

Circles of Happiness: Students' Perceptions of Bidirectional Crossovers of Subjective Well-Being

Ylva Backman¹ 

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Abstract The mental well-being of the world's adolescents has decreased in the last 20–30 years. Such a trend is visible also in Sweden, a country otherwise considered a positive example in terms of child well-being. In Sweden, students in lower secondary school are especially exposed. From a salutogenic orientation, this study qualitatively explored 200 Swedish students' (grades 5–9) perceptions of the role of happiness in school. Students perceived happiness as both promoting and being promoted by five aspects: learning, school engagement, appreciation of subjects or lesson content, others' happiness, and prosocial behavior. Hence, five perceived bidirectional crossovers of subjective well-being were found. These were compared to the findings of previous research about the determinants and effects of happiness. The students' perceptions both add new direction for future research and align in several respects with decades of earlier research.

Keywords Happiness · Subjective well-being · Qualitative research · Lower secondary school · Salutogenic

1 Introduction

In recent decades, mental disorders such as depression have increased among the world's 1.2 billion adolescents (UNICEF 2011). Such a trend is visible also in Sweden, where young people's mental problems have increased since the 1990s (National Board of Health and Welfare 2009), alongside a decline in Swedish students' performance (Swedish National Agency for Education 2009). Early adolescence (10–14 years old) is an age of bodily and mental change (UNICEF 2011), and while various international studies have

✉ Ylva Backman
ylva.backman@ltu.se

¹ Department of Arts, Communication and Education, Luleå University of Technology, 971 87 Luleå, Sweden

reported findings of an overall positive level of life satisfaction among adolescents (Proctor et al. 2008), about half of all lifetime mental disorders in the world begin before age 15 (Helliwell et al. 2013; UNICEF 2011). Though Sweden is a leading country in child well-being (UNICEF 2007), low mental well-being among Swedish early adolescents increases during lower secondary school (Public Health Agency of Sweden 2011), a tendency manifested also in other nations (Proctor et al. 2008).

The implications of low-level adolescent mental well-being, such as high suicide rankings (71,000 adolescents annually) and increased risk for disease, are severe (UNICEF 2011), and depression accounts for 31 % of disability in the worldwide population (Helliwell et al. 2012). Moreover, previous mental well-being levels have substantial effects on happiness levels (Helliwell et al. 2012), which in turn have wide-ranging effects on achievement and social behavior (Helliwell et al. 2013).

Adolescents seldom come first on the international development agenda (UNICEF 2011). According to Uusitalo-Malmivaara (2012), the study of children's and youth's well-being has lagged behind the study of adults' well-being, and Batcho et al. (2011) note the lack of previous research studying what constitutes a happy childhood. Now, research is needed into measuring the neglected aspects of adolescent mental well-being and protective factors in adolescents' immediate social contexts (e.g., Patton et al. 2012).

Worldwide, more than 90 % of early adolescents are enrolled in lower secondary education (Patton et al. 2012); thus, school provides opportunities for research about and interventions in early adolescents' well-being. In Sweden, the lower secondary school gross enrollment ratio in the period 2008–2011 was 97 % (UNICEF 2013). School is important for promoting happiness and mental well-being, and students' performance benefits from such promotion (Ecclestone 2012; Helliwell et al. 2012; Noddings 2003; WHO 2014). Some have gone so far as to consider happiness itself an aim of education, alongside assuming that present happiness facilitates future happiness (Noddings 2003); that has been partly empirically noted by others (Bredmar 2014; Helliwell et al. 2013). However, one's educational level presently has no clear impact on happiness (Helliwell et al. 2012; Uusitalo-Malmivaara 2012). Considering the explicated relevance of promoting student happiness, more specific information about promoting factors in education is needed that could guide teachers' decisions and the distribution of resources in practice.

According to Rodríguez-Pose and von Berlepsch (2013), following developments in psychology and medicine, social scientists in general have become increasingly involved in happiness research. However, as Diener and Oishi (2005) note, research investigating how moods and emotions influence aspects such as performance and prosocial behaviors is still lacking. Moreover, Garcia and Sikström (2012) argue that standard current psychometric scales of subjective wellbeing do not provide the sufficient degree of freedom that would allow participants to fully express the complexity of their positive experiences. Similarly, Dias and Menezes (2014) argue that there is a need for more inclusive research methods that allow children to become research partners and to make visible what they feel and think. According to UNICEF (2011), advancing adolescents' development requires keen understandings of their current circumstances, and adolescents should be encouraged to contribute as integral partners with adults in health-related decisions. While recent research and educational theory in the field underline taking children's views into consideration to advance knowledge about their well-being and happiness (Awartani et al. 2008; Bradshaw et al. 2011; Noddings 2003), adolescents' voices are rarely heeded, counter to the guidelines in the Convention on the Rights of the Child (UNICEF 2011).

