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*Corresponding author: Gert-Jan Veerman, Behavioral Science Institute, Radboud University Nijmegen, Nijmegen, Netherlands & Department of Teacher Education, Ede Christian University of Applied Sciences, 6500 HE Nijmegen, Ede 9104, Netherlands
E-mail: Gert-Jan.Veerman@ru.nl

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Rachel Maunder, Centre for Psychology and Sociological Sciences, University of Northampton, UK

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Exploring the concept of school belonging: A study with expert ratings

Kylie Alink¹, Eddie Denessen², Gert-Jan Veerman^{2,3*} and Sabine Severiens⁴

Abstract: School belonging is important for well-being and academic achievement of youth. School belonging is a broad concept for which researchers from different disciplinary backgrounds have developed a variety of synonyms and indicators. To explore the content of the concept of school belonging, an expert rating study was conducted with 73 expert researchers who rated different synonyms, indicators, and clusters of indicators of school belonging. Results showed that the experts considered connectedness the most suitable synonym of school belonging and inclusion, acceptance, connection, and respect the best indicators. With a multidimensional scaling analysis, two dimensions (the object of belonging and the intra- versus interpersonal nature of belonging) and five clusters of indicators were identified. The findings of this study provides some conceptual clarity that may help future research.

Subjects: Education Studies; School Psychology; Secondary Education

Keywords: school belonging; secondary education; expert rating; connectedness; inclusion

1. Introduction

School belonging is an important subject in research on youth (Allen & Bowles, 2012; Goodenow, 1993). In addition to the intrinsic value of school belonging, several positive outcomes related to school belonging have been identified. Remarkable, however, is researchers' variation in used terms for and operationalization of school belonging. Different synonyms and indicators have been used to define and assess students' sense of school belonging. Although these all intend to capture school belonging, it is interesting to investigate whether they indeed represent school belonging in a similar way. With this study, we used expert ratings of synonyms and indicators of school belonging to explore the concept of sense of school belonging.

1.1. School belonging

The importance of belonging is widely acknowledged in theory and research. In different motivational theories, the importance of belonging is emphasized. In his theory of needs, Maslow (1943), for example, stated that the need for love and belonging is a basic human need. After physiological and safety needs are met, humans feel the desire to and will strive for affectional relationships and a place in the group. Belonging is regarded as important for a learner's development and motivation for learning. Educational science has provided empirical evidence for the importance of school belonging for students' mental health and well-being (Arslan et al., 2020; Jose et al., 2012; Pittman & Richmond, 2007; Shochet et al., 2011), academic performances (Delgado et al., 2016; Faircloth & Hamm, 2005; Pittman & Richmond, 2007) and their social behaviour (Demanet & Van Houtte, 2012).

1.2. Synonyms of school belonging

Since the 1990s, the concept of school belonging has become a substantive subject of educational research. Several measures and reviews of school belonging have been published (see, for example Allen & Bowles, 2012; Faircloth & Hamm, 2005; Goodenow, 1993; Slaten et al., 2016) that operationalized school belonging to different concrete measurable indicators (manifest variables) to represent the broad construct of school belonging (latent variable) (Little et al., 1999). Moreover, a variety of terms have been used as synonyms of the construct school belonging. Synonyms are other designations of the latent variable school belonging. We searched for an instrument to measure school belonging and found a number of different possible measurement instruments. We saw differences in the operationalization of school belonging, what triggered the question of what was meant with the concept and how it was operationalized. From the articles that presented these measurement instruments we developed our research questions. Questions were: do these instruments measure the same concept? And are conclusions drawn from research with these instruments inform us about the same construct, or do they inform us about specific dimensions of school belonging?

Without the ambition to be complete, we will first provide an impression of the different terms used for school belonging below by authors who developed widely used measurements for school belonging.

Goodenow (1993) was one of the first to investigate a sense of school belonging, which she defined as follows: “the extent to which students feel personally accepted, respected, included, and supported by others in the school social environment” (p. 80). According to Goodenow, social relations in school are an important contextual factor that may influence students’ educational outcomes. The term *psychological sense of school membership* is used as a synonym of school belonging in Goodenow’s work.

Osterman (2000) published an extensive review about school belonging. In this review, the sense of school belonging is approached from a community perspective. Feelings of belonging to a group and the relation an individual has to the group as a whole are therefore central in this review and the terms *sense of community*, *sense of acceptance* and *relatedness* are used as synonyms of school belonging.

