

Accuracy of Self-Perceived Likeability in Adolescent Bullies

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Course: Thesis Pedagogical Sciences (200600042)

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Date: 25-06-2017

Abstract

Studies have shown that bullies enjoy high perceived popularity, but are usually not well-liked among peers. However, little research is available on why low likeability does not deter bullies. This study examines a possible explanation for this phenomenon, namely that bullies are inaccurate perceivers of their own likeability and thereby overestimate their likeability. Data from 251 adolescents between 11 and 15 years old (44.4% boys) was collected in several Dutch high schools using questionnaires. This data was used to test the association between actual and self-perceived likeability and the moderating effect of bullying on this association. Multiple regression analyses showed that there was a positive association between self-perceived likeability and actual likeability: Adolescents who were high in actual likeability were also high in self-perceived likeability ($p = .001$). There was no moderating effect of bullying behaviour on the association between actual and self-perceived likeability, suggesting that bullies, like their non-bullying peers, are accurate perceivers of their own likeability.

Keywords: adolescents, bullying, likeability, accuracy, perceptions, peer status, social status

Accuracy of Self-Perceived Likeability in Adolescent Bullies

In the past, bullying has been considered an unpleasant but normal experience for children to have when their social network extends beyond their family. It was seen as a harmless and educative experience a child had to go through (Tolan, 2004). However, nowadays research shows that being a victim of bullying is more harmful than previously thought and has serious implications for the mental health (Arseneault, Bowes, & Shakoor, 2010), physical health and the academic achievement of adolescents (Graham, 2016). Therefore, parents, school staff and mental health practitioners see bullying as a serious issue (Arseneault et al., 2010). In order to effectively address bullying, it is crucial to better understand the causes of bullying, so that interventions can target the specific motives behind bullying.

Bullying can be defined as a type of aggressive behaviour that is either physically or mentally harming, happens repeatedly over time and is characterized by a power inequality: The victim is not able to defend himself or herself (Olweus, 1993). An important characteristic of adolescents who engage in bullying is social status: Adolescents who bully tend to be perceived as popular by their peers. Interestingly, despite their high popularity, these adolescents are generally not well-liked (Bruyn de, Cillessen, & Wissink, 2010; Caravita, Di Blasio, & Salmivalli, 2009; Witvliet et al., 2010).

Knowing that most children and adolescents want to be liked and accepted by their peers (Crick & Dodge, 1999), it is surprising that these popular bullies' low likeability does not stop them from bullying. However, research on why this does not deter them is lacking. A possible explanation is that bullies may not realise that they are not liked by their peers. Therefore, our goal is to examine whether bullies overestimate their likeability.

Correlates of Two Types of Status

A person's social status is often based on their social competence. The "dual-component model of social competence" (Cillessen, 2008) distinguishes two forms of social competence: peer acceptance (or "sociometric popularity") and perceived popularity (Bruyn de, Cillessen, & Wissink, 2010). Peer acceptance refers to a person's likeability according to their peers. It is usually measured asking adolescents to nominate peers that they like most or like least (Cillessen & Bellmore, 1999). Meanwhile perceived popularity addresses someone's social power among a peer group (Cillessen & Rose, 2005) and is often measured asking adolescents to nominate their most popular and least popular peers (Bruyn de, Cillessen, & Wissink, 2010; Lease & Musgrove, 2003). Children and adolescents who are well-liked by their peers tend to be prosocial, cooperative, have the ability to perceive others and themselves accurately, read emotions properly and take others' perspectives (Bruyn de, Cillessen, & Wissink, 2010). On the other hand, children and adolescents who are perceived as popular, are not

necessarily well-liked. They are not prosocial, but possess skills that make them visible, prestigious and central in their peer group. They may use force to express or assert themselves and aggressive behaviours, such as bullying, are part of their behavioural repertoires (Bruyn de, Cillessen, & Wissink, 2010; Cillessen & Borch, 2006; Lease, Kennedy, & Axelrod, 2002).

