Self perception of gifted girls in schools, exclusively for gifted children

Goossens, Finn

Universiteit Leiden

Psychologie
Faculteit der Sociale Wetenschappen

Self-perception of gifted girls in schools, exclusively for gifted children

Finn Goossens

Master Thesis Child & Adolescent Psychology
Date: 16/12 2021
Student number: 1498819
Supervisor: Kiki Zanolie
Second reader: Lina van Drunen

1 S. Goossens

98819

ld & adolescent psychology

den University

ghtwave Project

Index

Abstract

s study investigated self-perception of academic achievement and social acceptance of ten- to twelve-year-old gifted s who attend schools, exclusively for gifted children and compared their scores to those of either boys who attended the e schools or to boys and girls attending regular school-curricula. The "Competentiebelevingschaal voor Kinderen" SK), which is a version of the Harper's self-perception scale (1987), was used as item measurement instrument. No ificant differences on self-perception of academic achievement were found between children, based on gender or ool-type attendance. However, girls who attend schools, exclusively for gifted children, do score lower on self-eption of social acceptance than girls who attend a regular curriculum *(*d = .624, $t(50) = 2.083$, $p = .042$). Children, nding schools, exclusively for gifted children, score lower on self-perception of social acceptance than children who nd regular schools (d = .666, $t(110) = 2.416$, $p = .017$), yet this effect does not occur when exclusively comparing boys. s effect could possibly be explained through a combination of biological and social-contextual factors. Since girls reach erty at an earlier stage than boys (Hayward, 2003) and since gifted children tend to experience some form of increased nitive functioning, it is theorized that gifted girls experience the decline of positive self-perception, which is associated n early adolescence (Klein & Zehms, 1996; Lea-Wood & Clunies-Ross, 1995), more strongly at a younger age.

Introduction

-perception is a very important developmental factor. Our perception of our capacities, physical body and intellectual ential has a big impact on our behavior now, and later in life. General self-perception changes throughout our lifetime, reasing until late adolescence and steadily increasing afterwards (Eccles, Wigfield, Flanagan, Miller, Reuman, & Yee, 9). Since self-perception has a high predictability on general well-being (Karatzias, Chouliara, Power, & Swanson, 6), mental health and academic achievement (Eisele, Zand, & Thomson, 2009), early adolescence is a critical period for lthy mental development in the future. By learning which groups of people are at risk for developing certain types of ative self-perception, we can learn about the factors that influence negative valanced self-perception and increase their nces of general well-being in the future. One group that has received relatively fer attention with concerns to their self- ception is gifted girls in early adolescence. Because gifted girls are frequently underrepresented in gifted programs ersen, 2013) and are being recognized as gifted less often than boys, less data has been collected of this group in eral. On top of that, gifted children show differences in self-perception than non-gifted children (Chan, 1988) and, ause of neurological differences between boys and girl in early adolescence, it might be possible that these differences ılt in different self-perceptions for gifted boys and girls, as they do exist in non-gifted boys and girls (Skaalvik, & ıkin, 1994). It is worthwhile to gain more insight on this topic, since there haven't been much publications about it thus Results can possibly contribute to more accurate life trajectories of gifted women and help assess risks for certain ative self-perceptions and thus psychopathology in later life. But first, a summarization of previous literature on vant topics will be given.

lescence and the social brain

Besides the physical changes that occur during puberty, neurological changes in specific areas of the brain cause erences in cognition and certain behaviors. A commonly accepted explanation for this is that structural brain elopment is necessary to help adolescents navigate an increasingly difficult social context and help maintain long

ing relationships. However, the process by which some neurological developments change certain behaviors seem to be tered around seeking out and avoiding certain stimuli. It does so by increasing or decreasing the number of rotransmitters and hormones that are released in response to certain stimuli, either as a reward or punishment. As a ılt of this adolescent people perceive certain stimuli in a different manner than they did at a younger age. For example, ıe behaviors elicit a stronger fear response than they did before (Stenson, Nugent, van Rooij, Minton, Compton, richs & Jovanovic, 2021), while other stimuli may elicit more happiness than they did before (Blinn-Pike, Worthy, kman, 2010). In order to receive these neurological rewards or avoid the punishment adolescents are forced to reshape ain aspects of their behavior though this process. Even though it is essential for the development of new social tegies, and thus also the transition from child- to adulthood, this principle also creates risks concerning the chological well-being of young adolescents.

On one hand, the onset of adolescence brings in motion certain processes that stimulate certain behavior by increasing r neurological reward. Through increased growth in the nucleus accumbens, which functions as the body's natural ard system (Casey, Getz, & Galvan, 2008), adolescents tend to seek out new rewarding experiences (Kelley, Schochet, .andry, 2004). As a result of this, they are willing to take more risk than any other age groups, either because they do not ceive the consequences of their actions as seriously as others or to improve their social credit among peers (Blinn-Pike, rthy, Jonkman, 2010; Patton et al., 2016).

However, it seems like fear of punishment, rather than search for reward, shapes most of young adolescents' behavior. ıforming to social norms of peer groups seems to play an important role in the life of most young adolescents (O'Brien, ierman,1988). Since resistance to peer pressure only starts to substantially increase from age 14 (Steinberg & Monahan, 7), early adolescents are very susceptible to it. This can be explained by fear of social exclusion, which elicits a much nger response in adolescents than any other age group (Sebastian et al. 2010). Because the limbic system, associated ı emotional experiences, develops faster than the cortical regions, which is associated with rational thinking, lescents have a skewed perspective of the impact of social exclusion. Casey, Getz and Galvin (2008) state that: "in otionally salient situations, the limbic system will win over control systems given its maturity relative to the prefrontal trol system.". This indicates that it is more difficult for adolescents to rationalize social events than it is for people in

er age groups. In order to avoid the punishment of social rejection, adolescents are more willing to conform to peer ssure than others and therefore shape their behavior towards social norms among peers. Stanson et al., (2021) found that lescents with a higher perceived pubertal status elicit much stronger responses to fear-inducing stimuli than adolescents n lower perceived pubertal status. This implicates that, during puberty, adolescents are more susceptible to learning ough fear.

n though these social risks are largely based on how adolescents perceive the social world, they still have very real sequences. Bem postulated his "self-perception theory" around the idea that people tend to base various aspects their -perception on what they think others think of them (1977). According to Bem, we see ourselves through the eyes of ers, and need their acceptance in order to feel validated by ourselves. Although it is difficult to solidify the empirical s of this theory, there are indications that self-perception in adolescents is largely based on how they think others ceive them. Pfeifer, Masten, Borofsky, Dapretto, Fuligni & Lieberman (2009) found that adolescent self-perception is ociated with much more activity in brain regions that are linked to social cognition than in adults, postulating that itive social interactions in this time-period are very important for their general self-perception. Connolly and Konarski 94) found that peer-perception (along with friendship strength) strongly contributes to the self-concept of adolescents.

top of that, adolescence is a period that is also characterized by changes in social context. Most children make the sition from primary to secondary school, which requires them to re-establish their social identity among other peers. en they have problems concerning social adaptability at their new school, this often results in a negative influence on r social self-perception and general feeling of self-worth (Eccles & Midgley, 1990). All three of these studies are, to ıe degree in line with Bem's self-perception theory and so it seems that, at least during early adolescence, the way in ch we see ourselves is in fact influenced by what others think of us.

