') are pitted against each other in 'either/or' debates (Gulati, 2007). Such conflict, Gulati argues, results in the exclusion of 'boundary spanners', those people aiming to bridge the artificial divide through 'problem oriented research, grounded in theory.' Engaged Scholarship has been seen as an antidote to theory-practice divides, advocating research 'with and for' practitioners, and a paradigm shift from reductionism, and towards methodological pluralism (Van de Ven & Johnson, 2006). This approach may still frustrate, however, if the methodological pluralism leads to more 'findings about averages' (McKelvey, 2006). Practitioners in the real world 'don't worry about averages', McKelvey argues, they 'want more good ones and wonder better how to avoid the bad ones.' It is in this spirit that this team of authors – two practitioners and one academic – have approached initiating an exploration of competitions in entrepreneurship education. The team spans a number of boundaries, with: practical and academic experience; mutual interest in rigour and relevance; focus on training teachers to integrate entrepreneurship in learning and focus on teaching students about entrepreneurship; involvement in primary and secondary education and involvement in higher education. The team has what Gulati describes as the 'idealistic hope' of overcoming the 'either/or paradigm' by developing a 'synergistic research enterprise', with the aim of furthering academic knowledge about and refining practice of competitions in entrepreneurship education. Competitions are perhaps the most visible and easily recognised element of entrepreneurship education. The approach – organising children and young people to work competitively against each other individually or in teams – is handed down to entrepreneurship educators based on under-researched assumptions. This paper is a first step in a research enterprise which aims to surface the deeply held assumptions about why competitions are prescribed so widely, and begin to explore whether there is any evidence which points to theoretical flaws in their use. To do this, we harness the research philosophy and logic of scientific realism, to guide our study about the extent to which competitions feature in European policy and guidance on Entrepreneurship Education over a ten-year period. We identify the benefits competitions are assumed to have (the 'good' end of the extremes McKelvey refers to), and evidence which exists which can help explain why they will, contrary to the hopes and ambitions implicit in policy and practice lead to deleterious results for some participants (the 'bad' end of the extremes which McKelvey recognises practitioners are concerned about).

Competitions in entrepreneurship education

Competitive Learning is described as 'a learning form where competitive elements are used in order to achieve better learning outcomes, frequently resembling a real market economy situation.' (European Commission Joint Research Centre, 2015). It is often delivered by means of business plan and business idea competitions, but may, and indeed frequently is, applied to any entrepreneurial learning situation, with learners of all ages (European Commission Joint Research Centre, 2015). By its nature, such pedagogy requires that there are winners and losers, the latter group being the vast majority of participants. Given the possible implications of this, one may think that it is an approach, which has been carefully studied. Yet a recent meta-analysis of 73 entrepreneurship education studies (Bae et al., 2014) revealed that of all the moderating factors utilised by researchers economic status, gender, education of parents etc. - no study, at any level of education was found that allowed for the effects of an intervention controlling for 'winners' and 'losers.' In 2004, Hytii & O'Gorman observed that 'games, competitions and practical training' were the least popular methods of entrepreneurship education. More than a decade on, this assessment does not reflect the research teams' lived experience and recent developments in the field of enterprise and entrepreneurship education in two European countries (England and Spain). By way of example, in England now, competitions and short term challenges are identified as the methods for developing enterprise education in schools (Careers and Enterprise Company, 2016).

The competitive 'mini-company' experience

Competitions have been commonly associated with or embedded in mini-company programmes, a format which features extensively in European policy since the publication of the Expert Report "Mini-Companies in Secondary Education" by the Commission (2005). The purpose of the mini-company programme is to develop students' entrepreneurial mind-sets through small-scale real economic activity (European Commission, 2005). The popularity of the format is made clear by the impressive figures of the Junior Achievement Young Enterprise (JA-YE) Company Programme in Europe where over 313,000 students participated in the company programme across 39 countries in Europe in the 2014-2015 school year (JA-YE, 2015). Competition is a core element in JA-YE's Company Programme. Indeed, "Competing and Closing" is the final stage in the five-step process used to describe the process and regional, national and European finals receive substantial coverage in the JA-YE website (JA Europe, Company Programme, 2017).

Whilst literature which specifically relates to competitions in Entrepreneurship Education appears limited, the JA-YE Company Programme has been the focus of much academic study. Bearing in mind the competitive nature of the programme, its popularity and the growing body of literature focussed on its study, this paper assumes that the JA-YE Company Programme may be considered as a proxy for intergroup competition in entrepreneurship education to identify, in order to identify the most common impacts of this type of interventions.

Variously the JA-YE Company Programme has been found to positively affect: attitudes to entrepreneurs (Johansen *et al.*, 2012); school attendance (Johansen et al 2011); entrepreneurial competence and activity (Johansen, 2011); entrepreneurial knowledge and beliefs (Volery *et al.*, 2013); desirability of starting a business (Peterman & Kennedy, 2003); start up rates (Johansen, 2010) and attitudes to enterprise (Athayde, 2009; Athayde 2012), suggesting competitive structures and goals are an effective method. In spite of the prominence of the regional, national and European "Company of the Year" competitions, the winner/loser variable does not appear to have been explicitly studied. Some studies have reported neutral or negative results with regards to: academic performance (Johansen et al., 2014); creativity, cooperation and the willingness to take the initiative (Johansen *et al.*, 2008a); business knowledge (Bergman *et al.*, 2011; Johansen *et al.*, 2008b); entrepreneurial self-efficacy (Bergman *et al.*, 2011) and entrepreneurial intention (Volery *et al.*, 2013).

Mixed results

Recent entrepreneurship education research which has employed control groups and experimental methods reflect a requirement for caution. Where they exist, impact studies that have looked at effects among participants in mini-company formation and their competitive processes have mixed results. Oosterbeek *et al.*, (2010), analysed the impact of a leading entrepreneurship education programme on college students. Though the study doesn't say that competition was involved, students are described as working in teams of 10, and a link to the JA-YE mini-company programme is provided as a reference to the experience, which includes teams competing for different prizes such as 'best company' and 'best product.' The comparison group study showed that the result of the programme did not have the intended effect: effects on students self-assessed entrepreneurial skills were close to zero or negative, and the effect on entrepreneurial intentions was 'significantly negative.' It should be noted that the programme was *compulsory*, and the significance of this was pointed out by Martin *et al.*, (2013), in that usual self-selection for this activity had been replaced with conscription.