Considering that high social status among peers is important in adolescence (Caravita, Di Blasio, & Salmivalli, 2009; LaFontana & Cillessen, 2010), bullying is an effective means to maintain or increase high social status, since aggressiveness can lead to higher perceived popularity (Cillessen & Mayeux, 2004). Moreover, the high status bullies enjoy and the fact that they do not realise they experience problems in the social domain, are evident rewards of bullying (Reijntjes et al., 2013). When bullies enjoy these rewards, bullying behaviour is reinforced (Cillessen & Mayeux, 2004).

Self-Perception of Social Competence and Social Status

Even though adolescent bullies seem to be aware of their popularity among peers (Mayeux & Cillessen, 2008), the question remains if they are also aware of their own likeability. Adolescence is shown to be an important period for developing a socially integrated self-concept (Sebastian, Burnett, & Blakemore, 2008). An inaccurate social self-concept may reflect a social cognitive deficit that possibly causes inappropriate behaviour in social situations (Cillessen & Bellmore, 1999). This is called the "social skills deficit model" (Crick & Dodge, 1994), which states that aggressive youth have difficulties evaluating social cues and formulating socially competent responses. According to the social skills deficit model, researchers see bullies as oafish persons with little understanding of others, who have difficulty attributing mental states – which indicates deficits in the Theory of Mind (ToM). Their poor social skills could result in problems in picking up on the fact that they are not liked (Crick & Dodge, 1994). Furthermore, Coie's (1990) theory about peer rejection states that if disliked adolescents would accurately perceive their own status, they might attempt to change their status by changing their behaviour (Coie, 1990). Nevertheless, the fact that bullies continue to show aggressive behaviour in spite of their rejected status, might be an indication that they do not perceive their status accurately.

However, other studies show that the social skills deficit model does not apply to all bullies. Sutton, Smith and Swettenham (1999) argue that successful bullies would need to possess superior ToM skills and excellent social skills to manipulate and bully others (Arsenio & Lemerise, 2002; Garandeau & Cillessen, 2006; Sutton et al., 1999). An example of these bullies are Machiavellians who, in contrast with the social skills deficit model, are aware of their negative characteristics and even own up to them. A comprehensive study that focuses on the discrepancy between bullies' own perceptions and the perceptions of peers, shows that Machiavellians are not deficient in perspective

taking and are accurate perceivers of their own likeability (Hawley, 2003).

The accuracy of the self-concept is linked to peer status, social behaviour and relationships: Adolescents with poor peer relations appear to be the least accurate perceivers of their own likeability in the peer group, whereas well-accepted adolescents seem to be the most accurate. However, well-accepted adolescents do display problems perceiving their disliking correctly (Cillessen & Bellmore, 1999). Overestimation of social competence is shown to be related to aggressive behaviour, especially in rejected children: Aggressive children report high social competence, while their peers dispute this evaluation (Castro de, Brendgen, Boxtel van, Vitaro, & Schaepers, 2007; Sandstrom & Herlan, 2007; White & Kistner, 2001). Furthermore, a large longitudinal study (Mayeux & Cillessen, 2008) suggests that having an accurate perception of one's own popularity is concurrently and longitudinally positively associated with aggression – above and beyond the strong relation between aggression and popularity alone.

The Present Study

The aim of the present study is to explore why low likeability does not deter bullies from bullying. The current study examines the possibility that low likeability does not discourage bullies because they are not aware that they are being disliked by their peers and therefore overestimate their likeability. To test whether adolescents in this sample are accurate perceivers of their likeability, the association between actual likeability and self-perceived likeability will be examined. We hypothesize that there will be a positive association between self-perceived likeability and actual likeability. Also the possible moderating effect of bullying behaviour on this relationship will be tested. We expect that adolescents who bully do not realise that they are not liked and thereby are not accurate in their perception of their likeability. Therefore, the main hypothesis is that for adolescents who are high in bullying, their perceived likeability will be high regardless of their actual likeability.