Occupying a socially disadvantageous situation in several respects, adolescents are not allowed to work as researchers (Hood et al. 1999). Their limited legal rights have led the

WHO (2014) to conclude that adolescents' participation as a force for their own health and for the healthful nature of their surroundings needs to be facilitated. However, Uusitalo-Malmivaara (2012) notes a current lack of studies elucidating factors that children themselves think contribute to their positive emotions. Furthermore, as Noddings (2003) has noted, employing research methods in studies about children's conditions that are similar to those used to examine adults' conditions leaves out important data about the quality of students' present experience of happiness. She has argued, "We need to ask where children find happiness in present experience and also how best to prepare them for future happiness" (Noddings 2003, p. 29). This accords well with a salutogenic model, emphasizing the importance of researching "salutary factors" that "actively promote health, rather than just being low on risk factors" (Antonovsky 1996, p. 14). Much previous research has particularly focused on risk factors related to children's low mental well-being rather than on salutary factors (Warne 2013). According to Proctor et al. (2008), traditional mental-health scales require respondents to indicate the presence or absence of problems and rate existing problems according to frequency and symptoms, with no option of reporting the characteristics or presence of positive feelings or behaviors. In contrast to traditional research procedures, Diener (1994) argues that measuring negative reactions gives an incomplete picture of people's well-being, concluding that it is now imperative to pay equal scientific attention to positive emotions.

Against this background, it is relevant to qualitatively explore students' perceptions of the role of happiness in school. However, this study initially fell within the broader context of a Swedish research project aiming to explore students' perceptions of psychosocial environment in school and to study aspects perceived to have effects on the psychosocial environment. The project took as one point of departure the World Health Organization's definition of health in terms of well-being: "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO 1946, p. 100). Peoples' "well-being" is here, in turn, understood as "what is 'good for' them" (Crisp, p. 1), narrowing down the broad concept of health to what is good for people in the physical, mental and social domains. In such a context, the present study initially set out to study students' perceptions of what is good for them in school as well as students' perceptions of aspects contributing to a positive learning environment in school. Because of an hypothesis generating design of the study (described in more detail below) the students' conceptualizations of having good times in school and of positive learning environments in terms of an abundance of positive mood states set the more precise scope of the present study to concern students' perceptions of happiness in school.

2 Materials and Method

2.1 Definitions and General Research Design

According to Miles and Huberman (1994), reliability depends, in part, on connectedness to theory, and more specifically on whether analytic constructs are clearly specified. In accordance with the conceptual and terminological framework presented in the *World Happiness Report* for both 2012 and 2013 (Helliwell et al. 2012, 2013), the terms *happiness* and *subjective well-being* are here used synonymously. *Subjective well-being* is a broad category of phenomena (Diener et al. 1999). In the *World Happiness Report* for 2012 the expression is used to designate "a range of individual self-reports of moods and life assessments" (Helliwell et al. 2012, p. 12), while *happiness* helps attract attention more

quickly. Two aspects of subjective well-being are distinguished: *emotional* (positive affect and negative affect) and *cognitive* (life satisfaction) (Diener 1984; Helliwell et al. 2012, 2013). In previous research, this division corresponds methodologically to different quantitative measurements of perceived instances of positive and negative emotions and life evaluations (Helliwell et al. 2013), allowing researchers to quantitatively assess two timely aspects of subjective well-being (Helliwell et al. 2013). Adapting such a model to qualitative research and to lower secondary school would further the understanding of children's happiness in present experience and conditions for future positive experiences, as emphasized by Noddings (2003). The present study's salutogenic orientation (Antonovsky 1987, 1996) centers on students' perceptions of earlier positive experiences and their perceptions of general positive conditions. Taking into careful consideration methodological recommendations and assertions such as those described by Awartani et al. (2008), Bradshaw et al. (2011), Dias and Menezes (2014), Garcia and Sikström (2012), Hood et al. (1999), Noddings (2003), UNICEF (2011), Uusitalo-Malmivaara (2012), and WHO (2014), students' perceptions were explored qualitatively through open-ended writing tasks.

As is evident in the research cited in the Introduction, happiness in closely related senses has lately been considered both a means and a desired end in education. And very recently, relationships between happiness and other important aspects of life, such as prosocial spending, with effects running in both directions were observed (Helliwell et al. 2013). A few theories about *dynamic* relationships (Helliwell et al. 2013) and *bidirectional* crossovers or spillovers (Rodríguez-Muñoz et al. 2013) have been put forward, where *crossover* refers to a transmission within the same domain (e.g. within school) and *spillover* refers to the transmission between domains (e.g. from work to home) (Rodríguez-Muñoz et al. 2013). Such theories about reciprocal relationships have barely been touched upon in research, which lacks precise elaboration in various scientific domains. In this study, the concept of bidirectional crossover is utilized in the data processing, where I further previous conceptual remarks by Helliwell et al. (2013) and by Rodríguez-Muñoz et al. (2013) and define a *bidirectional crossovers between A and B* as a relationship within a domain where:

1. An instance of type A directly or indirectly promotes an instance of type B, and
2. An instance of type B directly or indirectly promotes an instance of type A.

