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# Big-Fish-Little-Pond-Effect: Overview, Extension, and Practical Implications

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## Abstracts of the 27th International Congress of Applied Psychology

Editors: Vicky Mrowinski, Michael Kyrios and Nicholas Voudouris

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## **Forward from the Editors**

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It is with great pleasure that we present the *Abstracts of the 27<sup>th</sup> International Congress of Applied Psychology*. These abstracts represent the great breadth of topics covered by the presentations at the Congress, including over 100 State of the Art and other invited keynote addresses, over 200 symposia, almost 600 individual oral presentations, over 600 brief oral presentations, and over 550 electronic posters, bringing together more than 2000 presenters from 60 countries - a truly international event. The range and depth of the research reflected in these abstracts attests to the vibrant international applied psychology community across the world.

The 27<sup>th</sup> International Congress of Applied Psychology incorporated the 45<sup>th</sup> Annual Australian Psychological Society Conference, and on behalf of the Scientific Program Committee, we'd like to thank all who contributed to the scientific program on behalf of the IAAP and the APS. We would also like to thank the many Congress registrants for helping to make this such a successful event, both for the IAAP and the APS.

All abstracts presented here have been blind reviewed by a dedicated group of volunteer reviewers, who deserve our sincerest thanks for participating in the review process, many of them dedicating a considerable amount of their time to ensuring the high quality of presentations during the Congress.

This publication would not have been possible without the dedication and hard work of those at the Australian Psychological Society, who worked tirelessly to proof read, collate and format these abstracts. We are extremely grateful and thankful to Joanne Howard, Athena Politis, Renee Taylor, Jennifer Jackson, Kylie Murphy, Angela Nicholas, and many, many others for their support. Special thanks must also be paid to Laura Sciacchitano for her tireless effort and enthusiasm in completing this publication.

Vicky Mrowinski BBSoc (Hons) Assoc MAPS, Michael Kyrios PhD FAPS and Nicholas Voudouris PhD MAPS

MCDOWELL, A. (University of Surrey)

The aim of this paper is to develop methods for bridging the gulf between psychological research and the way that psychological tests are being used in organisational practice, with particular reference to a cross-cultural context. Much work in testing is purely numbers driven, however this presupposes that relevant constructs and measures need no passport and can indeed be understood and interpreted by considering numbers alone. Whilst such studies are clearly needed to further our understanding, we argue that they need to be augmented by qualitative techniques. The latter are particularly valuable when considering approaches that do not lend themselves to traditional techniques such as factor analysis, locally developed competency based indicators or frameworks are one example. This paper will first present a qualitative synthesis of existing research on testing to demonstrating how we lack an evidence base in particular for developmental applications of testing. This review will be augmented by the integration of existing research, one cross-cultural comparison and one case study investigating leadership in a SE Asian context. Findings demonstrate that whilst at face value psychometric constructs may appear to travel across borders, interpretations and understanding on part of test takers and end users appear to have subtle differences. The content of this paper has implications for test use and interpretation. Qualitative techniques such as focus groups and interviews offer a rich but robust approach to initial validation, that allow better definition of the 'criterion space' (Bartram, 2005), and there is a need to bring relevant research into the psychological domain particularly when considering test use contexts such as leadership development. Finally, we will make the link to emerging test use contexts such as coaching, integrating our recent work on developing guidance for best practice (Smewing & McDowall, 2009; McDowall & Smewing, 2009).

*Keywords: psychological research, psychological testing, cross-cultural, leadership, validation*

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## **Big-fish-little-pond-effect: Effects of ability grouping on academic self-concept**

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Chair(s): DUMAS, F. (Aix-Marseille University and CNRS)