summarize: these neurological processes, that are at play in early adolescence, seem to indicate that children in this ıographic are biologically encouraged to engage in social interaction with each other. Often, they are placed in new al environments, in which they strongly feel the need to profile themselves and feel more rewarded when successfully ng out new social strategies, just as they feel more punished when they feel like they are the odd one out. Through the cess of creating, conforming to and questioning social norms, young adolescents build a social identity and compete for

ace within the social hierarchy among peers. This process seems detrimental for childhood to develop into socially l-adjusted adults. However, this process does take its toll on the mental well-being of young adolescents.

ial adaptation is more difficult for some than it is for others, and can potentially cause long-lasting harm. Adolescents / respond maladaptively to increased stress, associated with these developmental changes, by developing psychosocial ıstment problems. This is reflected by the fact that early adolescents have the lowest feeling of self-worth and least ıle self-perception in comparison to any other age group (Eccles, Wigfield, Flanagan, Miller, Reuman & Yee, 1989), ch contribute to their heightened vulnerability for the onset of internalizing psychopathology, such as depression and iety (McLaughlin & King, 2015). The degree of psychological distress, such as feelings of depression or anxiety, that ple experience during early adolescence often is predictive for their degree of distress, at a later age (Stenson et al., 1). These disorders often persist for multiple years and have a detrimental impact on academic and social development, r in life (Ingram, Scott, Hamill, 2009; Avgustinovich, Kovalenko & Kudryavtseva, 2005). Therefore, the biological and o-emotional changes that occur during early adolescence can have immediate but long-lasting consequences on mental lth. Depressive disorders among young adolescents in the Netherlands have doubled between 2014 and 2018 and are rising (CBS, 2020), which indicates that currently not enough is done to protect at-risk adolescents. In order to prevent olems that will occur at a later age, it is of the utmost importance to identify risk-factors for both adolescents in general specific subgroups that are more at risk. Before adequate interventions can be developed, risk-groups and risk-factors ıt be identified. Only by developing a larger understanding of the social-biological framework that forms the foundation dolescent self-perception are health-professionals enabled to adequately respond to the needs of adolescents in general those of specific subgroups.

ial and biological risk-factors apply to all adolescents to some degree. However, groups that are unable to cope with social -norms, such as adolescents with different sexualities, gender-identities or racial backgrounds (Bhugra & Ayonrinde, 2004) example, show to have much higher chances to developing psychopathological ideas about themselves. Through repancies between certain aspects of their identity and their perception of social norms, specific maladaptive self-perceptive ıs are formed. Since certain subgroups show different self-perception profiles, it is important to gather as much as possible rmation about them in order to protect their vulnerabilities.

edness

One group that has received a lot of attention from the scientific community regarding self-perception and social ptability is gifted adolescents. There still is an ongoing discussion about what the exact criteria are for labeling a child ;ifted and to what degree gifted adolescents are a risk-group for developing psychopathology. However, there seems to ı consensus regarding the existence of group-specific protective- (Muller, 2009) and risk factors for gifted children oss, 2006; Majid & Alias, 2010), indicating that adolescent children have different strengths and vulnerabilities in ıparison non-gifted adolescents. This discrepancy can partially be explained through a term called "asynchronous elopment", or also referred to as "asynchrony". Asynchrony is defined as the large degree of heterogeneity in cognitive, o-emotional and creative abilities in gifted children, caused by atypical growth speed in specific brain-areas verman, 1997; Silverman, 2013). This explains how gifted children may have different needs and socialization ectories than non-gifted peers, though it must be stated that there still is much debate about how children become gifted accuracy of the giftedness identification process.

The biggest risk-factor for gifted children/adolescents, seems to be loneliness (Shechtman & Silektor, 2012). When ed children don't receive adequate social or academic stimulation, they tend to feel the odd one out. Loneliness tributes to many developmental adversities in gifted adolescents. Gifted children often feel socially isolated when they 't discuss their interests with peers and are more willing to conceal their (academic) interests in order to fit in with their nds (Adams-Byers, Whitsell & Moon, 2004). This applies even more so for young adolescents, since the previously cribed neurological developments push adolescents towards conforming to the group identity. Since adolescents get er opportunities to connect their social identity with personal interests, they also get to practice less on various alization skills (Shechtman & Silektor, 2012). Since gifted children have shown to have superior social adaptability ıncis, Hawes & Abbott, 2016*)* they know how to mask their differences for others quite well, but by doing so they risk ng interest in academic achievement. Even more importantly, even though others might not see gifted children as the one out, the gifted children often do feel that way (Shechtman & Silektor, 2012). They can feel like they have to nge who they are and what they like in order to be liked by others. On top of that they are under stimulated in both

sonal and academic growth when not recognized for and supported in their growth-potential. How under stimulation and up conformity leads to adverse emotional and motivational outcomes was shown in a study by Gross (2006). She owed a group of highly gifted children for more than twelve years and found that gifted children who aren't granted cational acceleration, pose a greater risk of developing problems concerning long-lasting relationships and social-ation in comparison to (highly) gifted children who did halve educational acceleration.

When it comes to self-perception, there are also significant differences between gifted and non-gifted children. npetence experience, or perceived competence as it is also referred to, is the way a person sees his or her own npetencies in specific areas, such as cognitive, social or physical. A study done by Chan (1988) showed that children n an average IQ of 130 or more tended to have higher competence experience when it comes to cognitive competence general feelings of self-worth, but lower competence experience when it comes to social and physical competence. ough these findings are contradictory with other studies, stating that interpersonal competency experience is generally itive in gifted children (Lee, Olszewski-Kubilius, & Thomson, 2012), it is very well possible that the large degree of erogeneity in gifted children, partially caused by asynchronous development, account for the existence multiple self-ception profiles within this group.

The subgroup of gifted children where this is particularly the case is the subgroup of gifted adolescent girls. In a study e by Lea-Wood and Clunies-Ross (1995) self-esteem of gifted and non-gifted girls between ages 9 and 13 were npared. They found that both total self-esteem and social self-esteem of gifted girls were significantly lower. Also, they nd that the self-esteem of gifted girls actually decreased more over time than that of non-gifted girls. This result is in with other studies that found that the self-esteem and self-concept of gifted girls between age 8 and 12 decrease stically (Klein & Zehms, 1996) and that in roughly the same period levels of hopelessness, perfectionism, and couragement rise drastically in gifted girls (Kline & Short, 1991). All of these problems strongly resemble those of the blems that arise as a result of social non-conformity. Adolescent gifted girls might experience stronger feelings of me concerning their giftedness because they tend to hide it from peers (Walker, Reis & Leonard, 1992), which support idea that group conformity is just as important in gifted early adolescents as it is in non-gifted adolescents. On top of , it has been widely acknowledged that gifted girls have for a very long time been underrepresented in the gifted domain

ɔrmont, M., Stebbins & Holliday, 2001; Nelson & Smith, 2001) and are less likely to be referred to gifted programs ınco, Harris, Garrison-Wade& Leech, 2011). This makes gifted girls more likely to be placed in an environment that doesn't ɔmmodate their needs for social and intellectual growth, but rather thwarts it. Since gifted girls, who aren't properly ally and educationally supported tend to feel like being the odd one out or lonely, they pose a greater risk for eloping problems that are associated with social isolation, which is associated with long-lasting consequences for future demic development (Lea-Wood & Clunies-Ross, 1995) and both physical (Smith & Victor, 2019) and mental health ang, Mann, Lloyd-Evans, Ma, & Johnson, 2018).

