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Author Note

Chrystina A. Dolyniuk, Ph.D., Department of Psychology, Rider University.

Upon the invitation of the Ukrainian Catholic University, funding for travel to Ukraine was provided by the Fulbright Specialist Program for two collaborative projects in Lviv, Ukraine in July, 2011 and March, 2014.

Correspondence concerning this article should be addressed to Dr. Chrystina A. Dolyniuk, Department of Psychology, Rider University, 2083 Lawrenceville Road, Lawrenceville, New Jersey 08648-3099. Contact: cdolyniuk@rider.edu

The international measurement of school perceptions: school environment, school climate and student attitudes

Jennifer E. Symonds
Darwin College, University of Cambridge
jesymonds@gmail.com

Abstract

Across the globe, students' perceptions of school are gathered for the purposes of school reform, student evaluation and psychological research. But what is being measured, by whom and to what effect? This brief report catalogues common theoretical and practical foci, discusses their use by different stakeholders and identifies core research questions. It describes how current studies are unintentionally limited by convoluting constructs in measures: including educational structures and daily experiences, students and schools, and independent psychological phenomena. This presents a concern for meta-analysis and international comparison. Finer grained measurement and comparison of perceptions with objective environmental data are recommended.

Introduction

School perceptions are a window into psychology and school environment. Although this access is valuable for understanding human development and reforming education, current efforts to measure school perceptions readily distort the view. Commonly, students are asked 2 types of questions about their schools. The first is to objectively describe their school environment using frequencies and prevalence. *How often are you set homework?* (from the Longitudinal Study of Young People in England: LSYPE), *nominate 3 friends from the following list of students* (example of sociometry by Hardy, Bukowski & Sippola, 2002), *are there places in your school to go at break times?* (evaluation of school built environment by Rudd, Reed & Smith, 2008). The second is to make personal judgments about school that disclose emotion (*I feel anxious before a test)*, motivation (*I try hard in lessons)*, attitude (*my French lessons are enjoyable)*, value (*school is useful)* and belief

(*school is useful)* and belief (*I am an efficient learner*). These perceptions are elicited in subdomains such as relationships, pedagogy, safety, physical environment and feelings of school connectedness (e.g. Zullig, Huebner & Patton, 2010) or refer to school overall as in school satisfaction (e.g. Salmela-Aro, Niemivirta & Nurmi, 2003). Studies tend to use these perceptions to represent the quality or 'climate' of individual schools (Anderson, 1982) or students' intrapsychic qualities that differ according to gender, ethnicity and academic performance (Verkuyten & Thijs, 2002).

School perceptions data are aggregated at different levels. Studies by multinational organizations (e.g. the Program of International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS), Progress in International Reading Literacy Study (PIRLS) and Health Behavior in School Aged Children study (HBSC)) gather multiple samples that are more or less representative of their country depending on the study design. Larger nationally representative samples are collected by governments and other agencies, such as the US National Education Longitudinal Study of 1988 (NELS:88). More affordable regional and local studies are conducted by a wide range of stakeholders including universities, non-profits, private consultancy firms and schools. This activity means for a large global body of school perceptions data with divergent sociohistorical roots (in the Longitudinal Study of Young People in England, some school motivation items trace to the British Cohort Study of 1970 and the National Child Development Study of 1958).

Generally school perception studies have diagnostic or discovery focused ambitions. By comparing countries, schools and students, studies can identify relative weak points and areas for improvement in education. These assessments can be published as open access reports depending on the stakeholder (e.g. Currie, Gabhainn, Godeau et al., 2008) and are synthesized by reviews for school and educational structural reform (e.g. Carnegie Council on Adolescent Development, 1989). Other studies test hypotheses to develop knowledge on psychology. Some aim to discover how school perceptions operate as part of the psychological system (Loukas & Robinson, 2004) and contribute to behavior (e.g. achievement: Samdal, Wold & Bronis, 1999). Others focus on how school environment or school structures interact with school perceptions, using a person-environment interaction framework (for example linking mathematics teachers' efficacy to students' valuing of mathematics: Midgley, Feldlaufer & Eccles, 1989). Longitudinal research considers the growth, antecedents and outcomes of school perceptions within school tiers and across school transition points (e.g. Symonds & Galton, 2014). Although this psychological research may illuminate universals it also provides local knowledge on the sample of origin, thereby offering both discovery and diagnostic possibilities.