Another study, this time on primary school children described a programme called BizWorld (Rosendahl Huber *et al.,* 2012). Children set up and ran mini businesses in the classroom and on the final day of the programme the balance sheet and profit and loss accounts from each business are

checked and 'the team that was most successful, in the sense that it has created the highest value, wins." Immediate effects (testing cognitive and non-cognitive skills and entrepreneurial intention), found a 'robust positive effect on non-cognitive entrepreneurial skills', but an immediate slight negative impact on entrepreneurial intention, which declined further over time to be 'significantly negative' (Rosendahl Huber *et al.*, 2012).

Heilbrunn & Almor (2014) investigated the impact of participation in the Junior Achievement programme on adolescent high school pupils in Israel. Using a before and after as well as a control group design, they analysed the influence of the program on participants' business related knowledge, self-efficacy, and perceived feasibility and desirability of becoming an entrepreneur. Overall the findings showed a significant positive impact, but when controlling for socio-economic background a different picture emerged. For pupils from low socio-economic environments participation turned out to be counterproductive. These students valued themselves with less selfefficacy and they saw entrepreneurship as less feasible and desirable after participation.

Fayolle (2013) identifies a weakness with entrepreneurship education research being a lack of interest in possible explanations for contradictory results in studies. He observed that too often entrepreneurship educators, policymakers, experts and intermediary organisations take for granted benefits and approaches without questioning methods, assumptions and beliefs. Given the potential implications raised by these mixed results of competitively structured experiences, our aim is to identify how competition is presented in policy, identify the underlying assumptions which underpin their promotion (the 'good end of the extreme'), and undertake an initial exploration to identify any research or evidence which might help begin to explain the 'bad end of the extreme' (McKelvey, 2006). This lead to the formation of questions which help frame the scope for this paper:

- 1. To what extent do competitions and competitive pedagogies feature in European policy and guidance?
- 2. What are the assumed benefits, the 'good end of the extreme'?
- 3. What research and evidence exists which can help explain the mixed results of competitive entrepreneurship education experiences, the 'bad end of the extreme'?

Method:

Realist Evaluation is a relatively new approach that has emerged as a response to the problems of evidencing the impact of complex social interventions (Pawson & Tilley, 2004). The calls for more and better evidence in educational research is long and ongoing (Macintyre, 1997, Goldacre, 2013). This has led educational research to try and emulate the 'medical model,' (Evans & Benefield, 2001) where experimental research and systematic reviews are seen as a route to produce rigorous evidence on 'what works'. However, critics argue that the rhetorical, and actual, 'privileging' of 'scientific', 'objective' and 'rational' methods diminishes academic freedom and portrays research findings as 'superior to other sources of evidence' (Hammersley, 2001). Crucial elements of the growth of scientific knowledge – cumulation, theory testing and improving and deriving knowledge from tacit knowledge and experience are ruled out by models which 'pre-judge what is to be proven' (Hammersley, 2001). Scientific Realism, also known as Realistic Evaluation, as described by Pawson & Tilley (1994, 2004), is a response to such problems as it offers a philosophical paradigm, and methods and techniques to researchers aiming to achieve rigour, whilst supporting practitioners and policy makers to better refine and target their programmes. The approach has developed in response to the incomplete knowledge developed through systematic review and synthesis, pursued in the name of 'evidence based practice.' In the realist paradigm, systematic reviews have traditionally been used to synthesise evidence about 'what works' in complex interventions, but these findings are often inconclusive and don't provide explanations about what might work, for whom, and why (Wong, 2011). Scientific Realism aims to more deeply unpack the mechanisms which explain why complex interventions work (or fail), in order to provide the policy and practice community with new ideas and knowledge to achieve or improve outcomes for intended beneficiaries. Pawson *et al.*, (2015), identify that policy makers may struggle making decisions based on statistics, effect sizes and an array of moderators, but they are more likely to be able to interpret and utilise explanations of '*why*' an intervention may (or may not) work better in one context or another. Pawson argues that net effect calculations for social programmes are 'either disappointing or misleading. They are far too simplistic to act as a guide to future policy making' (Pawson, 2006). Whilst researchers are developing protocols for realist review and realist synthesis (Pawson, 2006), which can be tailored to specific tasks, for example, isolating and investigating a difference between policy, its intended effects and actual impact. Crucially, Pawson suggests the approach can be seen as a way of alerting policy makers to potential dangers which may be lurking in complex interventions, and where extra vigilance is needed (Pawson *et al.*, 2005).

Competitions and competitive pedagogy in European policy and guidance.

In the last decade the European Commission (EC) has acted as a catalyst and a facilitator for the promotion of entrepreneurship education in schools. At European level, this policy has been addressed by the Directorate General for Education and Culture (DG EAC), working with the former Directorate General for Enterprise and Industry (recently renamed as Directorate General for Internal Market, Industry, Entrepreneurship and SMEs). Entrepreneurship was identified as a driver of innovation, competitiveness and growth, as well as being a vehicle for personal development and social cohesion and European member states were convened in Oslo to share experiences and good practice and create an action plan for the 'European Agenda for Entrepreneurship' (EC, 2004). The outcome of this conference - 'The Oslo Agenda for Entrepreneurship Education in Europe' (EC, 2006) - signalled the start of a decade of entrepreneurship education policy and practice promotion. The Oslo Agenda was a 'rich menu of proposals, from which stakeholders can pick actions at the appropriate level, and adapt them to the local situation' in order to fuel entrepreneurial mind-sets and expand entrepreneurship education in schools and education. Reviewing these documents provides a valuable overview of the policies and good practice which have been recommended to schools over the last decade, as well as capturing the national strategies, curricula and learning objectives of member state countries. Based on the scope for this research, all school focused European policy documents from 2006 to 2016 were studied, searching for the inclusion and assumed benefits of competitions, contests, prizes and awards. Where these terms existed, the context of their inclusion was logged and direct comments collated, analysed and coded. In scientific realism, this process is the first step in theory building – that is, identifying the theory implicit in the programme itself. It is only by understanding what it is that a programme is claimed to do, what improvements in behaviour it is claimed are generated, that one can start to track and evaluate the broader theories that underlie families of interventions (Pawson, 2006).

From 'communications activity' to 'strategy, practice and pedagogy'

While originally promoted simply as an 'effective communications activity' in The Oslo Agenda, within a decade, the method is qualified as: "a learning form where competitive elements are used in order to achieve better learning outcomes" (EC JRC, 2015). The summary presented in the table demonstrates the benefits competition are assumed to have, which are wide ranging and transformational. From successfully incentivising and engaging the participation of students and teachers (EC, 2010; 2012; EC Eurydice 2016; CEDEFOP 2011), to being the vehicle which drives young people into 'performing to the best of their ability' (EC, 2012). Nineteen categories were identified, with five of these (better employability, better start-up rates, higher earning and economic growth) describing significant long term impact.