More concretely, assume that there would be a factual (and not merely perceived) bidirectional crossover of happiness and prosocial spending. On that account, happiness would be both a means and an end seen in relation to prosocial spending, and prosocial spending would, in turn, be both a means and an end seen in relation to happiness. However, because of the timely aspect of causality, the same instance or token of happiness (or prosocial spending) could not both promote and be promoted by an instance of prosocial spending (or happiness). An *instance* of happiness would promote *an instance* of prosocial spending, while *the same or another instance* of prosocial spending would promote *another instance* of happiness *but not the same instance* as the one experienced from the start. Hence, for each actual bidirectional crossover, there must be at least three instances with casual influence or dependence.

2.2 Participants

Two hundred students in grades 5–9 and from 11 school classes in four different schools (rural and urban) participated in the study during 2009. The four schools were part of the Swedish compulsory school system and were located in two municipalities in northern

Sweden. The same year, the Public Health Agency of Sweden conducted a national mapping of ninth-graders' mood states, presenting open comparisons in 2011 at the national and individual school level (Public Health Agency of Sweden 2011). Examples of questions in that survey are *Think about last week: Did you feel happy?* and *Think about last week: Did you have fun?* The assessments provided data about the number of students in each school who scored among the lowest 10 % nationally. Two of the 11 school classes participating in the present study comprised ninth graders—from two different schools. In the survey, one of these schools ranked in the upper half and one in the lower half. This accords with an inclusive perspective permeating this study and its salutogenic orientation, which directs research “to encompass all persons, wherever they are on the continuum, and to focus on salutary factors” (Antonovsky 1996, p. 14). According to the Swedish national curriculum for the compulsory school (Swedish National Agency for Education 2011), the school should promote the development and learning of *all* students. Hence, following Antonovsky's (1987) recommendation to “contribute to movement of individual persons for whom [one] is responsible toward the health pole” (Antonovsky 1987, p. 4) in the context of the Swedish compulsory school would include contributing to a positive development of students in schools scoring both higher and lower in the previous national mapping conducted by the Public Health Agency of Sweden (2011). The data were thus collected across the range of respondents suggested by the scope and theoretical background of the study, something that increases the reliability of the study (Miles and Huberman 1994).

2.3 Data-Collection Procedure

The empirical data collected during ordinary school activities consisted of the 200 students' written reflections. Open-ended writing tasks were construed to facilitate incorporating the students' own perspectives into the research, allowing for their participation, in accordance with the recommendations of UNICEF (2011) and the WHO (2014). Uusitalo-Malmivaara (2012) argues that there is a need in research exploring students' perceptions of happiness and its causes to shift the focus to things that are desired but missing. Corresponding to the two timely aspects of present and wished-for future positive experiences outlined by Noddings (2003), the students were asked to complete the following sentences (here translated):

1. Now I will tell you about one time when I had a good time in school, it was...
2. If I were to decide how to make school the best place for learning, I would like to...

Hence, in accordance with the recommendations of Diener (1994), this study dissected subjective well-being, considering specifically the school domain, while it also included a broad category of subjective well-being rather than a molar one in asking for the students' good times in school. Furthermore, the study's inclusive perspective (Antonovsky 1996) permeated the data collection. The writing task was formulated in common terms, and every student in the participating classes was provided an opportunity to accomplish the task. Information about the study was given to the students and parents, orally and in writing, and informed consent was obtained. According to the Swedish ethical review act, participation in research studies is voluntary, and participants are free to withdraw at any time without giving a reason (Ministry of Education and Cultural Affairs 2003). The law requires confidentiality, meaning that unauthorized persons have no access to the empirical data. The research study was approved by the Regional Ethics Review Board (Dnr 45-2009) in Sweden.

2.4 Data Processing

Miles and Huberman (1994) consider written stories to have a concrete flavor that is particularly convincing to readers. However, they have also noted the distinct possibility of researcher bias in qualitative research, and Boeije (2002) has argued that it tends to lack clarified analysis description. To handle these problems, this study used elements from Føllesdahl's (1979) theory of hermeneutical procedure as a hypothetico-deductive method applied to meaningful material, in combination with the common data-processing procedure of clustering: "the process of inductively forming categories" (Miles and Huberman 1994, p. 249). Hence, no deliberate initial hypothesis or set of categories was used as a point of departure.

The study aimed at providing sufficiently detailed information and explicitness in descriptions of data-processing procedures. It moreover attempted to display the condensed data through explicit examples of student quotes for each theme description (see Results) in order to enable a "vicarious presence" for the reader and facilitate other researchers' reanalysis as well as to facilitate the reader's check of the conclusions' link with exhibits of condensed data (Miles and Huberman 1994, p. 279). These methodological choices were made in order to enhance internal validity and confirmability, which is in accordance with the recommendations for qualitative studies by Miles and Huberman (1994).