Method

Participants

For this cross-sectional study, 383 adolescents were approached to participate in this study. Of the 383 adolescents, 68.4% received parental consent and among those, 95.8% gave consent themselves. This resulted in 251 active participants between 11 and 15 years old ($M = 12.96$, $SD = 0.783$), who filled out the questionnaire (response rate 65.5%). Of the active participants 44.4% were boys and 96.4% were born in the Netherlands. This convenience sample is drawn from several Dutch high schools located in different parts of the Netherlands. High school students were recruited via schools that were contacted by students of the University of Utrecht. The participating classrooms belonged to schools of various academic levels, ranging from vmbo (preparatory secondary vocational education) to the highest level of secondary education: vwo+ (pre-

university education). Most high school students attended a vmbo (26.1%), havo (higher general secondary education) (22.1%) or vwo (30.3%) school.

Procedure

Prior to the data collection, consent forms for parents were either e-mailed to parents or given to them indirectly via the participating adolescents. The filled out forms were returned to the students of the University of Utrecht who would be administering the test. The adolescents also received a consent form themselves, right before they received the questionnaires. Only the adolescents who gave their consent were given the questionnaire that was designed for this study. Others were provided with an alternative questionnaire, which consisted of off-topic questions. The consent forms explained that the adolescent would participate in a study administered by students of the University of Utrecht on adolescents' behaviour and the way they see themselves and their peers. It also mentioned that the questionnaire would take about 20 to 30 minutes to complete. Confidentiality and anonymity were emphasized by informing the participants that no classmates or teachers would see their answers and that their names would not appear in reports. Moreover, the adolescents were informed that they were not obliged to participate and could withdraw from the study at any point. Both parents and adolescents had to sign the consent forms with both date and signature.

To ensure confidentiality and anonymity, all participants were assigned a unique eight-digit number. This personal number appeared on each participant's questionnaire and was used instead of the participant's name for entering the data. This number consists of four pairs of digits. The first two digits represent the University of Utrecht student who administered the test. The second two digits are code for the school this University of Utrecht student administered the test at. For example: the first high school was coded as 01, the second high school was coded as 02. The third pair of digits represents the classroom the test was administered in, in that certain school. The last two digits are linked to the participating adolescent, attributed according to alphabetical order. For each classroom in which data was collected, a list was created with the names of all classmates and their corresponding numbers. When receiving the questionnaire, each participant also received a list of their classmates with their corresponding eight-digit numbers. This allowed them to use the classmate's number instead of the classmate's name when they had to nominate peers in the questionnaire.

The data collection was administered by 11 Dutch students from the University of Utrecht, who were available for questions and gave instructions. During the questionnaire administration, one or two Utrecht University student(s) and one high school teacher were present. Questionnaires were completed in about 20 to 30 minutes, in the classrooms, during regular teaching hours. Participants did not receive any compensation for participating. For confidentiality and anonymity purposes, all lists were destroyed

after the data had been collected and processed.

Measures

All participants answered 49 questions about bullying, defending, anxiety and peer status as well as self-perceived peer status. Only the data on actual likeability, self-perceived likeability, and bullying is used in this study.

Actual likeability. Actual likeability is measured using the following peer-nominated questions: "Which classmate do you like most?" and "Which classmate do you like least?". Each participant had the opportunity to nominate as many classmates as he or she saw fit. This is a very common method to assess likeability (Lease, Musgrove, & Axelrod, 2002; Prinstein & Cillessen, 2003; Sandstrom & Cillessen, 2006). For each participant, the total number of nominations received on both questions was computed. The "actual likeability" variable was created by subtracting the amount of nominations received on the "which classmate do you like least"-item from the amount of nominations received on the "which classmate do you like most"-item. After subtracting, the score was divided by the number of active participants in the particular classroom. This provided each participant with a proportion score that could range from -1.0 to 1.0.

Self-perceived likeability. This is measured with one item: "My classmates like me", using a 7-point Likert scale (from 0 = "not at all true", to 6 = "totally true"). The students were asked to mark the answer best fitting their opinion. A high score on this item shows that the participant thinks that he or she is well liked by his or her classmates.