The table below summarises 14 categories, which represent short to intermediate assumed benefits. (a full summary can be found in Appendix 2).

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Competitions feature as both an integral part of strategy – for example, national, regional and local competitions, which facilitate involvement by students and the participation of business (ECfEl 2009; EC 2011; EC 2013; EC JRC 2015; EC 2016; CEDEFOP 2011), and a model of good practice, with the perceived value and the competition method inextricably linked:

"...competitions with cash prizes to help students develop their ideas are held each term." (ECfEI 2009).

"...the national competition...rewards the best enterprise project every year." (ECfEI 2009).

"Business planning/ideas competitions...help young people pursue their entrepreneurial ideas and ambitions.' (CEDEFOP, 2011).

"...[students]...discover and develop their abilities through school and national competitions." (EC 2012).

"...competition engages the community and motivates teachers...." (EC, 2012).

"...competitive elements....give learners the opportunity to validate their ideas and experience the entrepreneurial/start-up environment." (EC Eurydice, 2016).

Engaging the private sector

Competitions are a means of raising the profile of activities, attracting media interest and therefore increasing the commitment of the private sector (CEDEFOP, 2011). The competition *itself* is seen as crucial (rather than simply holding a celebration event), because it enables the recruitment of *judges.* These are people from the business community, local politicians or education authorities who 'help to get support behind their project' (EC, 2013). A number of reports also describe how organisations which deliver competitions and contests are involved in contributing to teacher training (ECFEI 2009; EC 2011), disseminating teaching materials (EC 2010; EC 2011; EC 2013), working strategically with education authorities to train primary and secondary teachers (EC, 2011), and acting as 'expertise centres' (EC 2016). Such comments make links between the organisation, its methods and the use of competitions, for example: "...third sector organisations such as JA-YE, Europen and Jade have become important partners for schools...providing significant expertise and alternative methods to teaching entrepreneurship, mainly through mini and virtual companies, business competitions and other awareness raising activities" (CEDEFOP, 2011).

Assessment method and pedagogical approach

Competitions are also highlighted as a valid assessment method in three reports, through the critique and evaluation provided by business people (CEDEFOP, 2011), measurement against the performance of peers (EC, 2012), and summative assessment provided by performance in competitions and pitches (EC JRC, 2015). Finally, a significant number of reports (73%), included competitions and competitive learning within sections on 'teacher development', 'teacher support' or 'teaching materials,' recommending the method within content or case studies as a technique which educators should apply in classroom situations to achieve entrepreneurial learning outcomes.

All of these factors will have contributed to the extensive promotion and adoption of the competition method. This is reflected in one 'state of play' report which summarises: '...traditional start-up methods (pitches, competitions, events, business or idea plan), are to some extent, and often in an adapted way, applied across all levels of education...,' and calls 'learning-by-doing combined with collaborative and competitive teaching methods' *the most common* pedagogical approach (EC JRC, 2015). Indeed, successive reports position competition as a teaching method *in its own right*, describing it as something delivered not just by providers, or as part of an extra-curricular activity, but by entrepreneurship educators at all phases of education as part of their entrepreneurial pedagogical toolkit.

A note of caution

It is only recently that the potential negative effects of this approach received some attention in European Guidance. In 2015, the publication "Entrepreneurship Competence: An Overview of Existing Concepts, Policies and Initiatives", reports the concerns of the promoters of the Junior Entrepreneur Programme in Ireland about the use of competitive learning in primary schools: "Initially, the JEP programme was based on a competition with one winner. During the pilot phase, the feedback showed this competitive environment had negative effects, creating unhappiness among teachers and pupils" (EC JRC, 2015). For the first time in European policy guidance, a note of caution is sounded about the widespread use of business competitions, particularly at lower education levels.

Though the report does not detail the reasons for such unhappiness, research from within entrepreneurship education has suggestions to make about how learner context and competition outcomes may influence effects on participants. Athayde (2012), states that though the overall effect (of a mini-company programme) she studied was positive, young people's attitudes were moderated by factors including gender, ethnicity, type of school attended and socio-economic background. Heilbrunn and Almor (2014), also describe how competitive-oriented encounters were 'disheartening' for pupils from lower-socio economic groups. And whilst Jones & Cowill (2013) conclude that participation in the regional finals of the Young Enterprise Company programme in Wales represented "an unforgettable and positive learning experience for all participants" they acknowledge an obvious bias in the sample, as responses were elicited from regional winners.

These points suggest the existence of at least two important elements at play: social context and win/lose. Theory and research from other fields can help illuminate the potential effects of these variables. Given this, we are limiting the scope of the following discussion to the short and intermediate benefits assumed *for students* as a result of participating in competitions. We do this for two reasons: first, these are the benefits most likely to be observed by teachers, and therefore crucial in engaging the interest and motivation of educators in order to continue with and develop the practice (Guskey, 2002). Second, if these benefits are not observed or secured, it is unlikely that longer-term outcomes and impact will be realised (according to the inherent logic of the activity). Therefore, the assumed benefits which will be discussed are: that competition is motivating for students, that it rewards students, that it develops the skills of students, and that students are inspired by their peers. We will conclude with a cross-cutting discussion of social context and make concluding remarks and draft recommendations.

Motivation

A positive outcome, commonly cited in European Policy for the use of competitions in Entrepreneurship education, is that they motivate students. Such benefits are described generically, for example 'Business planning ideas/competitions...motivate young people' (CEDEFOP, 2011), and specifically, in that they motivate young people to 'take part' (CEDEFOP, 2011), motivate them to 'perform to the best of their ability' (CEDEFOP, 2011), and that young people report higher self-perceptions of motivation (ECfEI, 2009).