The author conducted the data processing and the content analysis proceeded through eight readings of the data, from raw data to extracted themes, as follows:

- Reading 1* Reading through the whole data set and attaining a preliminary understanding of a general theme (happiness). Noting that the Swedish words *glad* (in English, "happy"), *kul*, and *rolig* (both translating to "fun") appeared frequently.¹ The first thematic understanding took shape during the final parts of this reading.
- Reading 2* Reading through the whole data set and searching for potential mistakes in the previous procedure. Confirming that the students expressed such statements as noted in *Reading 1*. Widening and deepening the understanding of the general theme.
- Reading 3* Reading through the whole data set and noting every section containing the Swedish words *glad*, *gladare*, and *glädje* (glad/happy, happier, joy/pleasure), *kul*, *rolig*, *roligare*, and *roligast* (funny, funny, funnier, funniest).
- Reading 4* Reading through the data extracted during *Reading 3* and considering which roles the students indicated that happiness played. Noting that the students expressed a range of perceived causal roles of happiness. Happiness was sometimes described as a causal antecedent and sometimes as a causal consequent. Each statement expressing such a causal role was compared with other statements indicating perceived causal roles of happiness. Similarities and differences were noted, and the statements were either distinguished from or combined with one another to form meaningful units that were labeled, providing several preliminary themes regarding the perceived causal roles of happiness. A single student statement expressing a perceived causal role of happiness was considered sufficient basis for a preliminary theme. During this reading, an initial synthesis was conducted.

¹ The previously described meanings of *happiness* and *subjective well-being* and their operationalization (Helliwell et al. 2012, 2013) allow *happiness* to cover several positive emotions.

- Reading 5* Reading the extracted data from *Reading 4* and searching for mistakes in the previous procedure. Alternative hypotheses with alternative interpretations of the student statements about perceived causal roles of happiness than those hypothesized during *Reading 4* were considered and when encountering incorrectly grouped and labeled student statements, either the label was changed to more accurately fit the whole group of statements in the preliminary theme or the instance was excluded from the preliminary theme and the label was reconsidered to accurately fit the remaining student statements. The preliminary themes were then compared with one another. It was noted that some causal relationships of happiness were perceived by the students as running both ways—that is, there were perceptions of *bidirectional crossovers*, as defined in Definitions and general research design.
- Reading 6* Reading the extracted data from *Reading 5* and using the discovery of perceived bidirectional crossovers of happiness to explore whether there were additional such relationships within the extracted data. For each preliminary theme extracted thus far [satisfying condition (1) as stated in Definitions and general research design], it was explored whether another preliminary theme contained the perceived converse promoting relationship [satisfying condition (2) as stated in Definitions and general research design], aiming for the extraction of only the preliminary themes that had a corresponding sequence of a perceived converse promoting relationship. However, for some preliminary themes, the converse relationships were not found immediately but required a reconsideration of the data in deliberate search for perceived converse promoting relationships. Such reconsiderations occasionally resulted in the discovery of converse promoting relationships, while the rest were disregarded because perceived as running only one way. The aim of *Reading 6* was thus to exclude perceived promoting relationships of happiness running only one way and to combine final themes that contained perceived bidirectional crossovers of happiness. With the concept of bidirectional crossovers as a theoretical foundation for this step of the data processing, the themes were occasionally reconsidered and relabeled from the preliminary conceptual and terminological understanding in *Reading 4* and *Reading 5*.
- Reading 7* Reading the extracted data from *Reading 6* and searching for any mistakes that had been made during the previous procedure. Here again, alternative hypotheses with alternative interpretations of the extracted student statements were considered. Occasionally, student statements were disregarded due to not satisfying conditions for inclusion in a theme. The remaining student statements were considered qualified, after consideration of alternative hypotheses, as satisfying conditions for inclusion in the remaining final themes.

Reading 8 Reading through the data and selecting student quotes that both satisfied conditions for inclusion in the final themes and represented the whole data set. By the latter is meant that each school grade in each of the four schools is represented in the condensed data displayed in the theme descriptions below in Results, and no two student quotes are by one and the same student. Hence, the data collected by the range of respondents suggested by the scope and theoretical background of the study are also represented in the descriptions of the final themes, containing the students' perceived bidirectional crossovers of happiness.

For Miles and Huberman (1994), how well the presented data is linked to the categories of prior or emerging theory is a measure of a study's internal validity. As is evident above, the data presented in this study have been linked to the conceptual framework of happiness or subjective well-being established in previous research (e.g. Helliwell et al. 2012; 2013) as well as to emerging theory of bidirectional crossovers of subjective well-being (Helliwell et al. 2013; Rodríguez-Muñoz et al. 2013).

