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Teacher implicit beliefs of creativity: Is there an arts bias?

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HIGHLIGHTS

- This study measured Arts Bias in creativity for 2485 teachers across seven countries,
- No major interactions among discipline, gender and self-assessed creativity were found.
- Significant differences in Arts Bias by discipline, gender, and self-assessed creativity exist.
- These differences point to specific strategies for teacher training and development in creativity.

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ABSTRACT

The field of creativity remains misunderstood by the general public and implicit beliefs, in particular an *Arts Bias*, continue to permeate popular culture. This has the potential to derail efforts to embed creativity in the 21st century classroom, at a time when it is most needed. We therefore ask if teachers endorse such an Arts Bias in creativity. The present study found a lower than expected tendency towards an Arts Bias among teachers from more than seven countries. However, differences by discipline and level of self-rated creativity suggest specific pathways for enhancing efforts to embed creativity in the classroom.

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1. Introduction

There has been extensive research into the field of creativity since Guilford's (1950) seminal address to the American Psychological Association. Since that time, creativity research has established itself, in particular, in the field of educational psychology. Creativity research is therefore closely tied to an exploration of the cognitive and behavioural aspects of the production of novelty, and informs specialisations such as instructional design and curriculum development. Psychological studies of creativity have been conducted across a wide variety of domains (Kaufman, Glăveanu, & Baer, 2017), including engineering (Cropley, 2015; Cropley, Cropley, & Sandwith, 2017), psychology (Kaufman, 2016), business (Florida, 2012), science (Feist, 1998, 2004), mathematics

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(Kaufman & Baer, 2004; Leikin & Sriraman, 2017), and education (Beghetto & Kaufman, 2014, 2017), and complement other educational perspectives on creativity and imagination, such as Greene (2011), who takes a more experiential and aesthetic view of the production of novelty in domains such as dance. Creativity has therefore established itself as a mature field of study spanning Snow's (1959) so-called *two cultures*: art and science.

However, the field continues to be misunderstood or misconceived by the general population (Glăveanu, 2014), in ways that may undermine and undervalue the quality and quantity of empirically rigorous work in the field. A pervasive *positive valence* linked to creativity has been noted (e.g. Cropley, Kaufman, White, & Chiera, 2014), and has been referred to as a "benevolence bias" (Cropley & Cropley, in press). Among the key misconceptions that bedevil the systematic study of creativity are: (a) the notion that creativity is a genetically endowed gift bestowed on a select few (Ukkola-Vuoti et al., 2013); (b) that it is the realm of the *mad* genius (Simonton, 2002), or simply, geniuses (Baas, Nijstad, & De Dreu,

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2015); (c) that creative insight occurs only in moments of divine inspiration (Weisberg, 1986); and, (d) that it is only for the young (Trilling & Fadel, 2009). One other key fallacy has been identified by Plucker, Beghetto, and Dow (2004), namely that creativity is a form of "pop psychology". However, perhaps the most damaging is the misrepresentation of creativity as purely an artistic talent (Glăveanu, 2014; Runco, 2007).

Creativity is today often treated as synonymous with *the arts*, and with individuals — e.g. writers, painters, musicians — who are frequently labelled as *creatives*. This cultural shorthand is often used as a descriptor of flamboyant extroverts, tortured rebels, or angry misfits — individualists and rule-breakers — who wait to be struck by their Muse. Unfortunately, such pejorative terms have led to a common misconception that creativity is a "special" talent, often associated with dysfunctional behaviour (Kaufman, 2016; Sternberg, 2015).

Thus, the field of creativity is in many ways a curious one. Despite over six decades of systematic research, creativity continues to be influenced by strongly held yet often incorrect views and opinions – implicit beliefs, in other words – in the general population (Kaufman & Beghetto, 2013; Baas, Koch, Nijstad, & De Dreu, 2015). Creativity seems to fall into the same area as diet, exercise, and parenting - many people have very strong, but often flawed, opinions which may have little or no empirical foundation, despite ample contradictory evidence being available (e.g. Bayne & Fernandez, 2010; McKay & Dennett, 2009). This is not a new phenomenon in science, and yet it has the potential to do great harm to efforts to change behaviours and practices for the better (Kaufman & Kaufman, 2018). A classic example was Ignaz Semmelweis's efforts, in the 19th century, to reduce the incidence of puerperal fever - maternal mortality resulting from postpartum infections through the practice of hand washing by obstetricians (Cropley & Cropley, 2009). Despite overwhelming empirical evidence in support of this practice, it was resisted by the medical profession because it contradicted conventional wisdom, and was also seen as insulting to doctors. It was not until years after Semmelweis's death (in a mental hospital, no less) that the practice became the accepted

Why does creativity retain such strong, yet flawed, associations? Perhaps it is simply easier, and even somewhat appealing, to think of creativity as a flash of *out-of-the-box* insight — a mysterious gift — rather than as a process involving application, methodology and cognitive effort (Kaufman, 2016; Roskes, De Dreu, & Nijstad, 2012). While misconceptions based on faulty implicit beliefs may do little harm in some areas — other than frustrating creativity researchers' attempts to communicate their findings to a wider audience — in education, where there is a concerted push to develop students' creativity as a core competency in the 21st century, the persistence of incorrect implicit beliefs may be a serious hindrance. It is vital, therefore, to ask if, or to what extent, flawed implicit beliefs about creativity are held by teachers?