Central to this symposium is the "Big-Fish-Little-Pond-Effect" (BFLPE) indicating the power of students' local frame of reference (schools or classes) to form their academic self-concepts (ASCs; see Marsh, & Parker, 1984). According to this effect, equally able students have lower ASCs when attending schools or classes where the average ability levels of classmates is high, and higher ASCs where the average ability is low. Just like most research in this area, the present symposium includes speakers from various countries, namely, Australia, England, France, Hong Kong, United States, and Singapore. First speaker presents the theoretical and methodological foundations of the BFLPE, state of the arts research focusing on the external validity of this effect based on cross-cultural comparisons, and practical implications for parents and teachers. The second speaker examines potential moderators of the BFLPE including individual ability, cognitive and metacognitive learning strategies, motivational orientations, and individual preferences for the learning environment. Consequences on streaming to relationship with parents, stress, and others well-being factors are also discussed. The third speaker further examines the BFLPE in the contexts of gender and ethnicity; and also whether student differences in motivational goals, academic engagement dimensions, and basic value orientations reduce or exacerbate the BFLPE. To answer Dai and Rinn's (2008) criticism that forced social comparison is only inferred and deliberate upward social comparison ignored in the context of the BFLPE, the fourth speaker shows recent data clarifying the role of these two types of social comparisons in this context, their respective influence on academic performances, and underlying motivational dynamics. Finally, the fifth speaker gives an overview of recent advances in self-

concept theory and research to demonstrate the pervasive significance of the self-concept construct for multiple educational interventions.

### **Big-fish-little-pond-effect: Effects of ability grouping on academic self-concept**

MARSH, H. (University of Oxford, UK)

The big-fish-little-pond effect (BFLPE) predicts that equally able students have lower academic self-concepts (ASCs) when attending schools or classes where the average ability levels of classmates is high, and higher academic self-concepts (ASCs) where the average ability is low. Because of the importance of ASC in predicting future achievement, coursework selection, and educational attainment, the results have important implications for the ways in which schools are organized (e.g., tracking, ability grouping, academically selective schools, gifted education programs). I briefly summarize minimal conditions and alternative tests of the BFLPE, and its theoretical, empirical, and policy-related implications. Special attention is given to the effects of ability grouping in relation to both gifted and learning-challenged students, and to the theoretical juxtaposition between the BFLPE and social comparison theory. Based extensive research, BFLPE findings are remarkably robust, generalizing over a wide variety of different individual, classroom, and school characteristics, settings, countries, long-term follow-ups, and research designs. Studies with the all three OECD-PISA databases (large, nationally representative samples of up to 57 countries) show the cross-cultural generalizability of the BFLPE. Interactions between the BFLPE and potential moderators are consistently very small or not statistically significant. The most widely studied potential moderator is individual student ability, but the BFLPE generalizes well over different student ability levels. The BFLPE is stable and long-lasting; the negative effects of attending academically selective schools on ASC increase the longer a student remains in the same school, and show no diminution two or four years after high school graduation. Although the BFLPE refers specifically to effects on ASC, there is a growing body of research demonstrating negative effects of school-

average ability on other important outcomes (e.g., achievement, coursework selection, academic aspirations) that are mediated in part by ASC. BFLPE research represents a methodological-substantive synergy in which new and evolving statistical approaches are applied to substantively important issues with significant implications for policy and practice. I conclude with a review the methodological developments in BFLPE research, leading to new multilevel structural equation models, unresolved issues and directions for further research.

*Keywords: big-fish-little-pond effect, self-concept, schools, gifted students, learning-challenged students*

### **The big-fish-little-pond effect: An Australian story**

SEATON, M. (Centre for Educational Research, University of Western, Sydney)

Big-fish-little-pond effect (BFLPE) research has demonstrated that academic self-concept is negatively affected by attending high-ability classes and schools. The current paper aimed to describe BFLPE research that has been undertaken in Australia. It began by describing some of the early Australian BFLPE research undertaken by Marsh and colleagues and continued by detailing two new Australian studies. The first of these studies examined whether the BFLPE for Australian students could be reduced, or was exacerbated by, a variety of individual difference constructs. The main aim of the second study was to measure how different schooling settings (academically selective and non-selective) impact on students both academically and psychologically. Participants in the first of these studies were 15-year-old Australian students who took part in the Program for International Student Assessment (2003;  $N = 12,383$ ). Using multilevel modelling, eight BFLPE moderators were examined. These included individual ability, cognitive and metacognitive learning strategies, motivational orientations, and individual preferences for the learning environment. The second study discussed in the current paper concerned an ongoing study in eight NSW high schools. Participants attended either one of two academically