Self-Determination Theory defines the act of motivation as requiring the subject to be 'moved to do something.' Such proponents' (Deci & Ryan, 1985) recognise there exists different types, and different levels, of motivation. For example, intrinsic motivation is doing an activity for its inherent satisfaction, for fun, challenge and out of curiosity; whereas, extrinsic motivation refers to doing something because it leads to a separable outcome (Ryan & Deci, 2000). Competitions per se, are a special type of extrinsic activity as they necessitate measuring one's own performance against that of others, which can tend to decrease intrinsic motivation (Ames, 1984a, Ames & Ames, 1984). Arguments for *intergroup* competition in education suggest it can play a role in creating 'work oriented norms' which can enhance the motivation of team members (DeVries & Slavin, 1978). But the use of competitive pedagogy as an effective strategy to motivate *individual* pupils in classroom environments remains largely contested in educational research (Deci & Ryan, 1981; Good & Brophy, 2008). Direct comparisons on the effects of competition with cooperation find in favour of cooperation in motivating achievement in classroom settings (Johnson et al., 1981, Ames 1992). But recent research takes a less dichotomous view when exploring the effects of competition. Fulop (2009), set aside the 'Beauty and the Beast' archetype which pits competition against cooperation, instead acknowledging that the two elements interplay with each other. Ultimately, competitive processes will be qualitatively different depending on cultural, situational and personal/individual factors such as the way competitors view each other, the process they are involved in and the way they cope with winning and losing.

A crucial process element we wish to draw attention to is the difference between the motivations (and subsequent experiences and derived meaning) of those participating in *voluntary* business contests, compared to those participating in *compulsory* competitions embedded in the curriculum. The former participants may introduce 'Volunteer Bias', an effect (where the nature of the volunteers causes the positive outcome as opposed to the intervention itself) that is difficult to control for (Heiman, 2002; Goldstein *et al.*, 2015; Keiding & Louis, 2016). However, being *forced* to participate in a competition through a compulsory curriculum activity changes the dynamic, and the potential effects, of the act itself. Competition can be experienced as 'coercive' (Good and Brophy, 2008) and be ineffective as a motivational strategy for *all* pupils (Meece *et al.*, 2006). Motivation may be diminished through the focus placed on "winning" (Deci *et al.*, 1981; Ames 1984b, Butler, 1989), and the exposure to public failure (Rahal, 2010). It is therefore not unreasonable to assume that students who repeatedly perform poorly in comparison to peers find little appeal in competitions (Good & Brophy, 2008).

A crucial insight then, is the extent to which competition is experienced in different ways, by different participants. The dimensions that are proposed to underlie intrinsic motivation: (perceived competence and perceived effort, enjoyment and interest, pressure and tension) will result in different motivation being derived by different participants (Ryan & Deci, 2000) according to their 'performance' and the perceived meaning they take from it. These 'individual perceptions' can have a greater impact on intrinsic motivation than do competition outcomes. Indeed, constructive feedback and positive information can be more nourishing to intrinsic motivation than winning itself (McAuley & Tammen, 1989; Vansteenkiste & Deci, 2003). Therefore, individual interpretations and personal context should be of paramount importance during the design of entrepreneurship education experiences, as Krueger (2007), argues, developmental experiences can shape deep beliefs about entrepreneurship. As such, just as positive competing experiences could be beneficial and motivating, negative experiences could be damaging, and have the legacy of influencing the deep beliefs and motivations of an individual.

Rewards

A number of reports identified that competitions provide important rewards for students (ECfEI 2009; EC 2010; EC 2016). The assumed benefit is that competitions reward the 'best' (ECfEI, 2009), provide recognition (EC, 2010) and that rewards in competition 'keep motivation high' (ECfEI 2009). Deci et al (1999), distinguish between different types of rewards and their effects. Rewards that are perceived to be controlling (for example, contingent on task engagement, task completion or quality of performance) can have negative effects on intrinsic motivation, whereas, rewards that are informational (providing feedback or recognition), can provide satisfaction and have positive effects on intrinsic motivation. In competition, the reward - 'winning' - is extrinsic to the activity itself, and is dependent on beating an opponent/s (Vansteenkiste & Deci, 2003). In many cases, rewards have conflicting effects and are dependent on context, so many factors must be taken into account. A meta-analysis of the effects of extrinsic rewards showed that they have a substantial undermining effect on intrinsic motivation (Deci, et al., 1999). Reinforcing a previous potential red-flag about the significance of student age, tangible rewards were more detrimental for children than college students, and verbal rewards were less enhancing for children than college students. This underscores the role personal context plays and that interpretations of competitive outcomes must be considered from the 'actor's perspective', rather than simply taking stock of who wins or loses (McAuley & Tammen, 1989). Ryan, et al., (1999), summarise that understanding the effects of rewards requires a consideration of the interpretation which recipients will give to the rewards in relation to their own feelings of self-determination and competence.

Of course, the opposite of being 'rewarded by winning', is 'losing', and this can have significant negative effects on (Vansteenkiste & Deci, 2003, Good & Brophy, 2008). Good & Brophy (2008), identify the development of a 'loser's psychology' where individuals and teams feel embarrassed or humiliated, and those who consistently lose may suffer losses in 'confidence, self-concept and enjoyment.'

Finally, and perhaps, more dramatically, 'winners' are more likely to engage in unethical behavior, potentially due to an inflated sense of entitlement, and as a result, unethical behaviour may cascade from being rewarded in competitive settings (Schurr & Ritov, 2016). Whilst this research was conducted with adults, and therefore effects have not been demonstrated in the classroom, it can be taken as a provocation for critical thought on: unintended consequences; influences on social relations and possibilities for future enquiry.

Skill development

Seven reports identified that one of the benefits of competitions is that they are successful in developing students' skills. This assumption appears embedded in the competitive model itself, which enables young people to 'discover and develop their abilities' (EC 2012), 'develop or improve entrepreneurial/ business skills' (CEDEFOP, 2011), develop 'team working and communication skills', 'pursue entrepreneurial ideas and ambitions' (CEDEFOP, 2011), familiarise students with the enterprise concept (CEDEFOP, 2011), and promote '...creative ideas, teamwork, solving of real problems..." (EC 2012).

One argument for competition is that it is the DNA of society, evident in relationships and dynamics at home, work, hobbies and entertainment (Vansteenkiste & Deci 2003, Fulop, 2009), and therefore learning to compete is learning the skills required for life, as well as work. However, educational research has looked at the effects of different tasks and structures on students' learning and outcomes and calls into question the uncritical use of competitions as a vehicle for such skill development. Whilst competition can increase productivity or performance on rote or speed tasks (DeVries & Slavin, 1978; Johnson *et al.*, 1981) it can undermine performance on problem solving and creative tasks (Johnson et al, 1981; Amabile 1983; Butler 1989,). 'Creativity' and 'problem solving'

often feature on the entrepreneurial competencies wish list. For example, the recent EU EntreComp Entrepreneurship Competence Framework (Bacigalupo *et al.*, 2016), includes creativity as a specific competency, and problem solving features in descriptors for other skills such as taking the initiative and spotting opportunities. Further research is required then to clarify the assumed benefits and actual effects of competition in entrepreneurship education on the development of such skills.