Education policy makers around the world (e.g. Heilmann & Korte, 2010) are calling for more creativity in education, for several important reasons. Cropley (1997) stressed that creativity is an essential component of the psychological functioning of young people, making it a necessary factor in a balanced and *democratic* education system. Rosenstock and Riordan (2017) highlight the role of creativity as a key *disposition* necessary in a modern, innovation economy, characterised by ubiquitous and rapid change. In a similar vein, Bakhshi, Downing, Osborne, and Schneider (2017) reported that skills such as creative problem solving, and also abilities including originality, will be amongst those in greatest demand in future workforces in the US and UK. However, some of the most compelling pressure for creativity in education is found in Frey and Osborne (2017), who concluded that occupations requiring a high

degree of creative intelligence are the least likely to be automated in the 21st century. Therefore, as business leaders and politicians realise that the global economy is shifting to a new paradigm, one in which people may be expected to have many careers and associated skillsets over their lifetimes (Wohlsen, 2012; Zhao, 2015). and where creativity will be a prerequisite ability, so educators are being called upon to develop new skills, not least creativity, in students. This challenge is compounded by a steady shift towards a more constructivist approach to teaching and pedagogy (see Steffe & Gale, 1995), with emphasis on student-centred, individualised learning and progression plans (e.g. Biggs, 2001). Consequently, countries ranging from Iceland (Ministry of Education, Science and Culture [MESC], 2011) to Australia (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2010) are asking teachers to teach both with and for creativity. However, this shift in education implies that two conditions are already in place: (a) that teachers know what creativity is, and; (b) that teachers know where creativity fits into their curricula.

Fasko (2001) suggested that the ability of teachers to foster students' creativity, in fact, depends on the interaction between two key factors: (a) their own implicit beliefs, and; (b) the training they receive with the latter shaping the former. It is, of course, reasonable to expect teachers to teach knowledge and skills with which they are familiar. Unfortunately, the international push towards a more creative education paradigm has frequently not been either properly supported or adequately resourced by national education systems or even individual schools (Beghetto & Kaufman, 2009; Lucas, Claxton, & Spencer, 2013), suggesting a third factor – the environment – may also be at play. While teachers are trained in their specialist subject areas, and in the general principles of underpinning topics such as educational psychology and pedagogy, they are rarely explicitly educated in the field of creativity and creative education (Cachia, Ferrari, Ala-Mutka, & Punie, 2010). Consequently, the first exposure for many teachers to the teaching of creativity may be a national policy document stipulating a requirement for creativity in the curriculum, with little additional guidance or support, for example, in the form of developmental models of creativity (e.g. Barbot, Lubart, & Besançon, 2016; Rosenblatt & Winner, 1988; Taylor, 1975; Urban, 1991). While it is therefore of critical importance to understand how teacher training and professional development shape implicit beliefs of creativity not least, how environmental factors such as the available resources (e.g. time, materials, funding; see Amabile, 1996), and even the socalled "apprenticeship of observation" (Lortie, 1975), affect the development of creativity (Beghetto, 2010) the primary focus of this paper is the teachers themselves, and specifically, the views, opinions and concepts they hold in relation to creativity as they embark on a process of teaching students for this 21st century competency.

Understanding teacher implicit beliefs regarding creativity begins by exploring implicit beliefs in the general population. Lay people, of course, hold misconceptions about creativity (Baas, Koch, et al., 2015; Glăveanu, 2014) as already outlined. However, do these general misconceptions also hold true for teachers? What are the implicit beliefs of creativity held specifically by schoolteachers, and are teachers equipped with the specific knowledge and skills necessary to introduce, successfully, creativity into their classrooms? Will the 21st century push for creativity in the classroom fall on fertile ground, or will it be frustrated by factors that could, if properly understood, be addressed as part of teacher education and in-service training?

There is some cause for optimism in this process. Mullet, Willerson, Lamb, and Kettler (2016) found reasonable evidence, in a comprehensive review of related studies, that teachers believe creativity is important, and that creativity can be facilitated (e.g.

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