Willms (2003) studied school belonging for the Programme for International Student Assessment (PISA). According to Willms, school belonging is the psychological component of student engagement, whereas student participation is the behavioural component of student engagement. In this study, sense of belonging is about “feelings of being accepted and valued by their peers, and by others at their school” (Willms, 2003, p. 8). School belonging is used interchangeably with *attachment to school* by Willms.

In addition to the terms in the articles discussed above, *school connectedness*, *school bonding* and *school engagement* are commonly used terms for sense of belonging too in other publications (Allen et al., 2018).

The used terms as synonyms for belonging stress particular perspectives on school belonging. It seems a distinction can be made between a focus on the individual’s feelings of being connected to a group and behavioural-type indicators of being a member of a group and being engaged with that group. This makes one wonder whether all the terms indeed relate to the same concept. Therefore, the question is to what extent all these used terms are considered as suitable synonyms for school belonging.

1.3. Indicators of school belonging

Besides a variety of used terms, a wide range of indicators of school belonging can also be found in the literature on school belonging. Goodenow (1993), for example, has developed the Psychological Sense of School Membership (PSSM) scale. In this questionnaire, the concept of

belonging is operationalized into a range of indicators, including the extent to which students *feel liked* and *accepted* in school. These indicators result from a psychological perspective on school belonging. Other indicators of school belonging, according to Goodenow, from a behavioural/observable perspective, are perceived *encouragement for participation* and *contact with other students and teachers*.

Also Willms (2003), who developed a scale to measure school belonging for PISA, focused on the psychological perspective. In this questionnaire, just like in the PSSM (Goodenow, 1993), students are asked whether they feel *accepted by their peers*, and if they *feel lonely at school*.

Osterman (2000) focused on feelings of the student too, but used a community-oriented perspective: focusing on the place a student has in the school community. Among the indicators of school belonging she mentioned *students' feelings of being a member of the community*, *feeling supported and taken care of* by the school community, and experience a shared and emotional *connection* with other members in the school community. Similarly, Voelkl (1997) focused on how students relate to the group or school as a whole. In her study, school belonging is indicated by students feeling *proud* of being part of the school, feeling *included* and including school as *part of their self-definition* (Voelkl, 1997).

Faircloth and Hamm (2005) used both psychological and observable/behavioural indicators in their study. First, just like Goodenow (1993), the authors regarded student-teacher relationships as an important indicator of sense of belonging. This refers to the extent to which students feel *supported* and *respected* by their teacher. They also examined the extent to which students feel *discriminated*. Feeling discriminated is considered a negatively formulated indicator of belonging. Third, as in most measures of school belonging, the relationship students have with their peers is an indicator of school belonging. Faircloth and Hamm however did not ask students about their perception of their relations with peers, but used friendship nominations to examine this part of belonging. Finally, they consider *extracurricular participation* to be an indicator of school belonging. That is, the extent to which students participate in activities outside the regular curriculum, such as sports or cultural activities.

All these indicators of school belonging cover a very wide range of concepts. The question is whether all these indicators represent school belonging to a similar extent or some indicators are more central than others. The question is also whether school belonging is a multidimensional construct, represented by specific clusters of indicators.

1.4. The present study

The concept of school belonging has been defined and operationalized in multiple ways by researchers from various scientific backgrounds. Different synonyms and indicators of school belonging were mentioned in the introduction. With this study, we explore the common ground regarding the concept of school belonging by asking researchers on this concept to rate synonyms and to rate and sort indicators of school belonging. With these expert-ratings, we aim to answer the following research questions:

- (1) What are the most suitable synonyms suitable for school belonging according to experts in this field?
- (2) What are the most relevant indicators for the measurement of school belonging according to experts in this field?
- (3) Which clusters of different indicators of school belonging can be discerned according to experts in this field?

Table 1. Inclusion criteria for studies on school belonging

- The article is about school belonging in a secondary education context.
- The article is about students' school belonging (not about teachers or staff).
- The article is in English.
- The article is peer reviewed.

2. Methods

2.1. Participants

Participants of this study were 73 experts in school belonging. With our search, we looked for expert raters for the synonyms and indicators that are presented in the introduction and not for additional synonyms and indicators. Authors of scientific publications on school belonging in secondary education were approached to participate in this study. Because of their authorship of school belonging articles, these authors were considered to be experts on school belonging. To find these experts we searched for peer reviewed journal articles from the last 10 years in ERIC (May 2020) with the search term "school belonging" restricted to "secondary education". A total of 389 articles were found. In addition to the inclusion criterion that the studies are peer reviewed and in a secondary education context, our additional inclusion criteria were that the article is in English and is about students' school belonging. This last criterion was formulated given that the measurements that are presented in our theoretical section explicitly focus on students' school belonging and not on teachers' or staffs belonging. After screening the articles that met the inclusion criteria (as presented in Table 1), 189 articles were excluded because they were not about school belonging, or did not report on research in a secondary educational context or with students.