However, even though gifted adolescent girls are more susceptible to having lower self-esteems than non-gifted girls, evidence has been found that they are diagnosed more frequently with depressive disorders than non-gifted adolescents ihart, 2002). Gifted girls, just like gifted boys, tend to elicit very adaptive cognitive flexibility and problem-solving ities (Kitano & Lewis, 2005) even when frequently faced with adverse experiences. This enables them to cope with dship better than non-gifted children might have done. Sadly, this does not mean that gifted girls are shielded ıpletely from the negative consequences of social and academic under stimulation or feelings of loneliness. It seems y likely that, even though gifted children might seem less affected by (social) adversities, their advanced cognitive and al development (Robinson, 2008) enable them to interpret negative experiences moor deeply and precisely than non-ed children of the same age might have. Though gifted adolescents seem to be more resilient towards developing chopathology in comparison to non-gifted adolescent (Francis, Hawes & Abbott, 2016), gifted girls face more iculties in achieving academic success at a later age (Bianco, Harris, Garrison-Wade, & Leech, 2011) and enroll less ıuently in programs for gifted children even if they are eligible (Crombie, Bouffard-Bouchard, & Schneider, 1992). On of top of that, around 40% of gifted girls do not fulfill the academic aspirations they had during adolescence (Hollinger leming, 1992). It seems therefore evident that the lower self-esteem and academic motivation in gifted girls are elated to both more motivational problems in the present and later in life. The fact that women are still errepresented in science globally (Hunt, Garant, Herman & Munroe, 2013; Beyers, 2014; Ceci & Williams, 2007) can ially be explained by these massive differences in academic motivation and self-perception between boys and girls. en not only being recognized for their extraordinary abilities less often but also having to pay the price for not fitting in

ause of it, gifted girls seem to be at risk, not for being unable to keep up with peers in the academic and social domain, rather for not being able to rise above them while they could have.

It seems like peer-support and group conformity play a central role in the development of academic and social self-ception of adolescent gifted girls. Within classrooms for gifted children, the social norms and group-members' ception of who does and doesn't fit within the group might actually be very different form that of a regular educational ing. This would affect the way in which peer-pressure influences self-perception and behavior in these groups. If they surrounded by like-minded peers to whom gifted girls can relate, they will gain more confidence in terms of who they This principle is also demonstrated in a study done by Stake and Nickens (2005). They put adolescent girls, who erally enjoy less peer support concerning aspirations to become scientists, through a program that stimulates the growth eer-relationships. In a six-month follow-up Stake and Nickens found that the ideas of their possible future selves as ntists had drastically increased. Also, girls who participated in the program had more interactions with their co-icipants and had stronger academic peer relationships than the boys, who participated in the program. This study ects the importance of peer support among adolescents, especially girls, with ambitions or interests that deviate from etal and/or group norms.

This can also explain why Feldhusen, Sayler, Neilsen & Kolloff (1990) found that gifted girls in special programs tend ave higher self-esteem than gifted girls who don't attend these programs. This could be a result of the fact that, in parison with regular educational settings, social acceptance in gifted classrooms is significantly higher (Peperkorn & gner, 2020). This is an indication that the educational and social context have a big impact on self-perception and otional development of gifted girls in early adolescence. By attending intellectually challenging programs and racting with likeminded individuals gifted girls experience a larger sense of belonging. By feeling encouraged to ress and develop their academic interests, they seem to be protected them from the consequences of social isolation and erachievement. If given the right social and educational context, so it seems, gifted girls seem to have more pride in r social identity and are more motivated to pursue their intellectual potential. However, how does society know whether ot it's current social climate and school-system are adjusted adequately to properly support gifted girls in that pursuit?

s study will hopefully contribute feasible knowledge to that discussion by looking at the competency experience of ed girls in our current school system.

Research questions and hypotheses

This study aims to provide a comprehensive exploration of two specific aspects of self-perceptive competence erience in early –adolescent gifted girls in comparison to both non-gifted girls and gifted boys of the same age group ough quantitative descriptive research. This study will focus on academic self-concept and social self-concept, as well as relation between general feelings of self-worth and self-perception of academic achievement. Also, by comparing gifted s to different peer-groups, more insight can be gained on how this specific subgroup perceives itself in the context of the ch school system. The results of this study could be indicative of the consequences that segregating gifted children from -gifted children can have on their self-perception.

First of all, a comparison will be made between the academic self-perception of early-adolescent girls who attend ools for gifted children and academic self-perception of girls who attend regular schools. It seems likely that attending a

ɔol for exclusively gifted children might give girls a social and educational context in which they can be proud of their ɗemic competence. Just like girls in the study by Nickens (2005), attending a program or curriculum that promotes ɗemic achievement could help them build more confidence and interest in their academic achievement. Peperkorn & gner (2020) found that gifted girls have a more positive academic self-perception when attending special programs, than ɐn they only follow the regular curriculum and Yeung, Chow, Chow & Liu (2005) found that self-perception of gifted s increases in schools for gifted children because of access to more adequate peer-support and a challenging curriculum. wever, the age range in these studies is too large to account for the possible negative impact that puberty has on self-cept (Maôano, Ninot, & Bilar, 2004). Since this specific age-group is very prone to peer-perception, it seems likely that ɾ will experience something that has been labeled as the “big-fish-little-pond" effect, which was first introduced by ɛsh (1987). Humans, to some degree, end to compare themselves to their peers when rating their competence. When ɐd children are grouped together, they tend to perceive their competence less positive, because they compare their ɹpetence to that of their direct peers, instead of that of the national average (Shi, Li, Zhang, 2008). It seems that there factors that both positively and negatively impact the academic self-perception of gifted girls. Therefore, it is expected gifted adolescent girls have an equally positive self-perception of their academic competency as non-gifted girls.

Gifted girls and gifted boys will be compared on the topic of academic self-perception as well. Since gifted boys tend to e the same problems concerning group conformity and the big-fish-little-pond effect as gifted girls, it is worthwhile to ɛstigate any possible differences concerning their academic competence experience. Any significant differences ween these groups could be indicative of either gender-specific risk factors or differential treatment. Since there are no cations of gender-differences, it is expected that gifted adolescent girls have an equally positive self-perception of their ɗemic competency as gifted boys.

Secondly, early-adolescent gifted girls and non- gifted girls will be compared concerning their perception of social ɐptance. Since girls in schools for gifted children are surrounded by likeminded individuals, it's likely that they feel a nger connection to classmates. Gifted girls generally report a more positive self-concept than non-gifted girls (Loeb & 1987), but also seem to experience a stronger decline in (among other things) social self-concept during (pre)puberty ɐin & Zehms, 1996). Since there doesn’t seem to be a consensus regarding this aspect of social self-concept in gifted

s, it is worthwhile to be investigated further. In order to determine whether or not gifted girls feel just as socially epted in educational settings, exclusively for gifted children, as non-gifted girls do in regular educational settings, social npetence of gifted girls will be compared to that of non-gifted girls. To the author's knowledge, no studies on social self-cept of gifted girls in schools for gifted children of special programs have recently been published. Therefore, in lack of ear consensus on this topic it is expected that gifted girls have equally positive self-perception concerning their social npetency as non-gifted children.