Convoluting dissimilar objects in scales is a particular issue for school perceptions studies, given their broad target area. Qualitative research finds that students can feel one way about their school experiences (I dislike *attending* school) but another about school as a sociological entity (I think *schooling* is worthwhile) (Symonds & Hargreaves *under review*). Studies that group both types of 'school' may find lower reliability coefficients for those items depending on whether it is more daily life or deeper values that are being studied. Also some measures convolute perceptions of school environment (the LSYPE: *people think my school is a good school*) with intrapsychic evaluation (and *I work as hard as I can in school*). This may mask the power of certain associations, for example having a low teacher-pupil ratio may contribute more to school social status than to motivation. There may be interesting person-centered patterns for different items within scales indicated by lower internal validity, although this becomes less obvious as sample size grows.

International comparisons of school perceptions struggle with the raft of dissimilar scales and local variants on item wording, even when constructs are clearly defined. Testing for measurement invariance, for example confirmatory factor analysis of similar items measuring the same type of motivation in Australia, the US and Canada (Watt, Shapka, Morris et al., 2012) can help readers better understand what is being compared, as can comparing individual, same worded items. Even in the latter case, qualitative study on what items mean to individuals living in different cultures may be necessary to more accurately interpret results, and conclusions should be tempered by acknowledging we are comparing measurements rather than naturally occurring phenomena (Gorard 2010). Reviewers are also concerned about the purpose of comparing different countries and schooling systems, advising researchers to make a theoretical case before simply utilizing data that has structural comparative potential. Timing is another critical issue as results may be influenced by comparing different age groups or school systems where the timing of transition differs, as these factors can have temporary and residual effects on perceptions (Symonds & Galton, 2014).

With these issues in mind, researchers can employ certain strategies to make meaningful and useful school perceptions studies. First they might better distinguish between constructs and possibly develop new scales to measure specific phenomena such as boredom in lessons (Pekrun, Hall, Goetz et al., 2014) as there is no evidence that all students have internally consistent feelings of boredom, enjoyment, value, motivation and interest at school, nor that these constructs necessarily group with specific cognitive behavioral strategies. To the same extent researchers should avoid combining self-perceptions and evaluations of environment unless they seek to analyze a global school perceptions construct or use highly subjective measures of both which may create comorbidity through psychological bias. By creating more fine grained measurements, researchers will have more to compare which should yield a clearer map of the psychological system and its relationship to the environment. Also this will help to match scales across samples. Second there is a need for more objective ratings of environment, for example

by scoring behavior through systematic observation (e.g., Hargreaves & Galton, 2002) and by using frequencies and prevalence (e.g. I have observed less than 5 of my classmates, 5 to 10 of my classmates… to smoke cigarettes at school). This will allow researchers to associate psychology and behavior with different levels of environment within schools (e.g. emotional engagement and the prevalence of group work in English, mathematics and drama) and across schools (e.g. emotional engagement and peer group size) using hierarchical modelling. Here we should see a turn from studies that illuminate which measurements are most independent statistically to the production of specific, substantive information that can be used by policy makers and educational practitioners to improve schooling.

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Acknowledgements

I would like to thank Stephen Gorard for commenting on this report.

Social Support: A Psychological and Cultural Perspective

Naji Abi-Hashem

najiabihashem@gmail.com

It is always refreshing to revisit an old concept and redefine it in light of modern psychological and cultural changes. Perhaps, we can describe *social support* as enjoying warm and secure bonding, living in a tight community, having a close circle of friends, being part of a family-oriented home, belonging to an intimate sphere of people, flourishing in an interactive environment, having daily input from significant others, relying on colleagues in time of need, and growing up in a warm culture... all of these, and more, are features portraying the rich aspects of social support. Although the styles, means, techniques, and manifestations change across time and location, the core nature, function, and value of meaningful support remain the same.

The psychosocial literature is full of definitions, discussions, and illustrations of what it means to have nurturing relationships with tangible resources. Fundamentally, the concept of *social support* can be defined as an available help, a ready assistance, and a personal care from many sources and places, together sharing sustainable aid in different ways and forms, at different times and stages, and for different