The 200 articles that matched the inclusion criteria were written by a total of 477 authors. From 124 of these authors, the email addresses could not be retrieved. The other 353 researchers were approached by email to participate in this study. After sending a reminder, a total of 73 experts participated in this study. All experts were informed about the aim of the study, participated on a voluntary basis and agreed with the use of their answers.

2.2. Measures

We designed a questionnaire for experts to rate synonyms and to rate and sort the italicized indicators of school belonging presented in our theoretical section.

2.2.1. Synonyms

We asked experts to answer the following question for eight different terms used for school belonging: "to what extent do you consider the following terms as suitable synonyms of sense of belonging in school?" The experts answered on a 7-point Likert scale, ranging from 1 "not at all" to 7 "totally".

2.2.2. Indicators

We asked experts to answer two questions for 15 indicators of school belonging. The first question was "to what extent do you consider the following elements to be an essential part of the sense of belonging of adolescents at school?" Answers were given on a 7-points Likert scale ranging from 1 "no essential part" to 7 "an essential part."

Second, we gave experts a sorting task. They were asked to group the 15 indicators according to how they considered the indicators to be related to each other. Participants were asked to group elements in different groups by dragging them into separate columns. They could form as many groups as they thought would be meaningful.

2.3. Analysis

To answer the first two research questions about the suitability of synonyms for school belonging, we calculated descriptive statistics, such as means and standard deviations

To answer the third research question, about the similarities of indicators, we performed a multidimensional scaling (MDS) analysis with the outcomes of the sorting task, using SPSS. MDS is considered suitable for analysing sorting tasks and can show underlying structures by using visual representation of similarities between variables (Hout et al., 2013; Jaworska & Chupetlovska-Anastasova, 2009). A similarity-matrix, with the frequency of the occurrence of every combination of indicators, formed the input for the MDS. We used the SPSS procedure Proxcal to analyse the dimensional structure of the indicators of school belonging. Proxcal suites well to answer the third research question, because it creates a geometric representation of rated similarity between each pair of indicators. Items that were relatively rated more similar by the respondents are plotted closer to each other (Hout et al., 2013). Based on the proximity to the indicators in the geometric representation we derived clusters of groups of similar indicators. Moreover, we examined dimensions based on the organization on the x-axis and y-axis of the geometric representation (Hout et al., 2013). Dimensions as well as clusters of indicators were interpreted.

Due to missing data on the two questions that relate to the first and second research question of three experts, our sample contains 70 experts for research question one and two and 73 experts for research question three.

3. Results

3.1. Synonyms

Table 2 shows the descriptive statistics of the extent to which experts found each of the eight terms suitable as a synonym for school belonging.

Table 2. Means and standard deviations of expert ratings of the suitability of different terms as a synonym of school belonging (range 1–7, N = 70)

| | Mean | SD |
|----------------------------|-------------|-----------|
| Connectedness | 5.93 | 1.34 |
| Sense of community | 5.14 | 1.58 |
| Sense of acceptance | 5.01 | 1.58 |
| Attachment to school | 4.96 | 1.81 |
| Sense of school membership | 4.93 | 1.87 |
| Relatedness | 4.86 | 1.75 |
| Bonding | 4.57 | 1.77 |
| Engagement | 4.40 | 1.99 |
| N | 70 | |

Each of the terms had a mean rating score above 4, the middle of the scale, which implies that all terms were to some extent regarded by the experts as suitable synonyms. Connectedness was the highest rated term with an average rating of 5.93. Also, connectedness had the lowest standard deviation ($sd=1.34$) which means that the experts varied least in the rating of the suitability of this term. Sense of community was rated second highest with a mean of 5.14 and a standard deviation of 1.61. Bonding and engagement were rated lowest, with an average score of 4.57 and 4.40 and a standard deviation of 1.77 and 1.99, respectively. Sense of school membership and engagement both have a standard deviation of almost 2, thus, experts varied most regarding the suitability of these terms.

3.2. Indicators

3.2.1. Descriptive statistics

Descriptive statistics of the extent to which respondents found each of the 15 elements essential parts of school belonging are presented in Table 3.