selective high-ability schools ( $n = 734$ ), or one of six comprehensive mixed-ability schools ( $n = 2,048$ ). A range of psychosocial wellbeing factors was examined, including relationships with parents, depression, stress, and pressure to achieve. In the first study, although statistically significant moderating effects were found for some of the individual difference constructs, they were not considered to be of practical importance in light of the large sample size. Regarding the second study, preliminary results from the first time wave indicated that there were no differences between students from the high-ability and mixed-ability schools in depression or stress. However, students from the high-ability environment reported worse relationships with parents and more pressure from parents to perform well at school. In the first study, results suggest that in Australia the BFLPE is reasonably consistent and generalises across the specific student characteristics examined. Preliminary results from the second study suggest that parental relationships are an important avenue to pursue in BFLPE research and in future intervention strategies.

*Keywords: big-fish-little-pond effect, self-concept, Australia, meta-cognition, motivational orientations*

### **Islands in the stream and streams in the island: Ability streaming and the big-fish-little-pond effect in Singapore**

LIEM, G. (University of Sydney), MCINERNEY, D. (Hong Kong Institute of Education), YEUNG, A. (National Institute of Education, Singapore)

The study aimed to examine: (1) the big-fish-little-pond effect (BFLPE) as a consequence of ability-streamed classes (high-ability, middle-ability, and low-ability streams – a system-wide educational practice in Singapore) on academic self-concepts (ASC) in English and math; (2) the BFLPE in the contexts of gender and ethnicity; and (3) the role of student differences in motivational goals, academic engagement dimensions, and basic value orientations in moderating the BFLPE. The participants were 4,949 lower and middle secondary students from 11 public schools in Singapore (46% girls; mean age = 13.95). English and math self-concepts were measured by the Self-

Description Questionnaire-II (SDQ-II; Marsh, 1992). Students' Primary School Leaving Examination scores in English and math were used to construct indicators of individual student abilities and context-average achievements in the two subjects. Other established instruments with strong cross-cultural validity evidence were used to measure motivational goals, engagement dimensions, and values. Multilevel modeling analyses were performed using MLwiN 2.13 to address the study objectives. Consistent with the BFLPE and controlling for individual student ability, placement in a high-ability stream led to lower ASCs and placement in a low-ability stream led to higher ASCs. As expected, in an educational context that implements a nationally similar ability-streaming practice across its secondary schools, stream-average achievement effects on ASCs overshadowed those of the school-average achievements. Consistent with prior studies, interaction effects between the BFLPE and motivational goals, learning engagement dimensions, and value orientations were generally small or not statistically significant, and did not protect students against the BFLPE. There was no evidence that students systematically compared their achievements with those in their respective streams who are of the same gender or ethnicity. Consistent with the BFLPE, differentially significant effects on ASCs are associated with placement of students in low-ability and high-ability streams. These effects were largely consistent on students' English and math self-concepts. The BFLPE also generalizes well across students with different levels of motivational goals, learning engagement, and basic value orientations. There was no evidence for the BFLPE specific to the contexts of gender and ethnicity.

*Keywords: the big-fish-little-pond effect, ability-streamed classes, Singapore, gender, motivational goals*

### **Upward social comparisons: Angel or devil? On the opposite effects of forced and deliberate comparisons in the context of the BFLPE**

DUMAS, F. (Aix-Marseille University and CNRS),  
HUGUET, P. (Aix-Marseille University and CNRS),  
SULS, J. (University of Iowa, US)