Theorists distinguish between 'performance goals' and 'mastery goals' and the different ways these conceptions influence the development of skills. Central to a performance goal is the idea that one's *skill* is evidenced by doing better than others, and that this performance is publicly recognised (Ames, 1992; Dweck, 1986). As a result, learning and skills *development* is viewed as a way to achieve a desired goal, rather than an end in itself. As a consequence, if considerable effort is invested but does not lead to 'success' it can lead to a negative evaluation of competences (Ames, 1992), and disengagement from developing that skill. In contrast, mastery goals focus on the intrinsic value of learning and utilising effort to develop skills and competences (Ames, 1992, Dweck, 1986). So, crucially, a competitive process may incentivise *performance outcomes* to be prioritised over *skill development*. For example, in a group working on a competitive pitch, those who might most benefit from developing presentation skills are least likely to take the lead, despite being most in need of development (McCullough *et al.,* 2016).

Competition is not then, in and of itself, a strategy that guarantees the development of skills and competencies. A risk is that competitions focus students on the ends - winning (or losing) - rather than on the valued building of new skills and competences (Bergin & Cooks, 2000; McCullough *et al.,* 2016). Furthermore, if students' efforts do not lead to success, their sense of competency can be dented and future interest put in jeopardy, potentially leading to the opposite of developing 'can do' entrepreneurial skills and competences (can't do, won't do).

Inspired by Peers

Another assumed benefit of competitions is the opportunity to learn from and be inspired by peers. This included the 'inspiration' young people gained from each other (EC, 2010), and how 'valuable learning' was achieved by observing and imitating those whose 'techniques and skills are greater,' (CEDEFOP, 2011).

Psychologists have identified that peer excellence can have a demoralising effect if students believe that their peers excellent level of performance is out of their reach. Rogers & Feller's (2015) experiments showed that incidental exposure to exemplary peer performances undermined motivation and success by de-identifying with the relevant domain and finally, quitting. 'Discouragement-by-Peer-Excellence-Effect' challenges the notion that students will automatically be inspired by and learn from their peers, if being exposed to their excellent performance makes them feel less capable of performing at the level of those peers. Crucially, this changed belief appears to decrease student performance. Social comparison theory (Festinger, 1954), states that our sense of self is determined by making comparisons between ourselves and others in order to evaluate ourselves and can help explain these reactions. If a student compares themselves and their performance unfavourably with others, it threatens, not inspires, their self-worth and motivation (Meece et al., 2006). This effect is reflected in the findings of Heilbrunn & Almor (2014), who identified the negative impact participating in the regional finals of an entrepreneurship education competition had on students from lower-socio economic backgrounds: "When meeting other groups at regional meetings or at competitions, the pupils from the lower socio-economic background felt underprivileged, backward and less capable.' These students scored lower in terms of self-efficacy, and perceived entrepreneurship as less feasible and less desirable after the intervention.

Social context

It has been argued that entrepreneurship education can be considered a success if it dampens unrealistic expectations and fulfils a type of 'sorting' according to aptitude and ability (Von Graevenitz *et al.*, 2010). However, research in mainstream education has shown that such processes are rarely neutral, and children and young people from lower socio-economic groups are more likely to be failures due to the expectations of others and the opinions and actions of decision makers (Boaler *et al.*, 2013). Indeed, the appeal (or avoidance), of competitive pedagogy begins well before any intervention, with family background, gender and socio-economic status shaping: the willingness to compete (Almas et al, 2015), the tendency to align oneself with neo-liberal values (O'Flynn & Peterson, 2007), and an individual's entrepreneurial identity (Falck, *et al.*, 2012).

Heilbrunn & Almor (2014) illustrated that an overall positive statistical effect for a competitive intervention was shown to be misleading when social context was taken into account. They demonstrated how lower-socio economic students were practically (as well as perceptually), disadvantaged in the organisation and experience of competing. The students had been 'chosen' to participate (rather than volunteered), and as a result there were discipline problems. There was less parental involvement, less resource investment from schools and teachers, less time spent on task in schools, and students had less social and personal capability to be able to complete tasks such as phoning potential sponsors. The significance of these observations is that, clearly, the field on which teams and schools play in entrepreneurship education competitions is far from level. Suggesting that competition in these circumstances is a fair and effective 'sorting' process will result in young people alienated from entrepreneurship according to context, not according to ability and interest, and will reproduce social inequalities (Heilbrunn & Almor, 2014) rather than challenge them.

Consider a key element of competitions – the public presentation, or pitch - identified in three reports as a valuable element in competitions, where students are evaluated by others and assess their own performance. This element represents a litmus test for finalists, but may well favour teams from socially-advantaged backgrounds. Patterns of talk and interaction constitute a manifestation of class differences (Bernstein, 1973, Savage, 2015), and elevator pitches and other forms of interaction with the jury mean that socially advantaged teams who have the existing social skills to make the right impression may be more likely to be crowned winners. Being able to scrutinise full data sets of participant versus winner from competition organisers would enable a better view of this.

Reay (2006), asserts that the iniquitous effects of social class in education is a 'monster that grows in proportion to its neglect,' and argues that the prevailing focus on 'within-school processes' in education has been at the expense of understanding the influence of the wider economic and social context of schooling. The same could be said for entrepreneurship education, where students' social context is stripped out of the policy picture and, as Athyade (2012) describes, 'one-size-fits-all' enterprise policy initiatives are 'wielded blindly.'