With a mean of 6.54, inclusion was rated highest by the experts. The relative low standard deviation ($sd=0.85$) indicates a small variance among the experts about how essential this element is for school belonging. Acceptance was rated second highest, with a mean of 6.44 and a standard deviation of 0.91. Only extracurricular participation received an average score below 4, the middle of the scale and was thus considered as least essential as indicator of school belonging. Perceived discrimination and loneliness, both negatively formulated indicators of school belonging, show a relative high standard deviation (2.39 and 2.35, respectively). The negative formulation possibly caused the experts to disagree on the extent to which the elements are essential for school belonging.

3.2.2. Multidimensional scaling

In order to analyse the clustering of indicators of school belonging, a multidimensional scaling (MDS) analysis was performed based on the groupings of similar elements by the experts. By all 73 experts together, 354 groups of elements were formed. On average, experts formed 4.73 groups per person, with a standard deviation of 1.92. The least number of groups formed by a respondent was 1, the largest 15. Consequently, the number of elements grouped together varied from 1 to 15 as well. On average, the groups contained 3.17 indicators, with a standard deviation of 2.31.

Appendix A shows the results of the Multidimensional Scaling Proxscal Analysis. Fit measures of the MDS analysis showed that a two-dimensional representation of the similarities showed a good fit (Stress = .024, R-Square = .976), compared to a one-dimensional solution (Stress = .153, R-Square = .847). A three-dimensional solution only showed small improvement of the fit (Stress = .013, R-Square = .987). Based on these outcomes, a two-dimensional solution was further explored.

Based on the coordinates from Appendix A, Figure 1 is plotted. Figure 1 shows a visual representation of the two-dimensional outcome of the MDS based on the similarities between the indicators. Elements that were frequently grouped together by the experts are plotted near each other in this figure. A greater distance between elements indicates that they were not frequently grouped together.

3.2.3. Dimensions

First, we will interpret the meaning of the dimensions of this visual representation. This provides some insight in the criteria experts used when sorting the indicators. Dimension 1 reflects a distinction in the object of belonging: from the students' perception of their relationship with peers on the left side, the relation with teachers in the middle and the relation with the school as institute on the right side. Dimension 2 indicates a difference in orientation of relational aspects,

Table 3. Means and standard deviations of expert ratings of the relevance of indicators of school belonging (range 1–7, N = 70)

| | Mean | SD |
|--|-------------|-----------|
| Inclusion | 6.54 | 0.85 |
| Acceptance | 6.44 | 0.91 |
| Connection | 6.27 | 1.22 |
| Respect | 6.23 | 1.09 |
| Positive relation with other students | 5.94 | 1.56 |
| Perceived liking | 5.93 | 1.34 |
| Being cared for or supported | 5.77 | 1.56 |
| Positive relation with teachers | 5.77 | 1.63 |
| Membership | 5.69 | 1.40 |
| Encouragement for participation | 5.04 | 1.77 |
| Pride | 4.79 | |
| Perceived discrimination (negatively formulated) | 4.74 | 2.39 |
| School as part of self-definition | 4.43 | 1.77 |
| Loneliness (negatively formulated) | 4.29 | 2.35 |
| Extracurricular participation | 3.74 | 1.69 |
| N | 70 | |

ranging from interpersonal relational aspects of belonging on the bottom, to intrapersonal feelings and identificational aspects of belonging on the top.