Thirdly, the relationship between academic self-perception and general feelings of self-worth will be compared between ed girls and non-gifted girls. Košir, Horvat, Aram & Jurinec (2016) found that academic self-perception correlates nger to general-feelings of self-worth in gifted boys. Peperkorn and Wegner (2020) found this to be the case in girls nding schools or programs for gifted children as well. However, neither of these previous studies focused on the Dutch lents. Since there are no indications that our school-system or gifted population is any different, the correlation between demic self-perception and general feelings of self-worth is expected to be stronger in gifted girls than in non-gifted girls.

Method

ticipants

a was collected as part of a large, ongoing project by Leiden Universiteit, called BrightWave. This project is focused on al-emotional development of gifted and non-gifted young adolescents between the ages of 10 to 12 years. A large test-ery of various intellectual, emotional, cognitive and social tests will be conducted by roughly 200 children between the of 10 and 12 years old. The Brightwave project offers to give short pop-up colleges about the functioning of the brains giftedness in an effort to stimulate participation.

participants are children in Dutch elementary school. 48 of the participants attend elementary schools, specifically for ed children, whereas the other 64 participants attend regular elementary schools. In order to be admissible to any of the ed schools that participate in the Brightwave project, children need to have an IQ of 130 or above. All participants nd either seventh or eighth grade. Participation in this project is completely voluntarily. The parents and/or caretakers of participants in this project all have to give written consent for the participation of their children. Participants in this ject doesn't receive any monetary compensation. However, they will receive a small educational reward after

ıpleting their participation. The Brightwave project was assessed and approved by Leiden Universiteit's Ethics nmittee for Social Sciences and Humanities (SSH).

data in this research has been taken from sub-samples that were collected in an earlier stage of this project and are efore smaller than 200. While data collection of the Brightwave project still continues, as of January 2021, 117 icipants were initially included. However, 5 participants were removed by another student within the Brightwave ject due to a variety of reasons before it was transferred to the current research. One participant was removed because its was reported to be above the required maximum of 12 years. One participant was removed because it's age was wasn't orted at all. Three cases had been removed from the final dataset for unclear reasons and were irretrievable, therefore cing it impossible to determine the reason for exclusion. The final dataset consisted of 112 participants, which were ded on gender and school type attendance. Specific sample sizes can be found in table 1.

ruments

npetentiebelevingschaal voor kinderen

The Compententiebeleving schaal voor kinderen (CBSK) is a short multiple-choice questionnaire fpr children ween the age of 4 and 12 which consists of 36 questions about different aspects of the way a child experiences his/her ı competence. Each item on the questionnaire presents a statement. The child first has to choose weather this statement lies to him/her and then weather this valence is strong or weak. The CBSK is the Dutch version of the SPPC, the self-ception profile for children (Harter,1988.) The original version has been revised and has proven to have good validity, ability and factor structure (Wichstraum, 1995; Muris, Meesters, & Fijen, 2003). It uses six subscales: academic ıpetence perception, perception of social acceptance, perception of physical skills, perception of physical appearance, ception of behavioral attitude and genral feeling of self-worth. The raw scores can be converted to a percentile score, ch compares the individual's score with those of an age-based norm group. All sub scores combined provide a total e.

cedure

data was collected through computerized questionnaires and tasks, performed at school or at home.

stated earlier, data was gathered through the Brightwave project, which used standardized procedures and tests in order ollect data. Schools were contacted by either university professionals or students that were associated with the project.

er al consent forms had been collected at school by associates of the Brightwave Project, classical and individual testing nents were planned. Even though the collected data from this study were part of a larger test-battery, only the cedures for the collection of this data will be discussed in this section. Associates of the Brightwave project would rdinate the classical testing, which were carried out on regular schooldays in specific rooms of that school. The data n the digitalized test-battery in which the CBSK was included, would be collected digitally through a digital survey-gram called Qualtrics, and was automatically sent to its database after completion.

Participants were given a short explanation of how long this part of the data collection was going to take and how to ess the survey. Associates of the Birghtwave project were present in the room while participants were conducting the vey in order to answer technical questions, but were briefed to help as little as possible with question-interpretation. er each participant was finished, it was taken back to class or to the individual part of the test battery.

Results

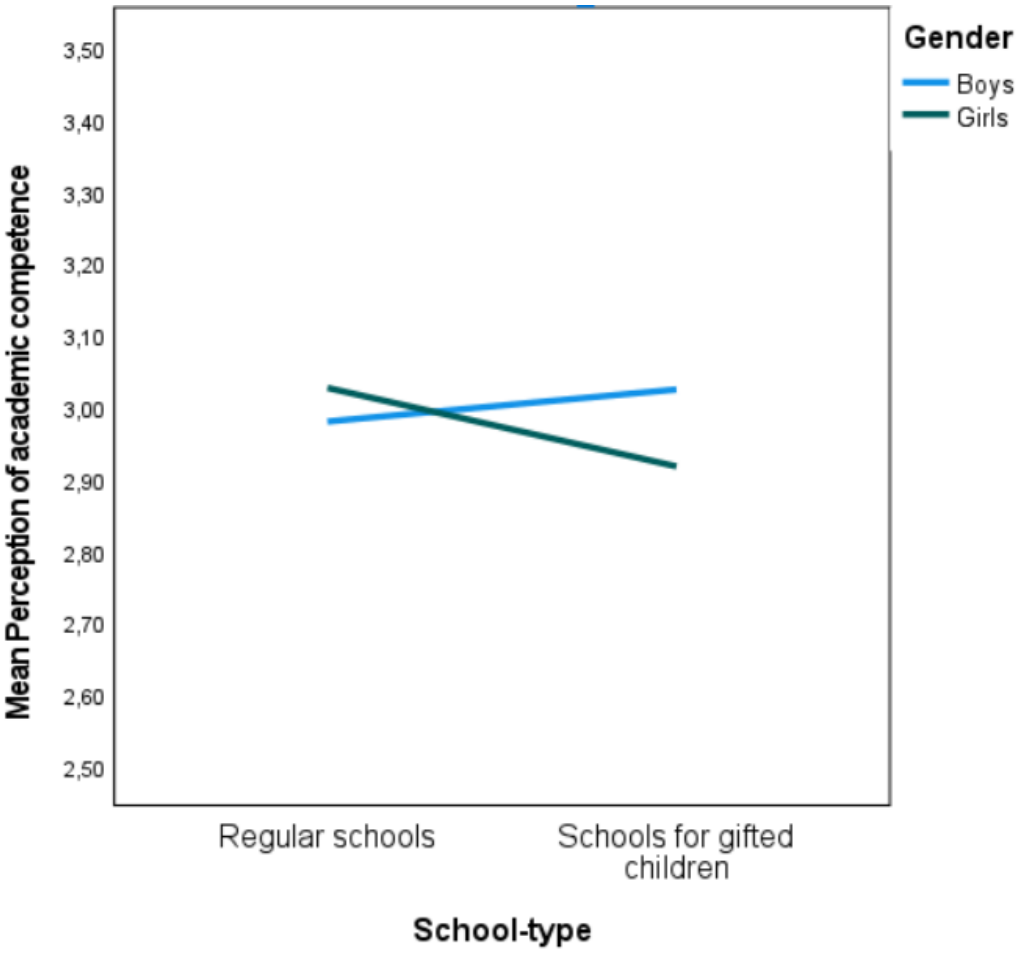
An independent sample T-test test was used in order to test the hypothesis that academic self-perception of early-lescent gifted girls isn't higher or lower than academic self-perception of non-gifted girls. The dependent variable was an academic self-perception and the independent variable was school-type. Also, a filter was applied to exclude all cases

corresponded to male participants. No significant difference was reported between academic self-perception of gifted s (M = 2.917, SD = .674) and non-gifted girls (M = 3.026, SD = .716), t(50) = .548, p = .586. Thus, it can be concluded gifted girls who attend schools, exclusively for gifted children do not have a better or worse perception of their demic competency than girls, who attend regular schools. These findings are in line with the initial hypothesis. Also, no nificant difference was reported between academic self-perception of gifted boys (M = 3.024, SD = .631) and non-gifted s (M = 2.979, SD = .506), t(58) = -.304, p = .762).