Bullying behaviour. Before answering any questions, the participants were provided with a definition of bullying. This definition covers four types of bullying behaviours: physical, verbal, direct relational and indirect relational bullying. It also emphasizes the fact that bullying is not a regular quarrel between two people who are of a similar physical and emotional strength. Moreover, it explains that bullying behaviour is frequent, long lasting and intentional. The questions are based on the existing questionnaire: *The bullying role nomination procedure* (BRNP; Olthof, Goossens, Vermande, Aleva, & Meulen van der, 2011, adapted by Reijntjes et al., 2016).

To obtain a measure of bullying, four items were used that cover the four different types of bullying behaviour. The Cronbach's alpha for these four items shows that they form a reliable construct ($\alpha = .75$). To measure these types of bullying, questions about different behaviours like kicking, name calling, gossiping and excluding others from a group, were asked. These behaviours are usually measured when assessing bullying behaviour (e.g. Kowalski & Limber, 2013; Wang, Iannotti, & Nansel, 2009). Once more, peer nominations were used and each participant could nominate as many classmates as a bully in any of these areas as he or she wanted. Peer-nominations are widely used as measurements of bullying behaviours (Salin, 2001; Salmivalli, 2010; Sentse, Scholte,

Salmivalli, & Voeten, 2007; Witvliet, Olthof, Hoeksma, Goossens, Smits, & Koot, 2009). The variable measuring overall bullying behaviour was created by dividing the sum of nominations on all four bullying behaviours by the total number of classmates that filled out the questionnaire. This resulted in proportion scores with a possible range from 0.0 to 4.0.

Results

Analysis Plan

First of all, descriptive statistics of the sample were obtained and multiple t-tests were conducted to check for gender differences on the main variables: age, bullying, actual likeability and self-perceived likeability. Pearson's correlations were computed to assess the direction and strength of the relationship between these four variables. Additionally, multiple regression analyses were conducted. To test the main hypothesis that bullying behaviour moderates the association between actual and self-perceived likeability, a model was tested, including an interaction variable: the interaction between bullying behaviour and actual likeability to predict self-perceived likeability. By adding this interaction, possible moderation of bullying behaviour on the association between actual likeability and self-perceived likeability could be tested. To control for the effects of the other variables; age, gender, bullying behaviour and actual likeability were added. All variables in this model, except for gender, were mean centered to solve possible multicollinearity.

Additionally, a model was tested for the main effects of the independent variables age, gender, bullying behaviour and actual likeability, on self-perceived likeability. The results show whether actual likeability predicts self-perceived likeability, controlling for the effects of age, gender and bullying behaviour.

Analyses were conducted using IBM SPSS Statistics version 22, which is a statistical programme to edit, process and analyse data.

Descriptive Statistics

First, descriptive statistics of the sample were obtained. Table 1 shows the range, mean and standard deviation of the variables age, bullying behaviour, actual likeability and self-perceived likeability.

Table 1

Descriptive statistics of the sample

	<i>Min</i>	<i>Max</i>	<i>M</i>	<i>SD</i>
Age	11.00	15.00	12.96	0.78
Bullying	0.00	0.40	0.02	0.04
Actual Likeability	-2.20	1.60	0.14	0.29
Self-Perceived Likeability	1.00	6.00	4.46	1.00

In addition, independent sample t-tests were conducted to test whether boys and girls differ on the main variables: age, bullying, actual likeability and self-perceived likeability. Results of the t-tests show that there is a significant mean difference between girls and boys for actual likeability (see Table 2). Actual likeability is significantly higher for girls than for boys ($p = .002$): Girls were generally more liked by their classmates than boys were. No significant mean differences were found for the variables age ($p = .529$), bullying ($p = .960$), or self-perceived likeability ($p = .447$)

Table 2

Results of t-tests for gender differences for main study variables

	Girls		Boys		<i>t-value</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Age	12.95	0.78	12.89	0.80	.63
Bullying	0.01	0.03	0.01	0.04	.05
Actual Likeability	0.18	0.20	0.08	0.31	3.16**
Self-Perceived Likeability	4.42	1.06	4.52	0.92	.76

Note. ** $p < .01$.