Conclusions

This initial exploration has revealed the extent to which competitions and competitive pedagogies are handed down to entrepreneurship educators as an effective method which they should use to motivate, reward and inspire students and which will develop students' entrepreneurial skills. Whilst competitions in entrepreneurship education might have intuitive appeal, research and theory from other fields illustrates that its assumed benefits are by no means guaranteed. Of most concern is that competition and competitive pedagogy is being promoted in school focussed policy and guidance as an effective approach for all students, of all ages, in all contexts; young people will increasingly be conscripted into such activity through compulsory curricula practice, or extracurricular activity. As we have demonstrated, there is a body of evidence, which shows that competition may alienate children and young people from entrepreneurship and diminish their sense of competency and interest, before anyone can reasonably guess what their futures might hold. This initial research demonstrates that competition *can* lead to significant unforeseen outcomes, especially for those in 'at risk' groups. In particular, two distinct, but closely related elements that Shindler (2009) identifies can result in perverse effects, were reflected in the research we reviewed:

- 1) "Unhealthy competitions implicitly reward the advantaged students" (Shindler, 2009). In the same way that Petersen & Bendix (2007), observed that Duke of Edinburgh Award participation can be viewed as a neo-liberal technology which enables further benefit for already advantaged students, Heilbrunn & Almor (2014), illustrated how the satisfaction and benefit which higher socio-economic students' reported masked the deterioration experienced by lower socio-economic students. The resources, which advantaged students, are able to bring to bear, as individuals, and in terms of school organisation, teacher commitment and family capital, result in a competition which is skewed, and more likely to reward advantaged students.
- 2) "Winners are able to use their victory as social or educational capital at a later time" (Shindler, 2009). Entrepreneurship competition providers make bold claims about the positive impact on employability and personal, professional and entrepreneurial success following participation.¹ Such programmes can be seen as a part of the discourse on globalisation and the 'responsibilising of the self' (Peters, 2001). However, such new educational strategies may be a constraint, or an opportunity, depending on social class (Van Zanten, 2008). Families do not have the same resources to enact such strategies, and instead, those with existing advantage can 'consolidate and increase' their position in relation to others. Researchers have noted that students from independent schools are over-represented in enterprise competitions (Huddleston et al., 2012; Athahyde, 2012), and a similar picture emerges when looking at the state sector, with grammar school pupils outnumbering alumni of the non-selective sector (Mann & Kashefpakdel, 2014). It is recognised that entrepreneurship competitions are affected by 'self-selection' bias, meaning "that the pupils with the most developed entrepreneurial skills are probably the ones who apply" (EC, 2016), but the make-up of school-types has a wider significance in terms of the social effects of entrepreneurship competitions. Essentially, entrepreneurship education competitions may enable confident, socially and culturally advantaged young people to gain additional social and educational capital which benefits them further at a later time and in-effect, creates greater disadvantage for their worse equipped peers.

An aim of the scientific realist is to provide a deeper and fuller account of reality, in order that practitioners and policy makers have sufficiently full explanations on which they might base their policy decisions and practice. An underpinning principle of the paradigm is that complex, socially contingent interventions will *always* have different effects on different participants in different circumstances. Which brings us back to the title of the paper. In our early field work to socialise the scientific realist paradigm and how it can help practitioners think about competitions, we developed a metaphor. Metaphors can help learners understand new ideas by rearranging existing knowledge, that is making comparisons they hadn't previously made, or thinking about a previously ignored feature (Willingham, 2009). So, to understand the fundamentals of scientific realism in a memorable way, we asked audiences to imagine an intervention which aimed to encourage friendly interactions between cats and mice. In the scientific realist paradigm, one would *always* presume that there will be different outcome patterns. For example, in some cases, a cat and a mouse might play together, as if they are best friends, and the result might be a cute YouTube video. But, sometimes....the mouse would get eaten. For scientific realists, the focus is less on *what* happened, or *the frequency*

¹ For example, the JA-YE research impact hub - http://content.ee-hub.eu/EE-HUB/National-Policies/Researchon-the-impact-of-the-JA-Company-Programme

with which it happened, the main area of interest is uncovering *why* it happened by identifying the **C**ontext and **M**echanisms at play and how they interact to lead to different **O**utcome patterns (identifying CMO configurations). For example, a domesticated cat, used to other house pets and who is well fed and who hears encouraging play talk from its owner is more likely to lead to a cute YouTube video with the mouse than an undomesticated cat, unused to other animals, unsupervised and hungry. We suggest this way of thinking may help extend the 'evidence based' conversation in entrepreneurship education policy and practice beyond 'what works?' and towards 'what works, for whom, in what circumstances and why?' (Pawson, 2013). There is much in policy which celebrates the 'good end of the extreme' in entrepreneurship education competitions, but further research into the 'bad end' is overdue. This paper represents a boundary-spanning first step in an exploration of competitions in entrepreneurship education, searching beyond their intuitive appeal and starting to identify why the design of such interventions may be theoretically flawed.

Appendix 1 – European Policy and Guidance reports on entrepreneurship education in schools, colleges and VET (non-HE settings), 2006 – 2016.

Year	Title	Source
2006	The Oslo Agenda for Entrepreneurship Education in Europe	European Commission.
2009	Entrepreneurship in Vocational Education and	European Commission for
	Training. Final report of the Expert Group.	Enterprise and Industry.
2010	Towards Greater Cooperation and Coherence in Entrepreneurship Education: Report and Evaluation of the Pilot Action High Level Reflection Panels on Entrepreneurship Education initiated by DG Enterprise and Industry and DG Education and Culture.	European Commission.
2011	Guidance supporting Europe's aspiring entrepreneurs. Policy and practice to harness future potential.	CEDEFOP – European Centre for the Development of Vocational Training.
2011	 Entrepreneurship Education: Enabling Teachers as a Critical Success Factor. A report on Teacher Education and Training to prepare Teachers for the challenge of entrepreneurship education. 	European Commission.
2012	Entrepreneurship Education at School in Europe. National Strategies, Curricula and Learning Outcomes.	European Commission.
2012	Building Entrepreneurial Mindsets and Skills in the EU. A Smart Guide on promoting and facilitating entrepreneurship education for young people with the help of EU structural funds.	European Commission.
2013	Entrepreneurship Education: A Guide for Educators.	European Commission.
2015	Entrepreneurship Education: A road to Success. 13 Case Studies Prepared for the study 'Compilation of evidence on the impact of entrepreneurship education strategies and measures.'	European Commission.
2015	Entrepreneurship Competence: An Overview of Existing Concepts, Policies and Initiatives.	European Commission, Joint Research Centre.
2016	Entrepreneurship Education at School in Europe. Eurydice Report.	European Commission, EACEA/Eurydice.

All the reports are publicly available on the following websites.

https://ec.europa.eu/growth/smes/promoting-entrepreneurship/support/education_en https://ec.europa.eu/growth/smes/promoting-entrepreneurship/support/education/commissionactions_en https://ec.europa.eu/growth/smes/promoting-entrepreneurship/support/education/projectsstudies_en

http://ec.europa.eu/education/policy/strategic-framework/entrepreneurship_en.htm

Appendix 2 – The benefits of competitions assumed within European Policy, Guidance and Case Studies, 2006 – 2016.

*****INSERT TABLE 2 HERE *****

References

Almås, I., Cappelen, A. W., Salvanes, K. G., Sørensen, E. Ø. and Tungodden, B. (2015) Willingness to compete: Family matters, *Management Science*, 62(8), 2149-2162.