An independent sample T-test was used in order to test the hypothesis that academic self-perception of early-adolescent ed girls isn't higher or lower than academic self-perception of early-adolescent gifted boys. The dependent variable was n academic self-perception and the independent variable was gender. A filter was applied to the "school-type" variable rder to only account for schools for gifted children. No significant difference was reported between academic self-ception of gifted girls and gifted boys, t(46) = .565, p = .586. Thus, it can be concluded that gifted girls who attend ools, exclusively for gifted children do not have a better or worse perception of their academic competency than gifted s who attend schools, exclusively for gifted children. These finding are in line with the initial hypothesis, claiming that e are no significant differences between academic self-perception in schools for gifted children, based on gender. ure1 gives a more detailed visual representation of the division between mean scores of the different groups on self-ception of academic competence.

ure 1

n scores of perception of academic competence as a function of school-type and gender



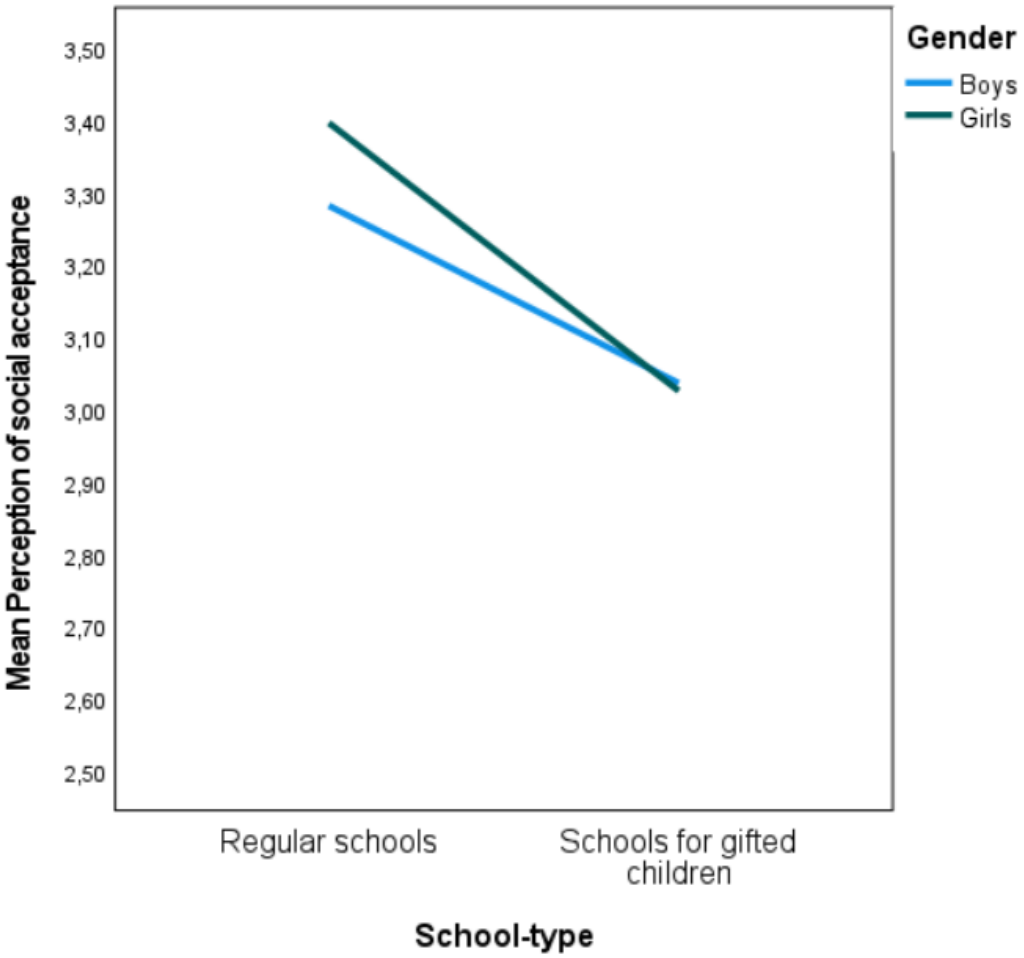
e: all mean scores of the groups that were included in this study based on both gender and school type. Gifted girls 're notably lower than any other group, though not significantly.

An independent sample T-test was used in order to test the hypothesis that perception of social acceptance of early-lescent gifted girls is higher than perception of social acceptance of early-adolescent non-gifted girls. The dependent able was mean social self-perception and the independent variable was school-type. A filter was applied to the "gender" able in order to only account for girls. Gifted girls (M = 3.025, SD = .6) scored significantly lower than non-gifted girls = 3.396, SD = .639) on perceived social acceptance, $t(50) = 2.083$, p = .042. Thus, it can be concluded that gifted girls › attend schools, exclusively for gifted children have a less positive perception of their how well they are socially ɛpted by others than girls, who attend regular schools. These findings contradict the initial hypothesis, which claimed gifted girls have a more positive perception of their social acceptance. These results suggest that self-perception of al acceptance in gifted girls is not higher, but significantly lower than that of non-gifted girls. The effect size for this

lysis (d = .624) was found to exceed Cohen's (1988) convention for a medium effect (d = .50). When comparing gifted s (*M* = 3.034, *SD* = .678) to non-gifted boys (*M* = 3.281, *SD* = .734) on social acceptance, no significant difference is orted *t*(58) = 1.34, *p* = .186. However, when comparing gifted children (*M* = 3.031, *SD* = .64) to non-gifted children (*M* 339, *SD* = .685) on social acceptance, gifted children score significantly lower *t*(110) = 2.416, *p* = .017. The effect size this analysis (d = .666) was found to exceed Cohen's (1988) convention for a medium effect (d = .50) Figure 2 gives a e detailed visual representation of the division between mean scores of the different groups on self-perception of demic competence.

ure 2

n scores of perceived social acceptance as a function of school-type and gender



e: all mean scores of the groups that were included in this study based on both gender and school type. Gifted children re significantly lower on perception of social acceptance. When genders are compared individually, the only difference remains significant is the difference between girls.

Lastly, the correlation between variables academic self-perception and general feelings of self-worth between gifted s and non-gifted girls were compared by performing a Z-test on the correlation-coefficient r of these variables. Though ed girls scored slightly higher *(r*= .275, *p* = .251) than non-girls *(r* = .232, *p* = .201), this difference was not significant = .15, *p* = .88). It is also noteworthy to state that both correlations themselves were insignificant. The implications of e findings will be discussed further in the discussion section.