As noted, this study used elements from Føllesdahl's (1979) theory of hermeneutical procedure as a hypothetico-deductive method, in combination with the common data-processing procedure of clustering (Miles and Huberman 1994). In a strict sense, this implies utilization of two methods for data processing. Both of these were applied in *Reading 1–8*. While procedures of clustering were mainly used in the first parts of the data processing (*Reading 1–5*), hypothetico-deductive elements of hermeneutical procedure were mainly used in latter parts (*Reading 5–7*). According to Miles and Huberman (1994), one measure of a qualitative study's internal validity is whether triangulation among complementary methods and data sources produces generally converging conclusions. They moreover state that adequate agreement between coding checks supports reliability (Miles and Huberman 1994). In this study, one function of the hypothetico-deductive method was to re-evaluate the coding and hypotheses generated through the procedure of clustering by providing and considering rival evidence, hypotheses and explanations, as done in *Reading 5–7*. Such genuine considerations increase both internal validity and confirmability (Miles and Huberman 1994). In general, however, the initial hypotheses about existences of perceived one-way causal relationships of happiness from *Reading 4* and perceived bidirectional crossovers of happiness from *Reading 5* were supported through the whole remaining data processing (*Reading 4–8*).

3 Results

3.1 Comprehensive Description

Five perceived bidirectional crossovers of happiness were noted in the students' written reflections:

- (i) Happiness and learning
- (ii) Happiness and school engagement
- (iii) Happiness and appreciation of subjects or lesson content
- (iv) Happiness and others' happiness
- (v) Happiness and prosocial behavior

The perceived bidirectional crossovers (i)–(v) are the final themes resulting from *Reading 1–8* described above. The five themes, each with two perceived promoting relationships, are described in detail under separate subheadings. The themes are not mutually exclusive. Some student responses could have correctly been clustered under another theme, though this was not the result of the data processing.

3.2 Happiness and Learning

3.2.1 Happiness as Promoting Learning

The students indicated that happiness in several ways promotes learning, or success in specified school tasks. They stated that being happy helps one learn more and that having fun has positive implications for learning. Some contended that there is an indirect and weak promoting relationship between happiness and learning. One student expressed this as follows: “If it’s more fun, you become happier. If you’re happier, maybe you’ll work a little better, and if that happens, you’ll learn more, and that’s what school is all about. Right?” The student thus argued that happiness promotes better work that in turn promotes increases in learning. Another student argued that, when there is good technological equipment in each classroom: “...it is easier to learn because it is funnier.”

3.2.2 Learning as Promoting Happiness

The students held that learning, or success in specified school tasks (such as finishing school books or passing tests) promotes happiness: “One time, I didn’t think I would pass a science test. But when I got it back, I saw I had passed. That was happiness.” Hence, the student experienced that success in a school task promoted happiness. Another student wrote the following about having a good time in school:

One day, I had lots of fun the first period, when I did division in math and was really good at it, and the whole period went great. Then we had recess, and we played soccer. That was also really fun because I scored lots of goals. Then I went to music and played instruments, and that was fun too, since I learned two new songs.

In this case, the student experienced positive moods as consequences of learning and success in certain tasks. The students also wrote more general statements about happiness contributing to learning, such as this: “I think it’s fun to learn new things and hang out with friends in school.” Also here, positive moods were considered stemming from learning.

3.3 Happiness and School Engagement

3.3.1 Happiness as Promoting School Engagement²

The students held that positive moods allow them to work well in school. The motivational aspects of having a good time in school were sometimes emphasized: “When I had many good friends and felt it was fun to learn, I felt motivated to learn things, and I felt that I got

² *School engagement* should here be broadly interpreted as including *both* working devotedly in school and doing homework *and* quantitative measures, such as increased attendance. However, it does not account for such potential effects of school engagement as actual learning or success in specified school tasks, which are instead encompassed in “Happiness and learning” above.

something out of doing my homework and studying.” Another student argued that having fun in class would reduce the number of students playing hooky:

A child who’s having fun is easier for a teacher to deal with. Those who play hooky wouldn’t do that if they felt our lessons were fun, right? Isn’t it better that we are in class and talk a little than not being there at all? (I just want to add that I don’t play hooky, but I know those who do, and I know why they do it, too).

The students also described influence of teachers on positive moods, in turn promoting school engagement: “...the teachers should be funnier because then you would get more energy and it would get funnier and then you would do more.”

3.3.2 School Engagement as Promoting Happiness

Engaging in different ways in schoolwork was thought to contribute to happiness. Focusing on schoolwork, working devotedly, and being motivated to learn were emphasized as ways of engaging in school. One student described an experience of having a good time in school:

When I had math and worked with [Alexander], we did 32 examples in one period. Things went well because we had a calm place to work and didn’t fool around. We focused on math and nothing else. I think it feels good because when I’m working, I feel proud of myself and just want to keep on working, and that makes me happy.

Another student described a positive experience in which the whole class’s engagement made the lesson fun and contributed to happiness:

It was Friday, and everyone in the class was extra happy. We laughed, and maybe we were a little too out there during some of the classes. But everyone was involved in what we were doing and wanted to learn. Eager and happy to learn new things, I would say, haha. It was so much fun that for once everyone *wanted* to work and was interested in the topic we were working with.

