School Staff's Social Representation of Inclusion of Students with Autism Spectrum Disorder (Asperger)

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Abstract

The current study examined and compared the social representations (SR) concerning the inclusion of students with Asperser diagnosis (AS) among principals, school health professionals, and teachers. Swedish school staff were invited to anonymously answer a web-based questionnaire (N=229). An association task was conducted to obtain data on principals, school health professionals and teachers' of inclusion of students with AS. The content and structure of the SRs were explored by using the theoretical framework of social representation theory. Our results suggest that principals were mainly concerned with the organization and structural level of inclusion. School health professionals emphasized educational strategies, structure and routines and, students' needs and their individual potentials whereas teachers refer to their own interaction as the most important aspect and more often than other staff referred to a burden. Social representation methodology offers unique opportunities for research as well as for applications aiming to promote inclusion.

Keywords: inclusion, school staff,autism spectrum disorder, Asperger diagnosis, social representations, social representation theory

1. Introduction

Although many nations strive for including all students in the classroom, a number of studies show that students diagnosed with autism spectrum disorders e.g. Asperger syndrome (AS) are instead excluded in various ways(Parsons & Lewis, 2010; Ravet, 2011; Swedish National Agency for Education, 2009). Even though Sweden implemented inclusion policies early on, there are indications that reality is quite different from policy (Göransson, Nilholm, & Karlsson, 2011). This gap between policy and practice is a source of alarm in the western world where a policy for inclusion, Salamanca statement, has been endorsed (UNESCO, 2008).While teachers may play a key role, they alone cannot make inclusion work since several broader factors outside their realm also influence inclusion(Boyle, Topping, & Jindal-Snape, 2013; Humphrey, 2008; Ravet, 2011).

Researchers have mostly focused on teachers' involvement in the implementation of the inclusive mainstream classroom; however, the mission for the development of the inclusion concept is multifaceted (Emam & Farrell, 2009; Linton, Germundsson, Heimann& Danermark, 2013).

One crucial factor is the link between teachers' individual practice and broader institutional forces to an inclusive environment (Berhanu, 2011; Robertson & Chamberlain, 2003).For example, inclusion strategies are reportedly most efficient when school leaders, school health professionals (SHP) and teachers share a common vision and when there are coordinated efforts to work in ways which are consistent with it (Berhanu, 2011; Lindqvist & Nilholm, 2013).Therefore, in order to maximize inclusion, attention needs to be placed on several levels simultaneously: the organization level, the classroom level and the individual student level (Boyle et al., 2013). Even if it is unlikely that we will be able to fully close the gaps, it is vital that the notion of inclusion of students with AS among principals, school health professionals and teachers are scrutinized in order to move towards a shared understanding of inclusion so that the gap between policy and practice can be reduced.

Against this background, it becomes important to study school staff's perceptions of inclusion of students with AS. What follows is a survey of research conducted on the different levels starting with a focus on the organization level.

First of all, principals influence a school's culture by defining the professional roles and working relationships available to realize an inclusive agenda (Kugelmass & Ainscow, 2004). The expectations of heads of school have been found to be one of the most influential factors on teachers' attitudes toward inclusion of students with social, emotional, and behavioral difficulties (MacFarlane & Woolfson, 2013). Horrocks et al., 2008 found the beliefs of the principals to be the single most important factor in realizing inclusion for students with autism. In Sweden, research shows that the school's leadership is pivotal in preventing segregation (Berhanu, 2011; Heimdahl-Mattson & Malmgren-Hansen, 2009). For example, it is the principal's duty to establish an individual educational plan for students with special education needs (Isaksson, Lindqvist, & Bergström, 2007; Lindqvist & Nilholm, 2013)and to organize support for students with special needs(Cowne, 2005; Heimdahl-Mattson & Malmgren-Hansen, 2009; Lindqvist et al., 2013). Furthermore, heads of schools are responsible for policy implementation, distribution of resources, continuing education, and in-service training among their staff (Boyle et al., 2013; Kugelmass & Ainscow, 2004). This is of particular importance since the need for guidance and the development of skills to deal with the inclusion of students with AS has been explicitly expressed by teachers (Sciutto, Richwine, Mentrikoski, & Niedzwiecki, 2012). Indeed, decisions about the amount and content of continuing education are made by heads. Hence, in order to provide an inclusive environment with reduced barriers for everyone the structural level plays a significant role in preventing segregating mechanism (Berhanu, 2011; Boyle et al., 2013; Nilholm et al., 2013).

Secondly, on the classroom level, it is the role of special education to facilitate meeting the needs of all students. There are several approaches to special education (Armstrong, 2013). In the Swedish context, the special educational needs coordinators (SENCOs) have the charge of coordinating and supervising school staff in collaboration with other members of SHP (Cowne, 2005; Lindqvist, 2013). In their work, SHP will most likely encounter students with AS and advise teachers and principals as to the educational provisions for each of these students and subsequently serve to provide guidance and support (Eisenman, Pleet, Wandry, & McGinley, 2011). In addition, health professionals play an important role as advisors of policy practice. Therefore, shedding light on SHP's perception of inclusion of students with AS is important since their advice/recommendation is pivotal to the realization of carrying out an inclusive environment in mainstream classrooms (Sharma, Forlin, & Loreman, 2008).

On the third level, the individual student level, teachers have substantial face-to-face contact with the student and are the key agents for implementing inclusion. As an illustration, teachers promote implementation by adapting instructions, modifying curriculum and classroom management and therefore their views on inclusion are likely to have a significant impact on practice (Hattie, 2012; Humphrey, 2008; Savolainen, Engelbrecht, Nel, & Malinen, 2012). On the other hand, teachers in mainstream classrooms maybe in need of support from management and peers in acquiring resources and skills for executing the policy of inclusion (Boyle et al., 2013). Therefore, teachers may function best as part of a collaborative team that includes special education teachers and other school health professionals. This is particularly relevant since it is not only the student's academic success, but also the student's socialization and personal wellbeing that may benefit from an inclusive classroom (Eisenman et al., 2011; Parsons et al., 2011).