Correlations

In order to assess the direction and strength of the relationship between the four variables, Pearson's correlations were computed. Results are presented in Table 3 and show that self-perceived likeability and actual likeability are significantly and positively related ($p = .003$, $N = 246$). This means that participants who see themselves as being well-liked by their classmates, also receive many peer nominations on likeability, which indicates that the participants perceive their likeability correctly. There was no significant correlation between age and bullying ($p = .065$), age and actual likeability ($p = .669$) or age and self-perceived likeability ($p = .120$). Additionally, there were no significant correlations between bullying and actual likeability ($p = .980$), or bullying and self-perceived likeability ($p = .649$), indicating that adolescents who bully do not differ in either self-perceived or actual likeability from adolescents who do not bully in this sample.

Table 3

Correlations between age, bullying, actual likeability and self-perceived likeability

	1	2	3
1. Age	—		
2. Bullying	.117	—	
3. Actual Likeability	-.027	.001	—
4. Self-Perceived Likeability	-.100	.029	.187**

Note. ** $p < .01$.

Regression Analyses

To test whether the association between actual and self-perceived likeability is moderated by bullying behaviour, a multiple regression analysis was conducted. First, a model for the main effects of age, gender, bullying and actual likeability on self-perceived likeability was tested (Model 1). Secondly, a model including the interaction between bullying behaviour and actual likeability was tested (Model 2). Results are shown in Table 4.

The model of the main effects is significant, $F(4, 238) = 3.40$, $R^2 = .038$, $p = .010$. The Adjusted R^2 shows that the predictors in the model only predict 3.8% of the variance in self-perceived likeability. Controlling for the effects of age, gender and bullying behaviour, actual likeability remains positively associated with self-perceived likeability ($p = .001$). In contrast, age ($p = .117$), gender ($p = .258$) and bullying behaviour ($p = .393$) had no significant effect on self-perceived likeability.

Table 4

Regression analysis predicting self-perceived likeability

Model 1	Beta	Standard Error	β
Age	-0.13	0.08	-0.10
Gender	-0.15	0.13	-0.07
Bullying	1.83	2.15	0.06
Actual Likeability	0.75	0.23	0.21**
Model 2			
Age ^a	-0.13	0.08	-0.10
Gender	-0.15	0.13	-0.07
Bullying ^a	1.93	2.71	0.06
Actual Likeability ^a	0.76	0.26	0.21**
Bullying x Actual Likeability ^a	-0.41	6.79	-0.01

Note. ** $p < .01$. ^a Variables are mean centered.

In order to find out whether the relationship between self-perceived likeability and actual likeability is moderated by bullying behaviour, another regression analysis was conducted including one additional variable: the interaction between bullying and actual likeability. Results show that the second model is also significant, $F(5, 237) = 2.71$, $p = .021$, $R^2 = .033$. The predictors in this model predict only 3.3% of the variance in self-perceived likeability. In the second model, there is also a significant positive effect of actual likeability on self-perceived likeability ($p = .003$). The other variables do not significantly predict self-perceived likeability. Moreover, there is no significant interaction between bullying and actual likeability ($p = .952$) in predicting self-perceived likeability, indicating that bullying does not moderate the association between actual and self-perceived likeability. Adolescents who bully in this sample, are as accurate perceivers of their own likeability as non-bullies are.

In short, the first hypothesis that self-perceived likeability and actual likeability are positively associated is supported by the results. This is an indicator of adolescents' accuracy in the perception of their own likeability. However, the main hypothesis that for participants who are high in bullying, the self-perceived likeability would be high regardless of actual likeability, is not supported by the results. Bullying behaviour does not moderate the positive association between actual and self-perceived likeability: Adolescents high in bullying do not differ from others in the accuracy of their perceptions concerning their likeability among peers.