3.4 Happiness and Appreciation of Subjects or Lesson Content

3.4.1 Happiness as Promoting Appreciation of Subjects or Lesson Content

The students argued that being happy and being allowed to have fun contribute to liking and longing for school subjects or lesson content. One student wrote about the happiness stemming from participating in ‘girls talk’, a happiness that made the student appreciate the ‘girls talk’ and recommend it for all schools:

This has happened several times. When something has happened in school, for instance that a friend and I have argued or said mean things about each other. Then we can talk with each other and say how we felt. This is called ‘girls talk’. When you have talked about it and heard what the other person meant it feels like all the sadness goes away. It feels really good. (...) I think all the schools should have girls and boys talk. It could help many children that feel bad in school. It could also happen that they then find it fun to go to school.

Some students considered practical work to promote positive moods, and the following quote indicates that such positive moods were in turn experienced as influencing wanting to have practical work and longing for school: "School is fine, but I would like to have more practical work because then it is fun. Then I would long for school." Another student wrote the following about having a good time in school:

We got to go ... and try our hand at some jobs in a TV studio with real movie cameras and a control room. Some of us played at being graphics engineers, and some were reporters. First, we got to use the computer to find information we wanted to include on the program. Then we recorded it and got to see the program. It was really fun. Since then, I've wanted to take the media program in high school.

A reasonable interpretation is that this student perceived the promoting relationship as running both ways: an appreciation of specific lesson content promoted fun, which in turn promoted further appreciation of the lesson content.

3.4.2 Appreciation of Subjects or Lesson Content as Promoting Happiness

The students described different ways that having subjects or lesson content that they liked contributed to their happiness. The following quote reflects the experience that loving a specific sports activity contributed to happiness:

[The intramural soccer tournament] was held in [the sports center], and we came in third, but it was pretty good. The class was there from nine in the morning until about three in the afternoon, so everyone brought their own food to eat between games. It was also fun off the soccer pitch. It was fun because I love playing soccer. I get really happy when I play.

They also wrote about the experience of becoming happy as a consequence of appreciating a school subject, such as math. One student wrote about the music lessons, including the music teachers, and stated: "I like singing. The music lesson was the best of the week. Everybody liked the music subject and were happy."

3.5 Happiness and Others' Happiness

3.5.1 Happiness as Promoting Others' Happiness

Only one student statement explicitly mentioned this perceived bidirectional crossover. The student in question argued that a student's individual happiness in general influences the student's character traits, which in turn influences other students positively such that they also become happy. The student concluded, "When I'm happy, a lot of other kids are happy, too."

3.5.2 Others' Happiness as Promoting Happiness

The students described experiences in which classmates' happiness had contributed to their own happiness. For instance: "I felt good because most of the kids were happy." Other students had narrower ideas about whose happiness contributed to theirs, stating that friends' happiness facilitated their own happiness: "Sometimes, certain days are just really good days. I'm in a good mood, and everything feels like fun. When my friends are happy, when I did well on the test."

3.6 Happiness and Prosocial Behavior

3.6.1 Happiness as Promoting Prosocial Behavior

The students described experiences of being happy as contributing to different aspects of prosocial behavior. One student stated that being happy promotes a social environment that lacks certain negative characteristics, such as disturbing interactions: “But what feels best is probably when I’ve eaten something good and filling, so I feel happy and satisfied. Then everyone works well, and we don’t disturb each other.” Also described were experiences involving the influence of happiness and other positive feelings on an encouraging atmosphere in school:

We biked from school to [the sports center] and played basketball and a soccer tournament. It was fun to be together with my friends and feel the happiness of winning. We came in first in basketball and third in the soccer tournament. People encouraged me when I did something good, and I encouraged people when they did something good. Everyone got the same amount of playing time. Even if you didn’t play basketball, you got the same amount of time. A lot of kids really enjoyed that day, and I really liked school then.

According to this quote, being able to spend a pleasant and happy time with friends facilitated a supportive social school environment, in turn contributing to happiness. Hence, this student perceived the promoting relationship as running both ways.

3.6.2 Prosocial Behavior as Promoting Happiness

The students indicated that supportive social behavior, such as encouragement and appreciation, contributed to happiness. One student wrote the following about having a good time in school:

On my [indoor bandy] team, there were many hockey guys, and they’re usually very good at indoor bandy, so I thought they wouldn’t pass me the ball. But they did, and I scored a goal. And they cheered me on and gave me a high five. It felt almost like I was one of them. And that sport made me very happy because I fit in, and they cheered me on. I was happy the next day, too.

Other students wrote about the positive influence of supportive friends and encouraging words from classmates: “In group projects, it’s so much fun when we’ve worked hard and someone says ‘Well done.’ It really feels great.” According to one student, the constructive influence of such a positive social atmosphere reaches beyond mere minutes:

We went to the sports center to play in a basketball tournament. It’s fun to be with friends, and when we win or score a goal, everyone says good things and encourages everyone who does something good. I almost always enjoy school, but that day was the most fun, and I was happy all day long. Everyone had fun and cheered each other on.”