Taken as a whole, there is an urgent need for more knowledge about the attitudes and views that principals, SHP and teachers have about inclusion of students with AS (Horrocks et al., 2008; Swedish National Agency for Education, 2008; 2009). Therefore, studying the perceptions of inclusion among these professionals, who work on different levels, could provide an important base for improvement. By illuminating discrepancies and similarities between perceptions of staff at the different levels, a vital basis may be obtained that will here promote the goal of inclusion of students with AS. The question is however how to get at school personnel's attitudes and beliefs when it sets a stage for a potent response bias since most people in schools know about the goals of including everyone and this may well color their responses. One way of studying this is by applying a theory outlining a more fundamental disposition behind such perceptions. Social representation (SR), which is a theory previously employed in educational research, (see for example Chaib & Chaib, 20011;Harma, Gombert, & Roussey, 2013; Howarth, 2006) offers one approach for exploring implicit perceptions which we assume work as guides for educational practices.

2. Social Representation Theory

Social Representation Theory (SRT) offers a dynamic framework to understand complex social phenomena such as professionals' views and perceptions. The SRT has its roots in Durkheim's division between the individual and collective representations (Moscovici, 2000). The underpinning concept is that of a reality which is socially shared and used to define the environment where they appear (Moscovici, 2000). Thus, these representations may be defined as taken for granted or common sense knowledge and draw on wider systems within which specific attitudes and opinions can develop (Doise, 1992). To underscore their social nature, the theory emphases the significance of the processes of communication within groups in the development of representations. When faced with an important but unfamiliar experience, beliefs and dialogue on the subject grow, and these exchanges give rise to a new social representation (Wagner, Valencia & Elejabarrieta, 1996).

A social representation is a group's account of something foreign and new. According to Moscovici (2000), the founder of SRT, SRs serve as facilitators through which communication can occur and are signposts for direction, however, this knowledge cannot be taken out of the social context and the discourse which supports them (Jovchelovitch, 2007). Therefore, SRs about inclusion would provide in-depth knowledge about the actual educational provision for these learners.

Planning for an inclusive classroom has as its point of departure the prior experiences which are the very base of school staff's SR (Moscovici, 2000). Thus, in our quest to bridge the gap between policy and practice, we need to recognize the fact that school staff's common sense knowledge, their SR, serve as a compass for their behavior (Howarth, 2006; Moscovici, 2000). Indeed, the SR is a framework that appears to serve as a guide in establishing a suitable educational provision for students and central for understanding inclusion and how to achieve it. Constructions of meaning, SRs, are difficult to access and their relationship to an entity (the object) and how it is communicated in interaction with others is even more difficult to scrutinize (Barbier, 2011). However, SRT provides an approach for exploring what these representations are.

To probe teachers' common sense, their SR, free association can be employed which is a method commonly used to ascertain beliefs and attitudes in social psychology (Doise et al., 1993; Karpinski & Steinman, 2006).The free association technique is used to penetrate a person's unconscious thoughts and feelings, that is, to capture their fast and automatic system one response (Kahneman &Tversky, 1984). Thus, it is a helpful tool in discovering associations to inclusion of students with AS. This method gives access to mental representations of the cue and is a tool for exploring these intuitive and tacit attitudes that we want to capture in order to gain knowledge of what, for the most part, automatically guides teachers' actions (Ratineaud & Lac, 2011) in their attempt to include students with AS.

Another avenue to approach their meaning of inclusion of students with AS would be to conduct interviews, however, researchers call for studies using alternative methods to enable a shift in focus from the individual to a larger structural context (Avramidisand Norwich, 2002; Nilholm and Göransson, 2014). The underlying beliefs about ability and propensity to learn are contextual rather than attributed to the individual (Dyson et al., 2004; Gibbs, 2007). Also,one of the aims of this research was not only to grasp the semantic meaning but also its composition and organization. Indeed, according to the structural approach to SR, each representation has a specific structure constituted by the elements in a central zone as well as peripheral elements (Abric, 2003; Parales Quenza, 2005).

The central and peripheral systems work together as an entity but they serve different roles. Defining the structure of an SR requires the discovery of its central zone. Similarly, the central zone elements, which constitute the preliminary core, bring about the stability and consensus of the representation and have a normative and prescriptive function (e.g.a definition of a bird includes wings) while the peripheral system makes the representation dynamic and relates to individual experiences and adapts to different settings (e.g.birds are nuisances or birds make good pets) (Abric, 2003; Harma et al., 2013).

Thus, by identifying the elements of the central and the peripheral zones it is possible to study the components which interpret the meaning of the SR (Harma et al., 2013). Tapping into an SR provides a compass of a group's perceptions, direction, and action patterns, since SRs act as a guide for behavior and communication (Sousa, 2011). Hence, identifying the central and peripheral zones of SRs provides in-depth knowledge of what these professional groups will likely actually do, and not only what they say they do, in their practice. In short, through psychological operations e.g. recognition, categorization and sense-making, when addressing a given phenomenon we obtain a presentation or image by which the phenomenon is re-presented "unbiased" by social or political pressures by the subjects

3. Aim

The overarching aim is to study and analyze the SRs held by teachers, health professionals and principals with regard to the inclusion of students with AS. Specifically we describe the content and structure of the SRs and make comparisons between principals, school health professionals, and teachers.

4. Methods

4.1 Participants

School staffs were recruited through contact with the head of the school in six municipalities in middle Sweden. A total of 229 people answered a web-based questionnaire. When participants linked into the website, they were asked to complete an association task and some demographic questions such as sex, education, age, and profession. The answers were anonymously saved. The participants consisted of 163 teachers, 27 principals, and 39 SHP working in mainstream schools in six municipalities in the central part of Sweden. Among the SHP were psychologists, school nurses, social workers, SENCOs, special needs teachers and study and careers advisors. The average age of the principals was 52.6 (SD=7.9 the median 53), of the SHP 54 (SD=7.9 the median 54) and of the teachers 47.3 (SD= 10.3 the median 46).

To ensure our sample was not skewed we compared the distribution of age and sex for the study sample and for school staff in all of Sweden. With respect to age it compares favorably with the demographics of school staff in Sweden. The average age of the principals differed with 0.3%, school health professionals with 0.4% and for teachers the average age differed by 1.1% years for women and 0.8% years for men. With respect to sex there was a difference of 16.8 % less women among principals in the sample as compared with the national mean, while there was a discrepancy of 33.2% more women among the SHP and 4.2% more women among teachers than the national mean. Except for the principals, this is in line with previous findings that women are more inclined to reply to questionnaires than men are (Smith, 2008). This study follows the ethical principles set up by the Helsinki Declaration.