Discussion

Research shows that bullies are often popular but disliked by their peers (e.g. Bruyn de, Cillessen, & Wissink, 2010). This study adds to the knowledge about bullies' cognitions by examining a possible explanation for why low likeability does not deter bullies. It does so by examining whether bullies overestimate their likeability.

First, we expected a positive association between adolescents' self-perceived likeability and their actual likeability. In line with our hypothesis, results show that high levels of actual likeability are associated with high levels of self-perceived likeability. This demonstrates that the adolescents in our sample are accurate perceivers of their own likeability. Remarkably, results also indicate that adolescents who bully do not differ from non-bullies with regard to their actual likeability. Bullies are not more or less liked by their classmates than non-bullies. This is not in agreement with existing literature on this matter (e.g. Bruyn de, Cillessen, & Wissink, 2010; Witvliet et al., 2010).

Secondly, we expected that for adolescents who are high in bullying, their perceived likeability would be high regardless of their actual likeability. This hypothesis is not supported by our findings, since no moderating effect of bullying on the association between actual likeability and self-perceived likeability was found. This means there is no reason to believe that bullies are incorrect perceivers of their own likeability, which is not

in consonance with the social skills deficit model (Crick & Dodge, 1994). However, other explanations for the fact that bullies continue bullying behaviour regardless of their disliked status should be examined. Other than a lack of accuracy in the perception of their likeability, a possible explanation could be that bullies find being popular more important than being liked (Arsenio & Lemerise, 2002), or that bullies think that victims would not like them regardless of their bullying behaviour.

Strengths and Limitations

A strength of this study is the fact that this particular subject is a useful addition to literature, since the moderating effect of bullying behaviour in particular on the relation between actual and self-perceived likeability has not been examined before. By using peer-nominations, multiple informants' opinions on their peers are given. This makes our measurements more objective and reliable. Also the fact that the sample is very diverse contributes to the quality of this study. Namely, the participants vary in school type ranging from the lowest to the highest level of secondary education, which makes the sample representative.

There are also some limitations to this study. First, the sample size is rather small with 251 participants, which does not allow us to generalize the results to a wider population. Moreover, there was no standardized instruction for Utrecht University students to give to the participants while administering the questionnaire. This could have resulted in some students getting more extensive explanations than others.

Another limitation of this study is the low response rate in classrooms. In some classrooms the participation rate was only 18%. This makes it difficult to correctly identify the bullies and victims, since it is possible that several bullies and victims were less likely to participate in the study which increases the participation bias. If this is the case, the results are less representative because the non-participants possess traits that could have strongly affected the outcome. Additionally, the variable "self-perceived likeability" was solely measured with one single item. To increase the construct validity and thereby the internal validity, this variable would ideally be measured with multiple items (Neuman, 2014). Finally, this study used a cross-sectional design to examine whether bullies overestimate their likeability. In order to fully understand the relationship between likeability and bullying behaviour it is necessary to conduct longitudinal studies. Even though regression analyses provide information about what variables are possible predictors of other variables, only longitudinal data can demonstrate causal relationships.

Future Directions

To further examine possible explanations for why low likeability does not deter bullies, more research is necessary. This study ruled out the explanation that bullies overestimate their likeability, since they appear to be accurate perceivers of their own likeability. Future research should check if there is an association between bullying

behaviour and the number of nomination on "least liked", since bullies sometimes have many friends and followers (Meland, Rydning, Lobben, Breidablik, & Ekeland, 2010). The possible large amount of "most liked" nominations bullies receive from their followers could neutralize the amount of "least liked" nominations they receive from other peers, which could conceal their actual disliked status.

More research on the cognitions of bullies might shed a light on whether bullies can be seen as social oafs (social deficit theory) or as manipulative persons with excellent social skills (Machiavellians). This will also help designing effective intervention programmes to decrease bullying behaviour among adolescents.

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doi: 10.1111/j.1467-9507.2009.00544.x