4 Discussion

First, it must be remembered that this study does not attempt to articulate generalizable results. Rather, it aims for justified propositions about students’ perceptions of the role of happiness in school that can guide future research exploring whether novel perceived

bidirectional crossovers of subjective well-being correspond to the actual state of affairs. To determine which, if any, perceived bidirectional crossovers are novel, each of the five themes is now related to earlier research's verification of the causal relationships of happiness. According to Miles and Huberman (1994), a study's external validity is partly dependent on whether the findings are congruent with, connected to, or confirmatory of prior theory. A broad array of research, not limited to the educational context, has been considered relevant for determining the congruence between the perceived bidirectional crossovers in the present study and actual bidirectional crossovers partly verified in previous studies.

(i) *Happiness and learning.* The data concerning the direct effects of education on happiness appear mixed and vary between countries (Helliwell et al. 2012). Yakovlev and Leguizamón (2012) found that higher education (college degree) in 50 American states influenced subjective well-being positively, while secondary school education did not. This could align with Swedish results that mental ill health increases during lower secondary school (Public Health Agency of Sweden 2011). While it has been noted that educational level has no clear direct impact on subjective well-being, it certainly has *indirect* positive effects because of its influence on income (Helliwell et al. 2012). However, such a relationship is far from what the students in the present study described. Students' perception that succeeding in specified school tasks is conducive to happiness gains some empirical support from a review by Proctor et al. (2008), which notes that perceived goal attainment, goal importance, and goal fulfillment are positively related to positive affect. Moreover, according to a study by Khalkhali and Golestaneh (2011), winning contributed to experiences of happiness, a result that aligns with students' perceptions in the present study. In contrast, however, previous studies demonstrate that when one's life is organized around the pursuit of extrinsic goals, personal well-being is diminished, whereas the reverse is true of a life formed around the pursuit of intrinsic goals (Proctor et al. 2008). Moreover, according to Uusitalo-Malmivaara (2012), grades or overall academic success are not strong correlates of students' global happiness or correlate only mildly.

Considering instead whether happiness is conducive to learning, there is clearer empirical evidence to be found. A country's adolescent emotional well-being is a strong predictor of its educational achievement (Sznitman et al. 2011). According to Helliwell et al. (2013), job satisfaction predicted future performance, but performance did not predict future job satisfaction, and the conclusion is that happiness has positive effects on employees' productivity, performance, and success. Happiness functions as a reward mechanism in neurological learning processes (Helliwell et al. 2013). According to Noddings (2003), children learn best when they are happy, something she has found evident in decades of teaching and mothering. She has argued that students who are generally happy with their studies are better able to bring meaning to difficult periods and to get through them with some satisfaction.

(ii) *Happiness and school engagement.* There appears to be a lack of wide-ranging empirical research about the extent to which school engagement contributes to subjective well-being. According to Rodríguez-Muñoz et al. (2013), even regarding research about employee work engagement, it appears that few studies explore its effects on subjective well-being because of a traditional focus on crossover and spillover effects on objective well-being and life satisfaction. Work engagement's impact on the emotional aspects of subjective well-being has not been previously assessed. However, in their very recent study, they found that daily work engagement has a direct effect on daily happiness (Rodríguez-Muñoz et al. 2013). Research connecting adolescents' school engagement with their subsequent employment or unemployment indicates that leaving school and not

becoming employed correlates with reports of increased depressive affect (Proctor et al. 2008). If anything, this would speak very slightly in favor of school engagement's positive influence on happiness, but it should be noted that the results in the cited study (Proctor et al. 2008) say very little about the present study's findings on perceived crossovers from school engagement alone to happiness.

The reverse relationship may have some indirect support in that happiness positively influences curiosity for employees and also leads to greater engagement in social activities (Helliwell et al. 2013). This would slightly support the claim that happiness promotes school engagement to the extent that school is a social arena.

(iii) *Happiness and appreciation of subjects or lesson content.* There appears to be a lack of empirical research regarding both relationships in this perceived bidirectional crossover. However, again, the conclusion that happiness positively influences curiosity (Helliwell et al. 2013) might vaguely support the claim that happiness is conducive to an appreciation of subjects or lesson content.

(iv) *Happiness and others' happiness.* According to Helliwell et al. (2013), happiness has the potential to generate positive snowball effects in society. It was noted that people who are happier are likely to bring happiness to those around them, that happiness extends up to 3° of separation, and that individuals who are surrounded by happy people are likely to become happier in the future (Helliwell et al. 2013). This supports both relationships in this perceived bidirectional crossover. Bidirectional interpersonal crossover effects of happiness are also noted by Rodríguez-Muñoz et al. (2013).