3.2.4. Clusters

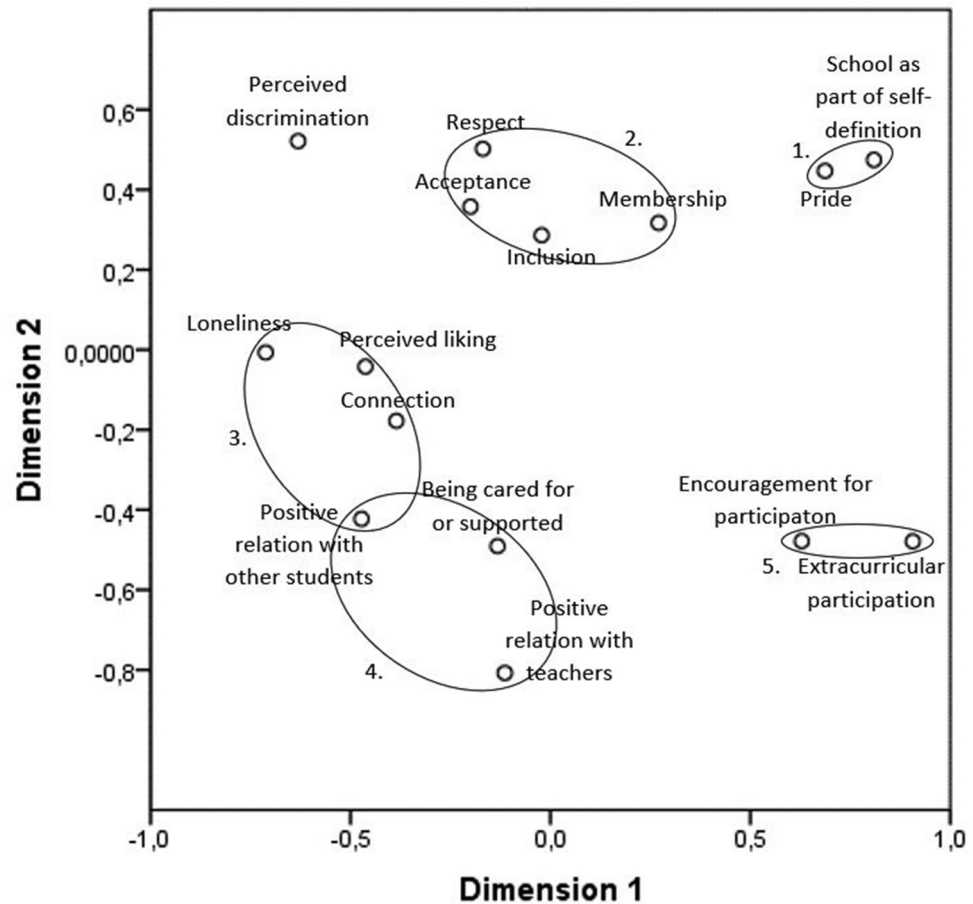
Besides a dimensional interpretation of indicators, clusters of indicators of school belonging, those that are close to each other in the visual representation, can be interpreted for what they have in common. In Figure 1, five clusters of indicators can be identified. They are circled.

- (1) *School as part of self-definition* and *pride* are close to each other and thus show similarity. They share *identification with school*.
- (2) *Respect*, *acceptance*, *inclusion*, and *membership* are close to each other. The common denominator of these indicators seems to be *feeling a valued part of a group*.
- (3) *Loneliness*, *perceived liking*, *connection*, and *positive relation with other students* are close to each other. They all refer to the connection students have with other students.
- (4) *Positive relation with other students* is also relatively near *being cared for or supported* and *positive relation with teachers*. Students can feel cared for or supported by their teachers as well as other students in school.
- (5) Finally, *encouragement for participation* and *extracurricular participation* have a place close to each other. They both concern active participation as indicative of belonging.

Perceived discrimination seems most isolated from the other indicators of school belonging. The fact that it is nearest clusters 2 and 3 (connection with the peer-group and feeling valued), may imply that these are at-risk when a student perceives being discriminated.

The dimensional interpretation as well as the clusters illustrate interesting dimensional complexities of the concept of school belonging.

Figure 1. Visual representation of the two-dimensional outcome of the MDS



4. Discussion

Literature on school belonging shows a variety of conceptualizations and operationalizations. This study aimed to explore the content of the concept of school belonging with the use of expert ratings and sorting of synonyms and indicators of school belonging.

4.1. Synonyms

The first research question of this study concerned the suitability of synonyms for belonging. Experts rated terms that refer to the individual feelings of connectedness, acceptance, attachment, and sense of community as suitable synonyms for belonging. Connectedness is, as Allen and Kern (2017) stated, indeed a prevalent synonym for school belonging. Although none of the synonyms is regarded completely inadequate, the least suitable synonyms according to the experts were bonding and engagement. These two terms refer more to the behavioural aspect of belonging than the other terms.

4.2. Indicators

The second research question concerned the relevance experts attached to indicators for measuring of school belonging. Very high ratings were provided for inclusion, acceptance, connection, and respect. The experts agreed most on these indicators. As the indicators inclusion, acceptance, and respect are all addressed in Goodenow's (1993) frequently cited definition of school belonging, it seems her operationalization is dominant in the field. The high ranking of connection is in line with connectedness as the highest rated synonym for school belonging.