Ames, C. (1984a) Achievement attributions and self-instructions under competitive and individualistic goal structures, *Journal of educational psychology*, 76(3), 478.

Ames, C. (1984b) Competitive, cooperative, and individualistic goal structures: A cognitive-motivational analysis, *Research on motivation in education*, 1, 177-207.

Ames, C. (1992) Classrooms: Goals, structures, and student motivation, *Journal of educational psychology*, 84(3), 261.

Athayde, R. (2009) Measuring enterprise potential in young people, *Entrepreneurship Theory and Practice*, 33(2), 481-500.

Athayde, R. (2012) The impact of enterprise education on attitudes to enterprise in young people: an evaluation study, *Education+Training*, 54(8/9), 709-726.

Bae, T. J., Qian, S., Miao, C., & Fiet, J. O. (2014) The relationship between entrepreneurship education and entrepreneurial intentions: A meta-analytic review, *Entrepreneurship Theory and Practice*, 38(2), 217-254.

Bacigalupo, M., Kampylis, P., Punie, Y., & Van den Brande, G. (2016) EntreComp: The Entrepreneurship Competence Framework, *Luxembourg: Publication Office of the European Union*.

Bergman, N., Rosenblatt, Z., Erez, M., & De-Haan, U. (2011) Gender and the effects of an entrepreneurship training programme on entrepreneurial self-efficacy and entrepreneurial knowledge gain, *International Journal of Entrepreneurship and Small Business*, 13(1), 38-54.

Boaler, J., Wiliam, D., & Brown, M. (2000) Students' experiences of ability grouping-disaffection, polarisation and the construction of failure, *British educational research journal*, 26(5), 631-648.

Butler, R. (1989) Interest in the task and interest in peers' work in competitive and non-competitive conditions: A developmental study, *Child development*, 562-570.

Careers and Enterprise Company – Activity Planning Guide for Schools, from Enterprise Adviser Toolkit. Available online at: <u>https://www.careersandenterprise.co.uk/resources</u> (accessed 18 July 2016).

Company of the Year Competition. Available online at: <u>http://coyc.jaeurope.org/</u> (accessed 24 July 2016).

Deci, E., Betley, G., Kahle, J., Abrams, L., & Porac, J. (1981) When trying to win: Competition and intrinsic motivation, *Personality and Social Psychology Bulletin*, 7, 79-83.

Deci, E. & Ryan, R. (1985) *Intrinsic motivation and self-determination in human behaviour* (New York, PlenumPress).

Deci, E., Koestner, R., Ryan, R. (1999) A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation, *Psychological Bulletin*, 125(6), 627.

Dweck, C. (1986) Motivational processes affecting learning, *American Psychologist*, 41(10), 1040-1048.

European Commission (2004) Communication from the commission to the council, the european parliament, the european economic and social committee and the committee of the regions Action Plan: The European agenda for Entrepreneurship. Brussels.

European Commission (2005) Mini-companies in Secondary Education. Final Report of the Expert Group.

Evans, J. and Benefield, P. (2001) Systematic reviews of educational research: does the medical model fit?. *British educational research journal*, 27(5), 527-541.

Falck, O., Heblich, S. & Luedemann, E., (2012) Identity and entrepreneurship: do school peers shape entrepreneurial intentions? *Small Business Economics*, 39(1), 39-59.

Fayolle, A. (2013) Personal views on the future of entrepreneurship education, *Entrepreneurship & Regional Development*, 25(7-8), 692-701.

Festinger L (1954) A theory of social comparison processes, *Human relations*, 7(2), 117–140.

Good, T. L. & Brophy, J. E. (2008) *Looking in classrooms* (10th ed.) (Boston, Allyn & Bacon).

Goldstein, H., Lynn, P., Muniz-Terrera, G., Hardy, R., O'Muircheartaigh, C., Skinner, C.J. & Lehtonen, R. (2015) Population sampling in longitudinal surveys, *Longitudinal and Life Course Studies*, 6(4), 447-475.

Gulati, R., 2007. Tent poles, tribalism, and boundary spanning: The rigor-relevance debate in management research. *Academy of Management Journal*, *50*(4), pp.775-782.

Guskey, T.R., (2002) Professional development and teacher change. *Teachers and teaching*, 8(3), pp.381-391.

Hale, J (2010) Scared Straight? Not Really. *Psychcentral* Available online at: <u>http://psychcentral.com/blog/archives/2010/11/26/scared-straight-not-really/</u> (accessed 04 July 2016).

Hammersley, M. (2001) On 'systematic' reviews of research literatures: a 'narrative' response to Evans & Benefield. *British educational research journal*, 27(5), 543-554.

Heilbrunn, S. & Almor, T. (2014) Is entrepreneurship education reproducing social inequalities among adolescents? Some empirical evidence from Israel, *The International Journal of Management Education*, 12(3), 445-455.

Huber, L. R., Sloof, R., & Van Praag, M. (2014) The effect of early entrepreneurship education: Evidence from a field experiment, *European Economic Review*, *72*, 76-97.

Heiman G. W. (2002) Research methods in psychology (New York, Houghton Mifflin).

Hytti, U. & O'Gorman, C. (2004) What is enterprise education? An analysis of the objectives and methods of enterprise education programmes in four European countries, *Education+Training*, 46(1), 11-23.

Johansen, V. (2010) Entrepreneurship education and entrepreneurial activity, *International Journal of Entrepreneurship & Small Business*, 9(1), 74-85.

Johansen, V. (2011) Ungdomsbedrift og entreprenørskap. [The Company Programme and entrepreneurship]. Eastern Norway Research Institute, Lillehammer, Norway.

Johansen, V. (2014) Entrepreneurship education and academic performance, *Scandinavian Journal of Educational Research*, 58(3), 300-314.

Johansen, V., Skålholt, A. & Schanke, T. (2008) Entreprenørskapsopplæring og elevenes læringsutbytte [Entrepreneurship education and learning outcomes]. Eastern Norway Research Institute, Lillehammer, Norway.

Johansen, V., Schanke, T., & Solheim, L. (2011) Absence and alternative learning: the company programme and inclusive working life as a means to reduce high school absence. *Social aspects of illness, disease and sickness absence*, 243-264.

Johansen, V., Schanke, T., & Clausen, T. H. (2012) Entrepreneurship education and pupils' attitudes towards entrepreneurs, in: T. B. Helmchen (Ed) *Entrepreneurship-Born, Made and Educated* (Rijeka, Croatia, InTech).