Overview: In order to access the SR of principals, SHP, and teachers we employed a word association task to obtain appropriate responses. To investigate the content of SR, the phrases obtained from the association task were then placed in semantic categories. To further probe the structure and organization of the SR, we distinguished between a central zone and a peripheral system by studying the frequency and ranking of each given phrase (Abric, 2003). By crossing these two indicators, we investigated a preliminary central core. The high frequency and high ranking categories were computed which enabled us to ascertain the most common, stable and normative elements versus the peripheral elements which can differ between individuals and settings (Abric, 2003; Parales Quenza, 2005; Verges, 1994). These were then analyzed, compared and contrasted.

4.2 Data collection

4.2.1 Word association method

Data were collected by means of a word association task (Abric, 2003) which is not constrained by closed questions.

This is one of several commonly used methods in social representation research (Moliner, 1994)and an efficient way to reduce deliberate discourse and social-desirability bias in expressing political correct answers (Hovardas & Korfiatis, 2006; Wagner et al., 1999). The approach uses free associations in response to a statement, and takes account of the frequencies and rank of importance of the words or phrases produced. It also makes it possible to determine the structure and organization of an SR (Abric, 2003) and to collect data from a bigger population. This method involves three steps:

4.2.1.1 Step 1. Free association

Using the expression "inclusion of students with As perger diagnosis" as our cue, the participants were asked to write down the first five phrases that spontaneously came to their mind when this stimulus phrase was presented (Wagner et al., 1999). It is the spontaneous character of the utterance that facilitates access to the person's associations and hence to the semantic field covered by the stimulus phrase. By putting the open question first in the web-based questionnaire it was assumed that the demographic questions would not interfere or influence answers.

4.2.1.2 Step 2. Ranking

After spontaneously producing five words or expressions, the respondent was invited to
take a step back and classify the generated phrases from the most important to that which he/she considered the least important of the inclusion of student with AS.

4.2.1.3 Step 3. Valence

The respondents were asked to give the valence of the meaning of each phrase they produced. It was given as negative, neutral, or positive. Thus, we had a corpus of items that provide us with the content of the representation. Two quantitative indicators are associated with them: 1) the frequency of the appearance of the phrases, 2) the rank of importance. By considering the frequency of appearance in combination with the rank of importance, one gains insight into the central zone of the representation which is not the same as the core elements of the SR but is likely to be part of it. These elements are supposedly managing the representation.

4.3 Semantic categorization

In step one; we grouped the 923 different words or expressions in the sample into semantic categories. Two members of the research team (ACL and PG) and two teachers put the phrases into categories. When there was a discrepancy in classification, a fifth person was consulted. In step one; each phrase was categorized on the basis of similarities of their meanings. These phrases consisted of one word e g "participation" or several words e g "need for modification of the curriculum". The phrases were grouped into categories. In this phase synonyms and different grammar forms were grouped together e.g. definite/indefinite form, singular/plural. Phrases that expressed the same or similar meaning, for example: sharing, to share with others, participation, to participate were reduced to the lexical form "participation". The valence given was of importance in the categorization process and could at times produce a contrasting category. For instance, knowledge with a negative valence made a dichotomous category "lack of knowledge". 10 phrases were left uncategorized: reason 0 (1), needs + (2), individualism + (1), presence 0 (1), tempo 0 (1), ?(4) and omitted in further analyses. The resulting corpora of 913 phrases were submitted to analyses.

4.3.1 Prototypical analysis

In step two a prototypical analysis, which provides a measure of the organization of the elements, was carried out in order to reveal the structure of the SR which is defined as the central zone and the peripheral system (Abric, 2003; Wachelke & Wolter, 2011). This was performed by applying to each of the semantic categories the double criterion of *frequency* of occurrence and *rank of importance*, which, according to Abric (2003), combines the total number of evocations of each category with an individualized or subjective criterion, that is, the importance the category is given in the task performed by each participant (see Fig. 1) (Harma et al., 2013; Mäkiniemi, Pirttilä-Backman, & Pieri, 2011). The aim of this analysis was to identify the content structure of school staff's SR of inclusion of students with AS which is an important aspect of identifying their SR: Wagner et al. (1996) maintain that the central elements give the representation its meaning. Likewise, this tracking allows for structure (hierarchy) and assumptions on whether the elements are related to the central zone or peripheral systems of the SR (Mäkiniemi et al., 2011). The rank for each response was computed from 1, the most important evocation, to 5, the least important of the evocations.

The underlying principle of this double analysis is that categories more frequently mentioned and given a higher rank are more prominent, and hence more likely to belong to the central zone of the SR which gives meaning to the SR (Abric, 2003).

Figure 1: Matrix of hierarchical structure of associations showing the four zones

	ranks <mean of ranks	Ranks>mean of ranks
Frequencies >mean of frequencies	Central zone	First peripheral
Frequencies <mean of frequencies	Contrasted elements	Second peripheral

In order to construct the four zones based on the semantic categories the mean frequency for each semantic category and the mean rank of each semantic category was cast in a 2x2 table as shown in figure 1. The cut-off value for ranks is equal to the mean rank of importance (1-5) based on the respondents' rank of their evocations. Note that the most important rank is 1 and the least important is 5. Fig.1 shows four quadrants of the matrix representing the central zone, the first peripheral zone, the contrasting zone, and the second peripheral zone. In the central zone the most frequent elements and the elements with rank more important than the mean are found, which gives an approximation of the representation's central zone. The first peripheral zone contains elements that are frequent but of less important rank than the mean. The contrasted zone has elements of high rank and low frequency that signals possible subgroups within the general group. In the second peripheral zone the least frequent and lowest ranked elements are found and therefore assumed to be the least accessible to conscious mind among these elements.

To explore the hierarchical structure the software Iramuteqwas used (Ratinaud, 2009)which computed the frequency and rank of each category. We performed a statistical analysis on the semantic categories.Taking the school staff as the dependent variable, we ran a chi-square test exploring whether there was a significant difference between the three groups.

5. Results

A total of 923 phrases were produced by teachers, SHP and principals with the stimulus phrase "inclusion of students with As perger diagnosis" which averages 4 phrases per person. The phrases formed 25 semantic categories which span a large number of analogous categories.