(v) *Happiness and prosocial behavior.* Plenty of research and multiple international reports support the positive influence of prosocial behavior on subjective well-being. According to Patton et al. (2012), high-income countries' regular reports on the health of their young people have generally evolved to include social determinants of health. The WHO (2014) has noted that the presence of peers with antisocial values, negative attitudes, and harmful actions has severe consequences for death rates. That happiness is positively influenced by strong social support and social trust is supported by Helliwell et al. (2012, 2013), and Uusitalo-Malmivaara (2012) confirms that safe social relations constitute a primary factor underlying children's happiness.

In the students' written reflections, friends' supportive behavior was thought to contribute to happiness. While most of the literature investigating the association between social interaction and happiness has focused on romantic relationships and marriage, a more expansive picture of the effects of friendships on happiness has been elaborated recently, showing that the quality of friendship, especially, has a significant impact on individual happiness (Demir et al. 2012). This aligns with the findings of Noddings (2003), which state that companionship is considered the single greatest factor in producing subjective well-being. Also, Casas et al. (2012) found that satisfaction with school friends and satisfaction with classmates are highly related to overall life satisfaction. Diener and Oishi (2005) even argue that close friendships are *necessary* for happiness. According to Rodríguez-Pose and von Berlepsch (2013), two main drivers of the effects of social capital on happiness are informal social interaction and general social trust, aspects also underlined by the students in the present study.

Further, that happiness is conducive to prosocial behavior has been rigorously verified in previous research. According to Helliwell et al. (2013), there is substantial evidence that happiness contributes to prosocial behavior, a relationship that occurs across cultures. Being happy increases the probability that one will help others, that individuals' cooperation and collaboration are stimulated by their subjective well-being, and that experiences

of happiness promote social interaction and higher-quality social relationships, while the opposite is the case for negative moods and depression (Helliwell et al. 2013).

Regarding this perceived bidirectional crossover, there are even studies and reviews that explicitly formulate the idea that the effects of happiness and prosocial behavior run in both directions. Holopainen et al. (2012) concluded both that cooperation skills are important as predictors of adolescents' psychological well-being and that their psychological well-being predicts cooperation skills. It is also noted in the *World happiness Report 2013* (Helliwell et al. 2013, p. 67) that "when people are in a good mood they tend to help others; helping others in turn fosters a good mood." In addition, "having supportive relationships boosts subjective well-being, but having high subjective well-being in turn leads to better social relationships" (Helliwell et al. 2013, p. 67).

In conclusion, the perceived bidirectional crossovers most lacking in previous studies and most in need of corroboration and verification in future research are (ii) *Happiness and school engagement* and (iii) *Happiness and appreciation of subjects or lesson content*. Furthermore, for the theme (i) *Happiness and learning*, more research is needed to demonstrate whether learning contributes to happiness. Put in order of verification in the cited previous research, the perceived bidirectional crossovers would be listed as follows, with the most verified at the top:

- (v) Happiness and prosocial behavior
- (iv) Happiness and others' happiness
- (i) Happiness and learning
- (ii) Happiness and school engagement
- (iii) Happiness and appreciation of subjects or lesson content

This study shows that the students' perceptions in several respects align with decades of previous research about the determinants and effects of subjective well-being, a finding that supports that students are trustworthy as informants in the present area of research. Moreover, the results of novel perceived bidirectional crossovers—adding new hypotheses to facilitate falsification or corroboration in future large-scale studies—support the claims of the WHO (2014) and UNICEF (2011) about the benefits of allowing students to contribute their own perspectives as a force for development. This concurs with Noddings's (2003) later theory of moral education, including her proposal of allowing children's present experiences of happiness to contribute to concrete development in the classroom.

It could also be noted that several of the student quotes regards sport activities. More specifically, the results indicate that the students find different sport activities as contributing to their happiness. However, for this perceived promoting relationship, the students only described it to run from practicing sport activities to increases in happiness levels and did thus not describe any bidirectional such relationship. In future research, there would be of certain interest to further study relationships between happiness and sports in school.

According to Miles and Huberman (1994), measures of a qualitative study's external validity are whether the processes and outcomes described in the conclusions are generic enough to be applicable in other contexts and whether the study suggests settings where the findings could fruitfully be tested further. This study supplies a systematic framework for interpreting qualitative outputs and provides conceptual as well as analytical direction for future research about happiness in education. The formal expression *bidirectional crossovers of subjective well-being* could function to provide analytic categories in future research, while the more informal expression *circles of happiness* could be used in education, allowing teachers and students to conceptualize everyday events in the

classroom. The study's methodological framework could be applied in research to further data sets in educational or other contexts in order to discover potential congruence with the results in the present or cited studies, or to find further novel perceived bidirectional crossovers of subjective well-being. In the applied field, the most established actual bidirectional crossovers of subjective well-being could be taken into account by teachers and other educational personnel having influence on educational settings on various organizational levels.

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Compliance with Ethical Standards

Conflict of interest The author declares that she has no conflict of interest.

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Research involving human participants This study involved human participants.

Informed consent Informed consent was obtained. The research study was approved by the Regional Ethics Review Board (Dnr 45-2009) in Sweden.

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