The indicator extracurricular participation that was introduced by Faircloth and Hamm (2005) is according to the experts as least relevant for measuring school belonging. In accordance with low ratings of behavioural synonyms of belonging, participation might refer too much to behaviour for representing an individual's feeling or perception of belongingness. This has also been addressed by Willms (2003). He sees the psychological part of engagement, school belonging, as distinct from the behavioural component, participation. Experts seem to agree on this vision.

4.3. Clusters of indicators of school belonging

The third research question concerned the clusters of indicators. Multidimensional scaling analysis revealed interesting dimensions and clusters of indicators of school belonging. First, the analysis showed indicators of school belonging to differ across two dimensions. A first dimension represented the *object of belonging* (to what or whom do students feel to belong?), ranging from peers one the one end to the school as an institution to the other end, with teachers logically positioned between both.

A second dimension represented the intra- versus extra-personal nature of belonging, pointing to the distinction between feelings of belongingness and belonging as a relational concept, manifesting in positive relations and active participation.

Second, the multidimensional scaling analysis identified five clusters of indicators. The experts grouped indicators of school belonging in these five clusters based on perceived similarities. The different clusters were *identification with school*, *feeling valued*, *connections students have with other students*, *positive relations with others in school* and *active participation*. In addition to the dimensional interpretation of similarities, these different clusters provide a more fine-grained insight in the complexity and multifaceted character of the concept of school belonging.

5. Conclusion

In conclusion, the variety of synonyms and indicators rated by experts has uncovered school belonging as a multidimensional concept, encompassing psychological, behavioural, and community perspectives. The main dimensions underlying all indicators refer to the object of belonging and the orientation of feelings (intra- versus of interpersonal). The five clusters of indicators can be understood as combinations of the two dimensions. For example, the cluster identification with a school is a combination of a school as an object belonging to an intrapersonal orientation. The school belonging researchers focus on different objects of belonging with most frequently a focus in line with Goodenow's (1993) questionnaire on intrapersonal feelings such as inclusion and acceptance by peers and not on a community perspective that was added in the questionnaire from Osterman (2000) with the indicator that measures students' feelings of being a member of the community.

Future research on school belonging may use the results of this expert ratings study as it helps researchers to specify how they operationalize school belonging and communicate about their research findings. Our visualization of clusters helps researchers to connect specific clusters of indicators to their specific research goal. For clear communication, we advise to explicitly emphasize whether the focus of the study is on feelings of school belonging or behaviour related to school belonging. Finally, researchers need to make clear what they mean by the object where the belonging refers to: the peers, the teachers, or the school community.

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Author details

Kylie Alink¹
Eddie Denessen²
Gert-Jan Veerman^{2,3}
E-mail: Gert-Jan.Veerman@ru.nl
Sabine Severiens⁴

- ¹ HAN University of Applied Sciences, Nijmegen, GL, Netherlands.
- ² Behavioral Science Institute, Radboud University Nijmegen, Nijmegen, Netherlands.
- ³ Department of Teacher Education, Ede Christian University of Applied Sciences, Ede, Netherlands.
- ⁴ Pedagogical and Educational Sciences, Erasmus University Rotterdam, Rotterdam, Netherlands.

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Appendix

Table A1. Coordinates based on multidimensional scaling proxscal analysis

| | Dimension | |
|--|--------------------|-------|
| | 1 | 2 |
| Perceived liking | −0.46 | −0.04 |
| Acceptance | −0.20 | 0.36 |
| Inclusion | −0.02 | 0.29 |
| Respect | −0.17 | 0.50 |
| Encouragement for participation | 0.63 | −0.48 |
| Membership | 0.27 | 0.32 |
| Connection | −0.39 | −0.18 |
| Pride | 0.69 | 0.45 |
| School as part of self-definition | 0.81 | 0.48 |
| Being cared for or supported | −0.13 | −0.49 |
| Loneliness | −0.71 | −0.01 |
| Positive relation with teachers | −0.11 | −0.81 |
| Positive relations with other students | −0.47 | −0.42 |
| Extracurricular participation | 0.91 | −0.48 |
| Perceived discrimination | −0.63 | 0.52 |
| Decomposition of Normalized Raw Stress | | |
| Normalized Raw Stress | 0.024 | |
| Stress-I | 0.156 ^a | |
| Stress-II | 0.383 ^a | |
| S-Stress | 0.069 ^b | |
| Dispersion Accounted For | 0.976 | |
| Tucker's Coefficient of Congruence | 0.988 | |
| ^a Optimal scaling factor | 1.025 | |
| ^b Optimal scaling factor | 0.955 | |