5.1 School staff's associations for inclusion of students with AS

5.1.1 The structure of school staff's SR

The structure of the SR and its hierarchy form the basis for a prototypical analysis. The cut-off values for frequency were 5.67 and for rank 2.83 (see Fig.2). Among the principals, based on its frequency (15) and its mean ranking (2.5) the category "adaptation of the environment" is the most important component of the central zone. In addition, the category "barriers" is situated in the upper left quadrant, together with "clarity", "support" and "ambient understanding". Together they constitute the central zone of the SR among principals (see Fig 2). The first peripheral zone embraces "structure/routine", "educational strategies" and "school organization" which are elements that are dynamic and relate to individual experiences.

They may therefore differ between individuals and different settings. Mentions about the learners' different potentials and their needs or teachers' knowledge are found in the lower peripheral quadrant.

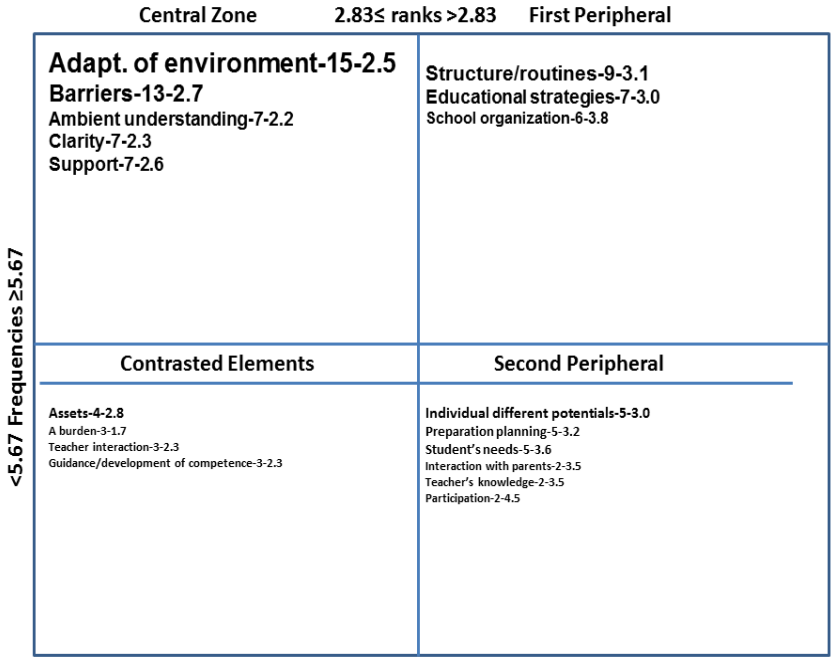

Figure 2: Matrix of the social representation in regard to frequencies and rank among principals (the left-hand digits in each cell represent frequency and the right-hand digits represent rank). Note: the size of the category is in proportion to its frequency.

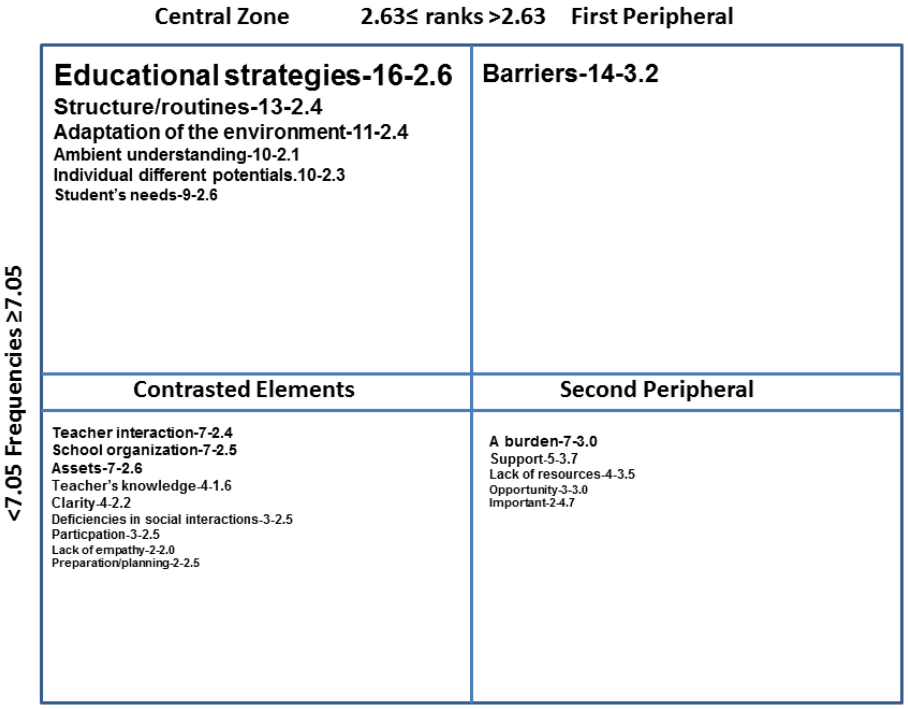

Figure 3: The matrix of the social representation in regard to frequencies and rank among SHP (the left-hand digits in each cell represent frequency and the right-hand digits represent rank). Note: the size of the category is in proportion to its frequency.

As is shown in Figure 3, the cut-off value for frequency among SHP was 7.05 while it was 2.63 for rank. SHP relate to a wider set of elements in their central zone than do principals (Fig. 2) such as "educational strategies", "structure/routines" and "adaptation of the environment" and bring forward the "individual different potentials", "ambient understanding" and "student's needs". Interestingly, the first peripheral zone consists of only one element, "barriers," which indicates that there is not much variety between different contexts or individuals. In the contrast zone, which can be supported by a subgroup within SHP, the importance of "teacher interaction" and "teacher knowledge," "school organization" and students as "assets" are brought forward.