Discussion

s study researched possible differences on academic and social self-perception between early-adolescent gifted girls and
-gifted girls and gifted boys. Multiple comparisons have been made on self-perception of academic functioning and
-perception of social acceptance, yet only two differences were found, those being the difference between social self-
:eption of gifted versus non-gifted girls and the difference between social self-perception of gifted versus non-gifted

dren in general. These findings indicate that gifted children are less positive about their social skills and how others ht perceive them in terms of social interaction. No differences have been found between gifted girls and non-gifted girls self-perception of academic functioning. Also, self-perception of academic functioning doesn't correlate stronger to eral feelings of self-worth in gifted girls than it does in non-gifted girls. No differences have been found between gifted s and gifted boys on self-perception of academic functioning.

Gifted girls score no differently on academic self-perception than either gifted boys or non-gifted girls. This clusion is in line with the first two hypotheses of this study, stating that there are no differences between academic self- ception of gifted girls and non-gifted girls or gifted boys. These findings contradict those of Peperkorn & Wegner 20) and those of Yeung, Chow, Chow & Liu (2005) who both found that grouping gifted children together in special grams has a positive effect on their academic self-perception in comparison to both gifted and non-gifted children, who 't attend special programs. However, these findings are in line with the big-fish-little-pond effect (Marsh, 1987), which ms that grouping gifted children together in classes or special programs tends to decrease their academic self- ception. Since the academic self-perception of gifted boys, reported in the current study, is just as high as it is in gifted s, it seems as if the big-fish-little-pond effect affects gifted boys just as much as gifted girls.

The contrast between the findings of this study and previous ones could be explained by the age of the participants nis study. Only children between the ages of 10 and 12 were selected for this study because this age-group experiences onset of puberty. Puberty sets in motion various physiological processes, such as heightened fear of social exclusion bastian et al. 2010) and discrepancies between growth in the areas of the brain that are associated with emotion and as of the brain that are associated with rational thinking (Casey, Getz and Galvin, 2008). Therefore, it seems likely that participants in this study could have been influenced more strongly by peer perception than gifted children in the lies of Peperkorn & Wegner (2020) and Yeung, Chow, Chow & Liu (2005), which both had a wider range of age for r participants. In other words, the gifted participants in this study knew that, objectively, they are academically more npetent than most others of their age. However, based on their scores it seems very likely that they compare themselves y to the children in their direct environment and conclude that within this group they are average or just above average.

se results indicate that the “big fish little pond” effect (Marsh, 1987) has an effect on children who attend schools, lusively for gifted children.

Gifted girls have a less positive perception of their social competence than non-gifted girls, which contradicts the d hypothesis, claiming that gifted girls don't have a worse or better self-perception than non-gifted girl. These results are ne with previous findings (Klein & Zehms, 1996; Lea-Wood & Clunies-Ross, 1995), who found a stronger decline in al-self-perception of 8-to 13-years-old gifted girls in comparison to non-gifted girls. However, they seem to contradict findings of Lee, Olszewski-Kubilius, & Thomson (2012), claiming that interpersonal competence experience of gifted s is generally more positive than that of non-gifted girls. Gifted children are known to have advanced cognitive and al development (Robinson, 2008), therefore possible that they will experience the decline in self-perception that is urally associated with puberty (Maôano, Ninot & Bilard, 2004; Labbrozzi, Robazza, Bertollo, Bucci & Bortoli, 2013) at earlier age than non-gifted children. It is possible that gifted children develop an understanding of the social processes are at play in group-dynamics and the factors that influence people's perceptions of others at a younger age than non-ed children. Children have to be aware of the perceptions that others have of them before they are able to properly adapt r behavior in order to conform to the social norms of their peers. Since gifted children seem to be burdened more by ng unable to conform to social norms between the age of 10 and 13, it is possible that they are more aware of their lack daptability and will therefore also learn how to adapt their behavior properly at a younger age than non-gifted children uld. Therefore, it would be interesting to further investigate whether or not gifted children experience the increase in -perception at an earlier age than non-gifted children.

Lastly, gifted girls base their general feelings of self-worth just as much on academic self-perception as non-gifted s do, contradicting the fourth hypothesis which claims that this correlation is stronger in gifted girls. These findings tradict the current consensus as found by Košir, Horvat, Aram & Jurinec (2016) and Peperkorn and Wegner (2020), o both stated that the correlation between academic self-perception and general feelings of self-worth is stronger in ed children than it is in non-gifted children. It is not clear why this study yielded different results than previous studies his specific topic, but one possible explanation would be that Dutch children attribute specific aspects of their ception of self differently to their general feelings of self-worth. Differences in self-perception profiles have been

ıbuted to differences in culture before (Stigler, Smith, & Mao, 1985), yet this subject should be researched much more ɔre it would be possible to attribute differences in self-perception profiles to cultural differences.

To briefly summarize the findings of this study: gifted girls have the same self-perception of their academic ctioning and its attribution to general feelings of self-worth as other children, but have lower self-perception of their -perception of social acceptance than non-gifted girls. Gifted children have lower self-perceptions of their social eptance than non-gifted children when accounting for boys and girls combined, yet gifted boys don't have a lower ɛeption of their social acceptance when only combined to other, non-gifted boys.

ngths and shortcomings

ruiting children from schools which are exclusively for gifted children and directly comparing them with non-gifted dren on basis of school-type is something that has not been done often and has therefore received relatively little ntion in previous literature. Because of the accelerated rate in which giftedness is being identified in girls, it's becoming er to make educational settings for gifted children that are balanced concerning gender. Because of this, a unique ght is gathered in how socio-emotional development occurs in these children when they are surrounded by likeminded equally intelligent peers. Because the study (and Brightwave project in its whole) utilizes this particular design, its lings contribute to larger discussions concerning the nature of isolation-tendencies in giftedness and the big-fish-big-d effect.

ɔther strength of this study is that it gives a reflection of how children between ten and twelve years old currently feel ut themselves. Our society is rapidly changing on a continuous basis. This study reflected that both gifted children and -gifted children feel like they are averagely competent concerning their academic skills, both in specifically segregated integrated (average-ability) schools. This indicates that the self-perception of children between the ages of ten and lve isn't worryingly low as of now. However, if either both or one of the school-types that provided data for this study have academic achievement scores that would be considered to be very low, it would have implicated very large and ous problems within its respective school-system. Therefore, it is very important to regularly checking how children

bout concepts such as emotional self-perception, happiness and competence experience. Ideally by doing so, society identify the factors that influence children's' self-perception more quickly and respond to it adequately.

Some of the results from previous research, that have been referenced in this study concerning self-perception and ale (under)representation in gifted programs, might be a less representative reflection of how gifted girls feel as of ay in the Netherlands. Because of global differences between concepts such as emancipation and gender roles, which be vastly differ between countries, it is possible that research in those respective countries would yield different results oughly the same demographic. The same could be said for studies that have been carried out relatively long ago, either ne Netherlands or another country. Emancipation and gender roles can change over a certain course of time within a ntry as well. However, more research into this topic is needed to substantiate such a correlation, and to the author's wledge, no instruments have yet been developed to adequately measure these differences (if that would be possible at . Therefore, in lack of a consensus on this topic, it seems that caution should be used when generalizing results from lies on self-perception of women. It seems best to focus on studies that were carried out within the Dutch population school-system and build our frame of reference as much as possible on studies that used participants in this population. y then can we develop a better understanding of the specific factors that influence self-perception in this specific group.