Johnson, D., Maruyama, G., Johnson, R, Nelson, D., Skon, L. (1981) Effects of cooperative, competitive and individualistic goal structures on achievement: A meta-analysis, *Psychological Bulletin*, 89(1), 47-62.

Jones, P. & Colwill, A. (2013) Entrepreneurship education: an evaluation of the Young Enterprise Wales initiative. *Education+Training*, 55(8/9), 911-925.

Junior Achievement Europe, Company programme 'About'. Available online at: <u>http://coyc.jaeurope.org/about/ja-company-programme.html</u> (accessed 4th June, 2017).

Kahn & Norman (2012), The Young Foundation. Available online at: <u>http://youngfoundation.org/wp-content/uploads/2012/10/YOF1716 Nike report 08 12 web 1.pdf</u> (accessed August 16th, 2016).

Keiding, N. & Louis, T. A. (2016) Perils and potentials of self-selected entry to epidemiological studies and surveys, *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, 179(2), 319-376.

Krueger, N. F. (2007) What lies beneath? The experiential essence of entrepreneurial thinking, *Entrepreneurship Theory and Practice*, 31(1), 123-138.

Mann A. & Kashefpakdel, E. (2014) The views of young Britons (aged 19-24) on their teenage experiences of school-mediated employer engagement, in: A. Mann, J. Stanley & L. Archer (Eds) *Understanding Employer Engagement in Education: Theories and Evidence.* (London, Routledge).

Martin, B., McNally, J. & Michael, J. (2013) Examining the formation of human capital in entrepreneurship: A meta-analysis of entrepreneurship education outcomes, *Journal of Business Venturing*, 28(2), 211-224.

McAuley, E., & Tammen, V. V. (1989) The effects of subjective and objective competitive outcomes on intrinsic motivation, *Journal of Sport and Exercise Psychology*, 11(1), 84-93.

McIntyre, D. (1997) The profession of educational research, British educational research journal, 23 (2), 127-140

McKelvey, B., 2006. Van De Ven and Johnson's "engaged scholarship": Nice try, but.... Academy of Management Review, 31(4), pp.822-829.

Mears, D. P. (2007) Towards Rational and Evidence-based Crime Policy, Journal *of Criminal Justice*, 35(6), 667-682.

Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006) Classroom goal structure, student motivation, and academic achievement, *Annu. Rev. Psychol.*, *57*, 487-503.

O'Flynn, G. & Petersen, E.B. (2007) The 'good life' and the 'rich portfolio': young women, schooling and neoliberal subjectification, *British Journal of Sociology of Education*, 28(4), 459-472.

Oosterbeek, H., Van Praag, M., & Ijsselstein, A. (2010) The impact of entrepreneurship education on entrepreneurship skills and motivation, *European economic review*, 54(3), 442-454.

Pawson, R, Greenhalgh, T., Harvey, G., & Walshe, K. (2004) *Realist Synthesis: an introduction.* ESRC Research Methods Programme.

Pawson, R., Greenhalgh, T., Harvey, G., & Walshe, K. (2005) Realist review–a new method of systematic review designed for complex policy interventions, *Journal of health services research & policy*, 10(1), 21-34.

Pawson, R., N, Tilley (1997), Realistic Evaluation.

Peterman, N.E. & Kennedy, J. (2003) Enterprise education: Influencing students' perceptions of entrepreneurship, *Entrepreneurship Theory and Practice*, 28(2), 129-144.

Petersen, E. B. & O'Flynn, G. (2007) Neoliberal technologies of subject formation: a case study of the Duke of Edinburgh's Award scheme, *Critical Studies in Education*, 48(2), 197-211.

Petrosino, A., Turpin-Petrosino, C., & Buehler, J. (2002) "Scared Straight" and other juvenile awareness programs for preventing juvenile delinquency. Cochrane Database Syst Rev. (2): CD002796.

Rahal, M. L. (2010) Identifying and Motivating Underachievers. Focus On. *Educational Research Service*.

Reay, D. (2006) The zombie stalking English schools: Social class and educational inequality, *British journal of educational studies*, 54(3), 288-307.

Schurr, A. & Ritov, I. (2016) Winning a competition predicts dishonest behaviour, *Proceedings of the National Academy of Sciences*, 113(7), 1754-1759.

Shindler, J. (2009) *Transformative classroom management: Positive strategies to engage all students and promote a psychology of success* (CA, Jossey-Bass).

Rogers, T. & Feller, A. (2016) Discouraged by peer excellence: Exposure to exemplary peer performance causes quitting, *Psychological science*, 27(3), 365-374.

Ryan, R., Mims, V., & Koestner, R (1983) Relation of reward contingency and interpersonal context to intrinsic motivation: A review and test using cognitive evaluation theory, *Journal of Personality and Social Psychology*, 45(4), 736-750.

Ryan, R. M. & Deci, E. L. (2000) Intrinsic and extrinsic motivations: Classic definitions and new directions, *Contemporary educational psychology*, 25(1), 54-67.

Savage, M., (2015) Social class in the 21st century (London, Penguin).

Van de Ven, A.H. and Johnson, P.E., 2006. Knowledge for theory and practice. Academy of management review, 31(4), pp.802-821.

Vansteenkiste, M. & Deci, E. L. (2003) Competitively contingent rewards and intrinsic motivation: Can losers remain motivated?, *Motivation and emotion*, 27(4), 273-299.

Van Zanten, A. (2005) New modes of reproducing social inequality in education: the changing role of parents, teachers, schools and educational policies, *European Educational Research Journal*, 4(3), 155-169.

Volery, T., Müller, S., Oser, F., Naepflin, C., & Rey, N. (2013) The impact of entrepreneurship education on human capital at upper-secondary level, *Journal of Small Business Management*, 51(3), 429-446.

Von Graevenitz, G., Harhoff, D., & Weber, R. (2010) The effects of entrepreneurship education. *Journal of Economic Behavior & Organization*, 76(1), 90-112. Wills T. A. (1981) Downward comparison principles in social psychology, *Psychological Bulletin* 90(2), 245–271.

Willingham, D.T., 2009. Why don't students like school?: A cognitive scientist answers questions about how the mind works and what it means for the classroom. John Wiley & Sons.

Wong, G. (2011) The Internet in Medical Education: A Worked Example of a Realist Review, in: K. Hannes & C. Lockwood (Eds), *Synthesizing Qualitative Research: Choosing the Right Approach* (Chichester, John Wiley).