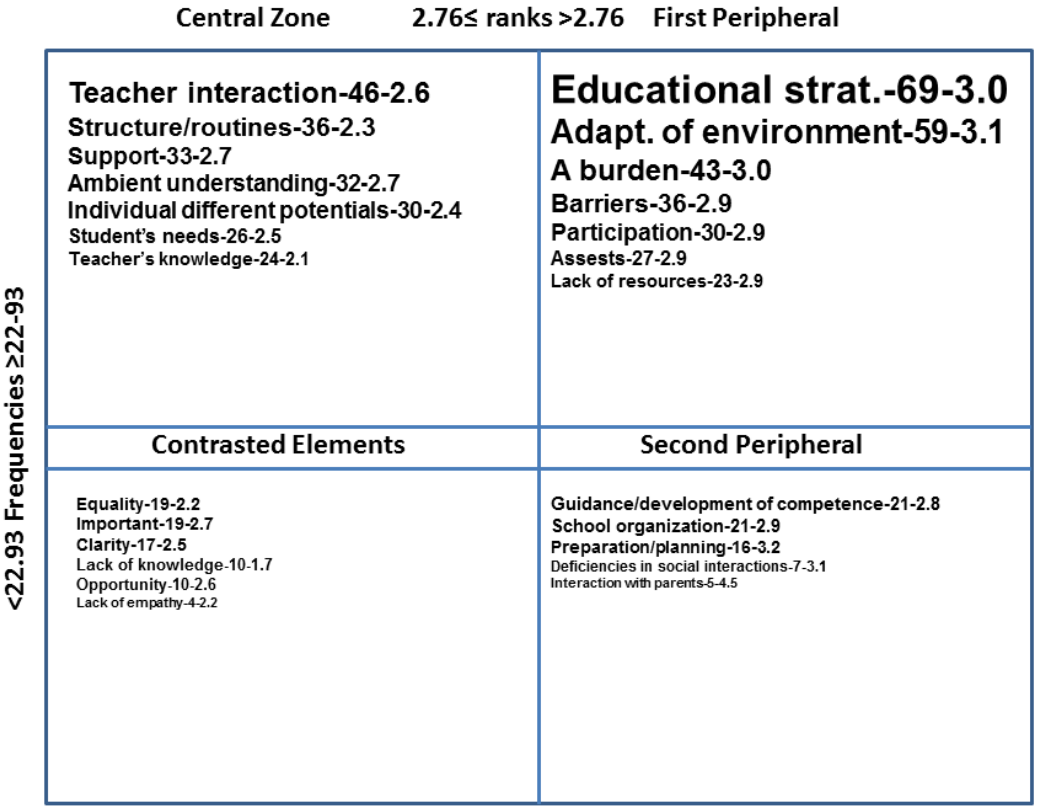

Figure 4: The matrix of the social representation in regard to frequencies and rank among teachers (the left-hand digits in each cell represent frequency and the right-hand digits represents rank). Note: the size of the category is in proportion to its frequency.

As is shown in Figure 4 the cut-off value for frequency among teachers was 22.93 and for rank 2.76. Teachers refer to their own interaction with the students as the single most important element in the inclusion process illustrated by the frequency of 46 and the rank of 2.6. They are otherwise much in agreement with SHP as shown in the central zone of the SHP (Fig. 3) with "structure/routines", "ambient understanding", "student's needs" as prominent components. In addition, teachers bring forward "support" and "teacher knowledge" as central zone element. "Educational aspects" and "adaptation of the environment" are found in the first peripheral zone together with "a burden" and "barriers" and "participation." Thus, teachers have more variety in their first peripheral zone of their SR, than do principals and SHP.

In our statistical comparisons we found that the three groups differed significantly in frequency of the following components "a burden" (χ = 6.730 df 2 and p=0.035) "guidance/development of competence" (χ=6.290 df 2 and p=0.043 and "clarity"(χ=7.337 df 2 and p=0.026). In order to see where the three groups differed we conducted post hoc tests. These tests showed that "a burden" was significantly more frequent between teachers and SHP (χ=4.185 df 1 and p=0.041) and "guidance/development of competence" (χ=5.166 df 1 and p=0.023) where teachers more often related to a burden and guidance/development than did SHP. "Clarity," on the other hand, was found to be significantly more frequent between principals and SHP (χ=5.860 df 1 and p=0.015) where principals more often referred to clarity than did SHP.

6. Discussion

The main objective of the study was to examine the SR of inclusion of students with AS among different groups of school staff particularly focusing on the content and its structure of the SR. We found clear SRs for teachers, SHPs and principals that have some similarities, but also differences, such as teachers view interactions as crucial while SHP stress educational strategies. The differences suggest that there is a need for professional development to unite the views and roles of these different professions in order to better meet the needs of the students (see e.g. Berhanu, 2011; Lindqvist & Nilholm 2013).In this discussion, we first examine similarities and differences:

6.1 Main Findings

Firstly, our results suggest that principals have a focus on environmental issues in their portrayals of inclusion of students with AS. This is shown in our data where "ambient understanding" and "adaptation of the environment" are found in the central zone of their SR. Furthermore, principals also have a focus on the negative "barriers" in their central zone. Moreover, there is no reference to teachers or to students since the principals' central elements primarily refer to the school's environment and organization. This is in line with previous research (Campbell, Morton, Roulston, & Barger, 2011; Lindqvist & Nilholm, 2014)which suggests that heads of schools have more focus on effectiveness and school achievements than reflecting on learning and inclusive values for children in need of special support. On the other hand, the category "educational strategies" is found in the first peripheral zone which suggests that the importance of learning activities in the mainstream classroom might differ between principals and between settings, which suggests an awareness of learning environment is emerging.

Secondly, among SHP the category "educational strategies" is the single most common component of the central core zone followed by "structure/routines" and "adaptation of the environment." Additionally, the diversity of students' potentials and needs are in focus. Thus, there is a balance between environmental, educational, and individual elements in the SR among SHP. However, SHP have only one element, "barriers"; in their first peripheral zone suggesting that they, to some extent, view inclusion of individuals with an As perger diagnosis as more complex and that they focus more on the "individual's potential" than do teachers and principals. One explanation could be that SHPs are typically consulted in situations that are more acute when problems have already arisen and there is little opportunity to work proactively. Instead, they have to react, whenever there are "crises" and solve educational difficulties (Lindqvist et al., 2011). Another explanation could be that to them "individual's potential" alludes to inclusion practices, that is, inclusion works for some of the students with AS but not so well for others (see e.g. Emam & Farrell, 2009 and Ravet, 2011).Noteworthy is the contrast zone indicating a subgroup within the team of SHP who stresses "teacher interaction", "school organization" and "assets". These could well be members of the SHP who also are teachers.

Thirdly, teachers view their own interaction with these students in an inclusive environment as the single most important aspect for realizing inclusion. This is mirrored in "teacher interaction" which is the most prominent category in the central zone for teachers. This type of description is congruent with previous research e. g. Boyle et al., (2013) who argue that inclusion is unattainable despite different organizational support if the teacher's view is negative (Emam & Farrell, 2009; Humphery, 2008; Jordan, 2008; Parsons et al., 2011). Taken as a whole, we found that teachers more often than the other groups refer to inclusion in a positive light since the categories "assets" and "participation" was located in their first peripheral zone.