It is also important to note that the gifted children in most of the previous studies attended the same classes as their non-ed counterparts. A lot of research on gifted adolescent girls incorporates the identification of gifted girls in their arch design in regular educational settings. This indicates that actually very few of the gifted girls in these studies are er aware of their giftedness or are given special treatment because of it. Because they didn't receive any special tment or acknowledgement, it seems like the girls in these studies have had very different experiences at school than the ed girls who participated in this study.

Another shortcoming of this study was its inability to directly compare gifted girls attending schools for gifted children gifted girls attending regular schools because of lack of a standardized intelligence testing in the provided test battery. s study would have been able to conclude much more about the impact of segregation versus integration of gifted girls ur school-system if it had been possible to directly observe the difference and similarities in self-perceptive aspects of group. By not being able to separate gifted girls from the rest of the children that attend regular schools it is impossible

ɔok at this group specifically. On top of that, by not excluding the gifted children or gifted girls from the regular school ıple, it is possible that the cases, representing these gifted girls, have skewed the dataset and masked any potential ɛrences. In this research, no differences were found between children attending either regular schools or schools which exclusively for gifted children. Since this study was unable to distinguish those subgroups, it was impossible to find its sible differences. For example, if the gifted children attending regular schools, had a much higher score on academic -perception than the non-gifted children on those schools, as would be expected through the big-fish-little-pond effect ırsh, 1987), the average of those groups would be higher than it would have been when just measuring non-gifted dren. This would not only be indicative of a more complex framework concerning specific aspects of self-perception, it ıld also give more insight in how attending regular schools or schools, specifically for gifted children affects ɔifically gifted children.

ɛstions for future research

ɔe this study only compared gifted children in schools for gifted children with all children attending regular schools and specifically gifted children attending regular schools, it still seems unclear whether or not gifted girls attending schools gifted children have different self-perception profiles than gifted girls attending regular schools. By researching this her and by incorporating a larger age range (or even longitudinal design), much more can be learned about the potential ɔct these different approaches to social settings on gifted girls can have. Just like any other child, the social and demic needs of a gifted child need to be met and accommodated by the Dutch school system. Hopefully, future research be able to provide a model of the specific factors that contribute to the self-perception and general feelings of self-th for both gifted and non-gifted children. Since psychopathology is continually increasing in the adolescent ıographic (CBS, 2021), the need for preventive and interventive measures will likely grow in the years to come. As is case in any other empirical based practice it is of fundamental importance to acquire a comprehensive understanding of way self-perception works and develops over the years in order to develop such measures.

Literature

Adams-Byers, J., Whitsell, S. S., & Moon, S. M. (2004). Gifted students' perceptions of the academic and :al/emotional effects of homogeneous and heterogeneous grouping. *Gifted Child Quarterly, 48*(1), 7-20.

Avgustinovich, D. F., Kovalenko, I. L., & Kudryavtseva, N. N. (2005). A model of anxious depression: persistence ehavioral pathology. *Neuroscience and behavioral physiology, 35*(9), 917-924.

Bem, D. J. (1972). Self-perception theory. *Advances in experimental social psychology, 6*(1), 1-62.

Beyer, S. (2014). Why are women underrepresented in Computer Science? Gender differences in stereotypes, self- :acy, values, and interests and predictors of future CS course-taking and grades. *Computer Science Education, 24*(2-3), -192.

Bhugra, D., & Ayonrinde, O. (2004). Depression in migrants and ethnic minorities. A*dvances in Psychiatric Treatment,* 1), 13-17.

Bianco, M., Harris, B., Garrison-Wade, D., & Leech, N. (2011). Gifted girls: Gender bias in gifted referrals. *Roeper Review,* 3), 170-181.

Blinn-Pike, L., Worthy, S. L., & Jonkman, J. N. (2010). Adolescent gambling: A review of an emerging field of :arch. *Journal of Adolescent Health, 47*(3), 223-236.

Casey, B. J., Getz, S., & Galvan, A. (2008). The adolescent brain. *Developmental review, 28*(1), 62-77.

Chan, L. K. (1988). The perceived competence of intellectually talented students. *Gifted Child Quarterly, 32*(3), -314.

Ceci, S. J., & Williams, W. M. (2007). Why aren't more women in science. Top researchers debate the evidence. *shington, DC: American Psychological Association.*

Centraal bureau voor statistiek (2021, march 5). Depressie onder jongeren, retrieved on may 28, 2021, from s://opendata.cbs.nl/statline/#/CBS/nl/dataset/83005ned/table?fromstatweb

Cohen, J. (1988). Set correlation and contingency tables. *Applied psychological measurement, 12*(4), 425-434.

Connolly, J. A., & Konarski, R. (1994). Peer self-concept in adolescence: Analysis of factor structure and of ociations with peer experience. *Journal of research on Adolescence, 4*(3), 385-403.

Crombie, G., Bouffard-Bouchard, T., & Schneider, B. H. (1992). Gifted programs: Gender differences in referral enrollment. *Gifted Child Quarterly, 36*(4), 213-214.

Eccles, J. S., & Midgley, C. (1990). Changes in academic motivation and self-perception during early adolescence. *m childhood to adolescence: A transitional period?* 134–155.

Eccles, J. S., Wigfield, A., Flanagan, C. A., Miller, C., Reuman, D. A., & Yee, D. (1989). Self-concepts, domain ues, and self-esteem: Relations and changes at early adolescence. *Journal of personality, 57*(2), 283-310.

Eisele, H., Zand, D. H., & Thomson, N. R. (2009). The role of sex, self-perception, and school bonding in dicting academic achievement among middle class African American early adolescents. *Leadership, 19*, 08.

Feldhusen, J., Sayler, M., Neilsen, M and Kolloff, P. (1990). Self-concepts of gifted children in enrichment grams. *Journal for the Education of the Gifted, 13,* 380-387.

Francis, R., Hawes, D. J., & Abbott, M. (2016). Intellectual giftedness and psychopathology in children and lescents: A systematic literature review. *Exceptional Children, 82*(3), 279-302.

Gross, M. U. (2006). Exceptionally gifted children: Long-term outcomes of academic acceleration and acceleration. *Journal for the Education of the Gifted, 29*(4), 404-429.

Hayward, C. (Ed.). (2003). *Gender differences at puberty*. Cambridge University Press.

Hollinger, C. L., & Fleming, E. S. (1992). A longitudinal examination of life choices of gifted and talented young nen 1. G*ifted Child Quarterly, 36*(4), 207-212.

Hunt, J., Garant, J. P., Herman, H., & Munroe, D. J. (2013). Why are women underrepresented amongst patentees?. *earch Policy, 42*(4), 831-843.

Ingram, R. E., Scott, W. D., & Hamill, S. (2009). Depression: Social and cognitive aspects. *Oxford textbook of chopathology* (pp. 230–252). Oxford University Press.

Karatzias, A., Chouliara, Z., Power, K., & Swanson, V. (2006). Predicting general well-being from self-esteem and ctivity: An exploratory study with Scottish adolescents. *Quality of life research, 15*(7), 1143-1151.