It is generally assumed that forced upward comparisons with classmates play a causal role in the BFLPE. At the same time, studies on role models substantiate the importance of deliberate upward comparisons as sources of motivation with positive effects on self-efficacy feelings and achievement. The first aim of this research is to examine the respective effects of these two basic types of social comparisons on the BFLPE and academic performances. Our second objective is to explore the motivational dynamics (based on achievement goal theory) possibly associated with deliberate upward comparisons that had been largely overlooked in theory and research on the BFLPE. A distinction is made between two types of social comparison: How students compare with most others around them under the pressure of the environment (forced comparison) and with whom they prefer to compare in this environment (deliberate comparison). Multilevel modeling analyses on French data were performed using HLM 6. As expected from research on the BFLPE, social comparison with the entire class mediated this (contrast) effect, indicating that it is indeed based on forced upward comparisons. As expected from research focusing specifically on social comparison processes, our data also show that deliberate upward comparison—a common practice in class—is driven by a desire to learn, and has beneficial (assimilative) effects on both academic self-concept and performances. Beyond the relatively uncontrollable social comparisons underlying the BFLPE, students exercise considerable choice over the target with which they compare themselves, mostly upward comparison targets with positive effects on self-perceived ability and behavior. As suggested by Wheeler et Suls (2005): "Probably every social comparison creates both the pull of assimilation and the push of contrast. Which process predominates depends on the person's degree of freedom and flexibility to make strategic comparisons." The present findings also contribute to the debate about the practical implications of the BFLPE. Although this effect may lead to the conclusion that upward social comparisons should be discouraged, our data teach us that

this conclusion does not apply to those in which students engage deliberately.

*Keywords: the big-fish-little-pond effect, motivation, self-efficacy, performance, achievement goal theory*

### **Why self-Concept matters and examples from bullying, peer support, reading, and mathematics research**

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CRAVEN, R. (Centre for Educational Research, University of Western, Sydney)

There is a revolution sweeping psychology that emphasizes a positive psychology and focuses on how healthy, normal, and exceptional individuals can get the most out of life. Self-concept has been established as one of the most important constructs in of itself in the social sciences and as fundamental to psychological wellbeing. Self-concept is one of the most important constructs in education and as such many educational policies around the world advocate the development of positive self-concepts as an important outcome of schooling. Self-concept has also been demonstrated to be an important mediating factor that facilitates the attainment of other desirable psychological, behavioural and educational outcomes that underpin human potential. For example, a body of rigorous international research has demonstrated that self-concept shares a reciprocal, mutually reinforcing, causal relation with achievement and other desirable educational outcomes (see Marsh & Craven, 2005; 2006 for an overview). Yet the implications of these recent advances for effective educational interventions have not been fully elucidated. My thesis is that effective educational interventions need to include the enhancement of relevant self-concepts alongside the content, skills, and strategies delivered in intervention programs. The primary purpose of this presentation is to identify the centrality and implications of the self-concept construct for the development, implementation, and evaluation of effective educational interventions. The study showed, firstly, an overview of recent advances in self-concept theory and research is presented. Secondly, findings from example self-concept research studies in bullying, peer support,

reading, and mathematics are presented to identify best practice and important directions in research and development in these fields and to demonstrate the pervasive significance of the self-concept construct for multiple educational interventions. Finally, based on a synthesis of the findings, the implications of this body of research for developing, implementing, and evaluating effective educational interventions are discussed.

*Keywords: positive psychology, Self-concept, psychological wellbeing, educational interventions, bullying*

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## **Both sides of the coin: consequences of constructive leadership and antecedents of destructive leadership**

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Chair(s): ADRIASOLA, E. (UWA Business School/ The University of Western Australia)

Discussant(s): DAY, D. (The University of Western Australia)

Five leading researchers from three different countries (Greece, Netherlands, Australia) come together to provide an overview on current leadership research. Two sides of the coin are tackled here starting with four papers exploring consequences of constructive leadership (transformational leadership, ethical leadership, leader-member exchange) and exploring different mediators and moderators for these relationships. However, leadership is not always constructive; the symposium therefore closes with an exploration of antecedents of destructive leadership (laissez-faire and abusive supervision). The first set of papers examines outcomes that may help to explain the "black box" between constructive leadership and performance. The first paper presents a cross-cultural study (including seven countries) which examines the mediating roles of flow and family-work conflict in the relationship between leader-member exchange and career success. The second paper provides further explanation for the relationship between transformational leadership and self-concordance by first exploring the leaders' behaviours associated to the goal setting and the attributes of these set goals and second, by applying the goal hierarchy approach to the self-concordance construct. The third paper presents two multi-source studies looking at the relationship between ethical leadership and follower organizational citizenship behaviours and one contextual factor moderating this relationship: job autonomy. The fourth paper – closing the constructive leadership section – explores the effect of transformational leadership on transfer of training by combining both the theory of