6.1.1 Similarities

By exploring the central and the peripheral zones of the SR among school staff, we propose that the components that give the SR its meaning overlap to a certain extent between the groups of school staff. This is not surprising considering that SRs are in fact historically and culturally dependent (Moscovici, 2000; Ravet, 2011). There is one common component of the central core zone for *all* three groups, which is "ambient understanding". This element indicates that the school staff agrees on the importance of information and collaboration on the classroom level and the whole school arena to promote and make social and academic inclusion of learners with AS work. This can be interpreted as a sign of mutual responsibility for a functional inclusive school environment. Hence, this demonstrates a step toward a common vision for an inclusive school which is noteworthy since Lindqvist et al. (2013) found that school staff had contradictory views in an earlier study also conducted in Sweden. The importance of promoting ambient understanding has been brought to the surface in previous research where students' lack of understanding of peers with autism was found to ultimately emerge in discriminatory actions towards them (Campbell, Morton, Roulston & Barger, 2011; Humpery and Symes, 2010).

However, in Sweden a new policy for discriminatory actions, Equal Treatment Act, was implemented 2006 (SFS 2006:67) including formulation of an equality plan, itemizing measures to promote equality and non-discrimination at schools. Consequently, this Equal Treatment Act ensures school staff on all levels to enforce compliance with the policy and non-discriminatory treatment of students. Therefore, promotion of the Act might have influenced and united school staff on different levels.

There are some general mutual elements in the central zone of the SR for both SHP and principals. For instance, they both mention "adaptation of the environment" and "ambient understanding" as the central and stable content of their SR. While principals seem to stress "barriers", SHP focus on "educational strategies" and "individual different potentials". This is concurrent with previous research by Lindqvist and Nilholm (2013) where they conclude that how principals assign classroom activities has little influence on outcome for students with special needs.

Teachers and principals also share some elements. For example, they share the element "support" which is not unexpected since teachers are on their own in the classroom and may view their need for support as crucial while the principals are the ones who grant the resources needed for this support. In addition, there are some elements in common in the first peripheral zone which are "educational strategies" and "barriers". These might be relating to teachers adapting their instruction to students' needs and awareness of barriers in the inclusion process explaining why it is too problematic for mainstream teaching. This has been shown by other empirical data (Armstrong, 2013; Jordan, 2008; Ravet, 2011).

Some similarities also emerge between teachers and SHP. This is shown, for instance, in the central zone of their SR where the categories "structure/routines", "ambient understanding", "individual different potential" and "student's needs" are shared, while "support" and "teacher interaction" are unique for teachers' central zone of the SR. These teacher issues are congruent with previous research where teacher interaction is emphasized as the single most important aspect of successful inclusion of students with disabilities (Hattie, 2012; Humphrey, 2008; Savolainen et al., 2012).This consensus between teachers and SHP is not surprising considering that teachers may need practical support and guidance from SHP in order to accommodate individual students in the classroom. Even if the principals in Sweden are responsible for establishing the individual educational plan for students with special education needs (Isaksson et al.,2007), the plans are often operationalized by SHP who provide support for teachers and the individual student (Lindqvist et al.,2013).

Furthermore, the category "barriers" is found in the first peripheral zone of teachers' SR as well, thus shared and agreed upon depending on the setting and the individual teacher. However, "barriers" is not alone in teachers 'peripheral zone but shares this zone with several other categories such as "educational strategies", "adaptation of the environment" and "a burden". This could indicate that teachers more readily alter between contexts or individuals, than do SHP, who is supposedly team players and the experts on students with educational needs.

6.1.2 Differences

Despite the partly overlapping results among the school staff there are some major differences that need attention in order to move towards a shared understanding of inclusion so that the gap between policy and practice can be reduced. A significant difference was observed between teachers and SHP with regard to"a burden" and "guidance and development of competence". This indicates that the SHP might not be aware of the fact that teachers lack necessary skills for including these students in their classes even though SHP are supposed to provide help and guidance to teachers. This is in line with previous findings (Swedish National Agency for Education, 2009; Sciutto et al., 2012) where a need for guidance and development of skills is expressed among teachers. Therefore, "a burden" could also be seen as a direct consequence of lack of competence and guidance which is brought forward in previous research (Boyle et al., 2013; Ravet, 2013). Hence, in addition to in-service training there is a need for profound collaboration with SENCO's and other health professionals to ensure and strengthen inclusion practices, similar findings have been addressed in previous studies (Eisenman et al., 2011; Lindqvist, 2013; Parsons et al., 2011). Another significant difference was found with regard to "clarity" between principals and SHP. "Clarity" can be seen as an educational strategy and more obvious to principals, who often have worked as teachers, before becoming heads of schools, than SHP.

6.1.3 Implications

Our findings have implications for practice since the SR corresponds to something school staff actually do (Howarth, 2006) and therefore can be improved in actual practice (Wachelke & Wolter 2011).Given that an SR is a product of mental processes and re-representations of groups and seen as part of a social reality (Jochelovitch, 2007) it is more than just a mirror of a certain reality. They are values and beliefs of how to achieve or not achieve the goals of inclusion for these students.

6.1.3.1 Research practice

Previous research call for studies using alternative methods to catch attitudes and enable a shift of focus from the individual to a larger structural context .By applying a prototypical method, data were revealed that were not found through standard statistical analyses. The matrices showed important aspect of inclusion for each group of school staff.

The power of our SRs is that we are unaware of their existence. By uncovering the SRs, which bear on educational provision, it is possible to communicate their content and structure. Hence, a prototypical research method can serve as an important tool to improve inclusion practices in schools by creating an arena for "whole school" conversation to further promote mutual responsibility.

6.1.3.2 Educational practice

In evaluating how successfully students with AS are being provided for under the parameters of inclusion we suggest that school staff need to engage in collaborative professional development. Moreover, the nature of this collaboration needs careful consideration if interventions under the umbrella of inclusion for AS students are to become a genuine, shared responsibility. Ultimately, whatever model is adopted it needs to assist these professional groups to become a team. When teachers think that they have such a pivotal role in the inclusion process, as our results indicate, this could create unrealistic expectations. Instead, they will benefit from viewing the environment as increasingly important and inclusion as a mutual responsibility.