Kelley, A., Schochet, T., & Landry, C. (2004). Risk Taking and Novelty Seeking in Adolescence: Introduction to I. *Annals Of The New York Academy Of Sciences, 1021*(1), 27-32. doi: 10.1196/annals.1308.003.

Kitano, M. K., & Lewis, R. B. (2005). Resilience and coping: Implications for gifted children and youth at risk. *per review, 27*(4), 200-205.

Klein, A. G., & Zehms, D. (1996). Self-concept and gifted girls: A cross sectional study of intellectually gifted ales in grades 3, 5, 8. *Roeper review, 19*(1), 30-34.

Kline, B. E., & Short, E. B. (1991). Changes in emotional resilience: Gifted adolescent females. *Roeper Review,* 3), 118-121.

Košir, K., Horvat, M., Aram, U., & Jurinec, N. (2016). Is being gifted always an advantage? Peer relations and self-cept of gifted students. *High Ability Studies, 27*(2), 129-148.

Labbrozzi, D., Robazza, C., Bertollo, M., Bucci, I., & Bortoli, L. (2013). Pubertal development, physical self-ception, and motivation toward physical activity in girls. *Journal of adolescence, 36*(4), 759-765.

Lea-Wood, S. S., & Clunies-Ross, G. (1995). Self-esteem of gifted adolescent girls in Australian schools. *Roeper iew, 17*(3), 195-197.

Lee, S. Y., Olszewski-Kubilius, P., & Thomson, D. (2012). The social competence of highly gifted math and nce adolescents. *Asia Pacific Education Review, 13*(2), 185-197.

Loeb, R. C., & Jay, G. (1987). Self-concept in gifted children: Differential impact in boys and girls. *Gifted Child urterly, 31*(1), 9-14.

Majid, R. A., & Alias, A. (2010). Consequences of risk factors in the development of gifted children. *Procedia- ial and Behavioral Sciences, 7*, 63-69.

Maôano, C., Ninot, G., & Bilard, J. (2004). Age and gender effects on global self-esteem and physical self- :eption in adolescents. *European Physical Education Review, 10*(1), 53-69.

Marsh, H. W. (1987). The big-fish-little-pond effect on academic self-concept. *Journal of educational psychology,* 3), 280.

Marsh, H.W. (1989). Age and Sex Effects in Multiple Dimensions of Self-Concept: Preadolescence to Early- ılthood. *Journal of Educational Psychology 81,* 417–30.

McLaughlin, K. A., & King, K. (2015). Developmental trajectories of anxiety and depression in early adolescence. *rnal of abnormal child psychology, 43*(2), 311-323.

Mueller, C. E. (2009). Protective factors as barriers to depression in gifted and nongifted adolescents. *Gifted Child urterly, 53*(1), 3-14.

Muris, P., Meesters, C., & Fijen, P. (2003). The self-perception profile for children: Further evidence for its factor cture, reliability, and validity. *Personality and individual differences, 35*(8), 1791-1802.

Neihart, M. (2002). Gifted children and depression. *The social and emotional development of gifted children: What ve know*, 93-102.

Nelson, M. A., & Smith, S. W. (2001). External factors affecting gifted girls' academic and career achievements. *rvention in School and Clinic, 37*(1), 19-22.

O'Brien, S. F., & Bierman, K. L. (1988). Conceptions and perceived influence of peer groups: Interviews with ıdolescents and adolescents. *Child development*, 1360-1365.

Patton, G. C., Sawyer, S. M., Santelli, J. S., Ross, D. A., Afifi, R., Allen, N. B., ... & Kakuma, R. (2016). Our ıre: a Lancet commission on adolescent health and wellbeing. *The Lancet, 387*(10036), 2423-2478.

Peperkorn, C., & Wegner, C. (2020). The Big-Five-Personality and Academic Self-Concept in Gifted and Non-ːed Students: A Systematic Review of Literature. *International Journal of Research in Education and Science, 6*(4), -667.

Petersen, J. (2013). Gender differences in identification of gifted youth and in gifted program participation: A meta-lysis. *Contemporary Educational Psychology, 38*(4), 342-348.

Pfeifer, J. H., Masten, C. L., Borofsky, L. A., Dapretto, M., Fuligni, A. J., & Lieberman, M. D. (2009). Neural ·elates of direct and reflected self-appraisals in adolescents and adults: When social perspective-taking informs self-ːeption. *Child development, 80*(4), 1016-1038.

Robinson, N. M. (2008). The social world of gifted children and youth. In *Handbook of giftedness in children* (pp. 51). Springer, Boston, MA.

Sebastian C, Viding E, Williams KD, Blakemore S-J. (2010). Social brain development and the affective sequences of ostracism in adolescence. *Brain Cogn*. 72:134–145.

Shi, J., Li, Y., & Zhang, X. (2008). Self-concept of gifted children aged 9 to 13 years old. *Journal for the Education he Gifted, 31*(4), 481-499.

Skaalvik, E. M., & Rankin, R. J. (1994). Gender differences in mathematics and verbal achievement, self-perception motivation. *British Journal of Educational Psychology, 64*(3), 419-428.

Shechtman, Z., & Silektor, A. (2012). Social competencies and difficulties of gifted children compared to nongifted rs. *Roeper Review, 34*(1), 63-72.

Silverman, L. K. (1997). The construct of asynchronous development. *Peabody journal of education, 72*(3-4), 36-

Silverman, L. K. (2013). Asynchronous development: Theoretical bases and current applications. *Off the charts: nchrony and the gifted child*, 18-47.

Smith, K. J., & Victor, C. (2019). Typologies of loneliness, living alone and social isolation, and their associations ı physical and mental health. *Ageing & Society, 39*(8), 1709-1730.

Stake, J. E., & Nickens, S. D. (2005). Adolescent girls' and boys' science peer relationships and perceptions of the sible self as scientist. *Sex Roles, 52*(1), 1-11.

Stenson, A. F., Nugent, N. R., van Rooij, S. J., Minton, S. T., Compton, A. B., Hinrichs, R., & Jovanovic, T. (2021). erty drives fear learning during adolescence. *Developmental science, 24*(1), e13000.

Steinberg, L., & Monahan, K. C. (2007). Age differences in resistance to peer influence. *Developmental psychology,* 5), 1531.

Stigler, J. W., Smith, S., & Mao, L. W. (1985). The self-perception of competence by Chinese children. *Child elopment,* 1259-1270.

Stormont, M., Stebbins, M. S., & Holliday, G. (2001). Characteristics and educational support needs of errepresented gifted adolescents. *Psychology in the Schools, 38*(5), 413-423.

Walker, B. A., Reis, S. M., & Leonard, J. S. (1992). A developmental investigation of the lives of gifted women. ed Child Quarterly, 36(4), 201-206.

Wang, J., Mann, F., Lloyd-Evans, B., Ma, R., & Johnson, S. (2018). Associations between loneliness and perceived al support and outcomes of mental health problems: a systematic review. *BMC psychiatry, 18*(1), 1-16.

Wichstraum, L. (1995). Harter's Self-Perception Profile for Adolescents: Reliability, validity, and evaluation of the stion format. *Journal of personality assessment, 65*(1), 100-116.

Yeung, A. S., Chow, A. P. Y., Chow, P. C. W., & Liu, W. P. (2005). Self-Concept of Gifted Students: The ldening and Blackening Effects. *Hong Kong, Institute of Education Science.*