This research has its limitations. First, the concept "inclusion" was not explained to the participants before being presented with the "cue" but assumed self-evident. Inclusion is a culturally specific concept which we presume reduces misunderstandings in the present Swedish context where policies on inclusive education are formulated on the national and municipal levels. The sample of principals and SHP is smaller than that of teachers, but nevertheless is proportional to the actual ratio of teachers to principals. In addition, this sample was collected from six municipalities in the central part of Sweden; hence, the findings of this study may not generalize to all school staff. Because the web-surveys were distributed via heads of schools, we do not have any information about non-responders; however, we compared our sample with national statistics for school staff in Sweden to ensure that the sample was not skewed. Instead of the broader ASD we chose to use the diagnosis of AS, which has disappeared with DSM 5, however, teachers are familiar with this specific diagnosis and use it in their practice in Sweden. Its relevance is proven by the magnitude of phrases produced by the participants.

7. Conclusions

The social representation of inclusion exhibited by the three groups of school staff in this study mirror their respective roles. It appears that the quality and nature of their collaboration across roles is insufficient to "bridge the gap" between the SRs of principals, school health professionals and teachers working in Swedish schools. This could be because of the nature of existing professional development practices or it could be because of a lack of intersecting perspectives due to the differentiation of roles. However, the question of how to close the gap between policy and practice still remains.

We found that social and organizational barriers exist. If we understand the SRs of school staff, it may be conducive to achieving schools that are more inclusive. However, creating a culture and practice characterized by inclusive values is a long-term process that requires collaboration and a desire and ability to respect others' opinions. Yet, change needs to start in current school culture and diminish further exclusion for these students with "invisible disabilities". If the principals are mainly concerned with the organization and structural level alone, there is an urgent need to bridge the gap to the classroom and individual student level. Even though SHP has specific training to support students with special educational needs, they seem concerned about barriers.

In accordance with previous research, teachers produce more positive mentions to inclusion than other groups of school staff and more often refer to students as assets and their right to participate. We conclude that Social representation methodology offers innovative opportunities for research on school staff's implicit perceptions or common sense knowledge. It is upon this knowledge, the mindset of different school staff we can propose actions in order to promote inclusion.

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References

Abric, J. (Ed.). (2003). *Méthodesd'étude des representations sociales*.Ramonville Saint-Agne: Eres.

Armstrong, D. (2013). Educator perceptions of children who present with social, emotional and behavioural difficulties: A literature review with implications for recent eductioal policy in England and internationally. *International Journal of Inclusive Education*, doi:10.1080/13603116.2013.823245

Barbier, J. M. (2011). Social representations and cultures of action. In M. Chaib, B. Danermark & S. Selander (Eds.), *Education, professionalization and social representations: On the transformation of social knowledge*. (pp. 86-105). New York: Routledge.

Berhanu, G. (2011). Inclusive education in Sweden: Responses, challenges, and prospects. *International Journal of Special Education*, 26(2), 128-148.

Boyle, C., Topping, K., & Jindal-Snape, D. (2013). Teachers' attitudes towards inclusion in high schools. *Teachers and Teaching: Theory and Practice*, 19(5), 527-542.

Campbell, J., Morton, J., Roulston, K., & Barger, B. (2011). A descriptive analysis of middle school students' conceptions of autism. *Journal of Developmental and Physical Disabilities,* 23, 377-397.

Chaib,M&Chaib, J. (2011) Teacher Students' Social Representations of How Adults Learn. In M. Chaib, B. Danermark & S. Selander (Eds.), *Education, professionalization and social representations: On the transformation of social knowledge.* (pp. 123-134). New York: Routledge

Cowne, E. (2005). What do special educational needs coordinators think they do? *Support for Learning*, 20(2), 61-68.

Doise, W. (1992). L'ancragedans les études sur les reprédentationssociales. *Bulletin De Psychologie*, 45, 405.

Eisenman, L. T., Pleet, A. M., Wandry, D., & McGinley, V. (2011). Voices of special education teachers in an inclusive high school: Redefining responsibilities. *Remedial and Special Education*, 32, 91-104.

Emam, M., & Farrell, P. (2009). Tensions experienced by teachers and their views of support for pupils with autism spectrum disorders in mainstream schools. *European Journal of Special Needs Education*, 24(4), 407-422.

Göransson, K., Nilholm, C., & Karlsson, K. (2011). Inclusive education in Sweden? A critical analysis. *International Journal of Inclusive Education*, 15(5), 541-555.

Harma, K., Gombert, A., & Rousseya, J. (2013). Impact of mainstreaming and disability visibility on social representation of disability and otherness held by junior high school pupils. *International Journal of Disability Development and Education*, 60(4), 312-331.

Hattie, J. A. C. (Ed.). (2012). *Visible learning for teachers: Maximizing impact on learning*. New York: Routledge.

Heimdahl-Mattson, E., &Malmgren-Hansen, A. (2009). Inclusive and exclusive education in Sweden: Principals' opinions and experiences. *European Journal of Special Needs Education*, 24(4), 465-472.

Horrocks, J., L.,White,G.,&Roberts,L.(2008). Principals' attitudes regarding inclusion of children with autism in Pennsylvania public schools. *Journal of autism and developmental disorders*, 38(8), 1462-1473

Hovardas, T., & Korfiatis, K. J. (2006). Word associations as a tool for assessing conceptual change in science education.*Learning and Instruction*, 16(5), 416-432. doi:http:/dx.doi.org.db.ub.oru.se/10.1016/j.learningstruc.2006.09.003

Howarth, C. (2006). A social representation is not a quiet thing: Exploring the critical potential of social representations theory. *British Journal of Social Psychology*, 45(1), 65-86.

Humphrey, N. (2008). Including pupils with autistic spectrum disorders in mainstream schools. *Support for Learning*, 23(1), 41-47. doi:10.1111/j.1467-9604.2007.00367.x

Humphrey, N., & Symes, W. (2010). Perceptions of social support and experience of bullying among pupils with autistic spectrum disorders in mainstream secondary schools. *European Journal of Special Needs Education*, 25(1), 77-91. doi:10.1080/08856250903450855

Isaksson, J., Lindqvist, R., & Bergström, E. (2007). School problems or individual shortcomings? A study of individual educational plans in Sweden. *European Journal of Special Needs Education*, 22(1), 75-91.

Jordan, R. (2008). Autistic spectrum disorders: A challenge and a model for inclusion in education. *British Journal of Special Education,* 35(1), 11-15.

Jovchelovitch, S. (2007). Knowledge in context. representations, community and culture. London: Routledge.

Karpinski, A.& Steinman, R.B. (2006) The Single Category Implicit Association Test as a measure of implicit social cognition. *Journal of Personality and Social Psychology*, 91, 1, 16-32

Kugelmass,J.,&Ainscow, M.(2004) Leadership for Inclusion: A Comparison of International Practices. Journal of *Research in Special Educational Needs*, 4(3), 133-141

Lindqvist, G. (2013). SENCOs: Vanguards or in vain? *Journal of Research in Special Educational Needs*, 13(3), 198-207.

Lindqvist, G., & Nilholm, C. (2013). Making schools inclusive? educational leaders' view on how to work with children in need of special support. *International Journal of Inclusive Education*, 17(1), 95-110.

Lindqvist, G., & Nilholm, C. (2014). Promoting inclusion? "inclusive" and effective head teachers' descriptions of their work. *European Journal of Special Needs Education*, 29(1), 74-90.

Linton, A-C., Germundsson, P., Heimann, M., &Danermark, B. (2013) Teachers' social representation of students with Asperger diagnosis. *European Journal of Special Needs Education*,

MacFarlane, K., &Woolfson, L. (2013). Teachers' attitudes and behaviour toward the inclusion of children with social, emotional and behavioral difficulties in mainstream schools: An applicaton of the theory of planned behaviour. *Teaching and Teacher Education*, 29, 46-52.

Mäkiniemi, J., Pirttilä-Backman, A., &Pieri, M. (2011). Ethical and unethical food. social representations among Finnish, Danish and Italian students. *Appetite,* 56, 495-502.

Moliner, P. (1994). Les méthodes de repérage et d'identification du noyau des représentaionssociales. In C. Guimelli (Ed.), *Structures et transformations des représentationssociales* (pp. 199-232) Lausanne: Delachaux et Niestlé.

Moscovici, S. (2000).*Social representations: Explorations in social psychology*. Cambridge: Polity Press.

Nilholm,C.Almqvist,L.Göransson,K. & Lindqvist,G.(2013)Is it possible to get away from disability-based classifications in education? An empirical investigation of the Swedish system. *Scandinavian Journal of Disability Research*, 15(4) 379-391.

Nilholm,C.,&Göranssson ,K. (2014)*Inkluderndeundervisning - vadkan man lära sig avforskningen*? [Inclusive education - what can you learn from the research? (forskningsochutvecklingsrapport No 3) SPSM

ParalesQuenza, C. J. (2005). On the structural approach to social representations. Theory & Psychology, 15(1), 77-100.

Parsons, S., Guldberg, A., MacLeod, A., Jones, G., Prunty, A., & Balfe, T. (2011). International review of the evidence on best practice in educational provision for children on the autism spectrum. *European Journal of Special Needs Education*, 26(1), 47-63.

Parsons, S., & Lewis, A. (2010). The home-education of children with special needs or disabilities in the UK: Views of parents from an online survey. *International Journal of Inclusive Education*, 14(1), 1-34. doi:10.1080/13603110802504135

Ratinaud, P. (2009). *IRaMuTeQ: Interface de R pour les analyses multidimentionnelles de textes et de questionnnaires (online*) doi:available at www.iramuteq.org

Ratinaud,P&Lac,M Understanding professionalization as a Representational Process. In M. Chaib, B. Danermark& S. Selander (Eds.), *Education, professionalization and social representations: On the transformation of social knowledge.* (pp.55-78). New York: Routledge.

Ravet, J. (2011). Inclusive/exclusive? contradictory perspectives on autism and inclusion: The case for an integrative position. *International Journal of Inclusive Education*, 15(6), 667-682. doi:10.1080/13603110903294347

Robertson, K., & Chamberlain, B. &. K., C. (2003). General education teachers' relationships with included students with autism. *Journal of Autism and Developmental Disorders*, 33(2), 123-131.

Savolainen, H., Engelbrecht, P., Nel, M., & Malinen, O. (2012). Understanding teachers' attitudes and self-efficacy in inclusive education: Implications for pre-service and in-service teacher education. *European Journal of Special Needs Education,* 27(1), 51-68.

Sciutto, M., Richwine, S., Mentrikoski, J., & Niedzwiecki, K. (2012). A qualitative analysis of the school experiences of students with asperger syndrome. *Focus on Autism and Other Developmental Disabilities*, 27(3), 177-188.

Sharma, U., Forlin, C., & Loreman, T. (2008). Impact of training on pre-service teachers' attitudes and concerns about inclusive education and sentiments about persons with disabilities. *Disability & Society*, 23(7), 773-785.

Sousa, C. P. (2011). The teacher's work. In M. Chaib, B. Danermark& S. Selander (Eds.), *Education, professionalization and representations: On the transformation of social knowledge* (pp. 68-74) Routledge.

Swedish Equal Treatment Act (2006:67)

Swedish National Agency for Education. (2008*). Rätten till utbildning; om elever som inte går i skolan*. [the right to education: Pupils who do not go to school.] rapport nr: 309. Stockholm: Skolverket.

Swedish National Agency for Education. (2009*). Skolanochaspergerssyndrom - erfarenheterfrånskolpersonalochforskare[School and Asperger's syndrome - experiences of school staff and researchers*]. (No. 334). Stockholm: Swedish National Agency for Education.

UNESCO. (2008). EFA global monitoring report 2008: *Education for all by 2015. Will we make it?*Paris: UNESCO.

Verges, P. (1994). *Approche du noyaucentral: Propriétésquantitativesetstructurales* [core approach: Quantitative and structural properties]. In C. Guimelli (Ed.), (pp. 233-254). Paris: Delachaux et Niestlé.

Wachelke, J., &Wolter, R. (2011). Criteriafor construction and report of prototypical analysis for social representations. *Psicologia Teoria E Pesquisa*, 27(4), 521-526.

Wagner, W., Duveen, G., Farr, R., Jovchelovitch, S., Lorenzo-Cioldi, F., Marková, I., & Rose, D. (1999). Theory and method of social representations. *Asian Journal of Social Psychology*, 2, 95-125.

Wagner, W., Valencia, J., &Elejabarrietta, F. (1996). Relevance, discourse and the "hot" stable core of social representations. A structural analysis of word associations. *British Journal of Social Psychology*, 35, 331-352.