

The Concurrent and Prospective Association Between Need to Belong and Bullying: The Moderation Effect of Birth Order

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Abstract

Bullying is a challenge for adolescents no matter their background. Previous studies have shown that need to belong has an influence on bullying behaviour. As well that birth order is linked to both need to belong and bullying. This study investigated the association between need to belong and bullying, and the moderating effect of birth order on this association. 682 adolescents participated in this study (52.3% female; age: $M=13.58$, $SD=.96$). The data for need to belong and birth order was collected in 2012. For bullying behaviour self- and peer-reports were collected in 2012 (T1) and 2013 (T2). The results show significant, negative correlations between need to belong and peer-reported bullying for T1 and T2, and a positive correlation for need to belong and self-reported bullying at T2. Additionally, later-born adolescents are found to bully more than first-born at T1. No interaction was detected.

Keywords: bullying, need to belong, birth order, adolescence

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Bullying is a phenomenon that is found in nearly every culture. It can take on many forms. Whether it happens online or in person, be verbal or physical, perpetrated by a single person or a group. Bullying is often motivated by the desire for control, power and social dominance (Laura Weinstein, 1967; de Vries et al., 2021), or the desire for acceptance by a group of peers (Solomontos-Kountouri & Strohmeier, 2021). In this study bullying will be viewed in the context of peer interactions of adolescent students at school and online. The definition of bullying in this case would be recurrent verbal or physical behaviour that socially, psychologically, or physically harms the person it is used on (Solomontos-Kountouri & Strohmeier, 2021; Toseeb et al., 2020; de Vries et al., 2021). Bullying can have various detrimental effects on victims as well as perpetrators themselves. Solomontos-Kountouri and Strohmeier (2021) have shown that need to belong is an important predictor in bullying for adolescents. Need to belong seems to be closely related to a desire for status as it allows for a strong social base and connections with peers. Adolescents with an unfulfilled need to belong show more bullying behaviour than adolescents with a low or satisfied need to belong (Solomontos-Kountouri & Strohmeier, 2021). There is also research of birth order related to need to belong and bullying (Tsamparli & Halios, 2019; Toseeb et al., 2020). There are links between the birth order position of a child and the experienced need to belong (Laura Weinstein, 1967; Eckstein et al., 2010), as well as exhibited bullying behaviour (Tsamparli & Halios, 2019; Toseeb et al., 2020). However, those separate findings can be difficult to combine. For example, first-born children show more bullying behaviour (Tsamparli & Halios, 2019; Toseeb et al., 2020). but less need to belong (Eckstein et al., 2010; Koukouriki et al. 2021). However, there has been very little research about all three factors in one study. This thesis addresses this gap by testing whether or not there is a moderating effect of birth order on in the association between need to belong and bullying.

Bullying can seem like a vague concept as there are many forms of bullying and the question on where to put the threshold on where 'normal' behaviour stops and bullying starts is not entirely clear. (de Vries et al., 2021; Bianchi et al., 2021). In the Netherlands between 2020-2021 about 11% of students from 12-16 years indicated they were being bullied. Roughly 60% of those in person as opposed to online (Nederlands Jeugdinstuut, 2022). There are long-term effects of bullying on the victims besides the initial physical or psychological harm that bullying causes, such as reduced school participation mediated by a

reduced sense of belonging, difficulties with social adaptation (de Vries et al., 2021), depression, and anxiety (Liu et al., 2020). There seem to be negative after-effects for the bullies themselves. For example, they have a higher likelihood of abusing drugs and alcohol, and show a slower development in interpersonal social skills. Bullies can become overly reliant on this dominating strategy for their social status that they cannot adapt easily in a new situation (Bianchi et al., 2021). When measuring bullying the two most common methods are self-reports and peer-reports. Self-reports ask of the participants to state the different bullying behaviour and their regularity. Peer-reports consist of nominations from the peer groups (i.e. school classes). Out of the two methods peer-reports are more objective and less prone to errors because it relies on different inputs. However, they are still shown to be influenced by the social status of the nominees (Branson & Cornell, 2009). While self-reports heavily rely on the view of one person, they can give better insight into their subjective perception. Both methods fall victim to the subjective perceptions of the participants of their own position with their peers and the dynamics in between the peers (Branson & Cornell, 2009; Bouman et al., 2012). Whether it be a fear of negative consequences labelling oneself as a bully or the very subjective interpretation of regular teasing as bullying, or not. It has been shown that both self- and peer-reported children usually are of higher social status but not well liked. The children that were peer-reported felt less accepted by their peers than children reporting themselves as bullies (Bouman et al., 2012). To control for subjective skewing, both methods are used to measure bullying behaviour.

Peer perception and acceptance become a focal point during adolescence. The children starting to loosen their ties with their parents and anchor their identities more through their friends and social standing (Gere & MacDonald, 2010). At the start of adolescence changes in interests and education are common. As well as a restructuring of the social hierarchy. It has been shown that during a time of social change bullies are more widely accepted by their peers and attain stronger social status than victims of bullying or abstainers. Bullying gives the adolescent an appearance of power and desirability while making the victim seem socially objectionable (de Vries et al., 2021). Apart from achieving social status, bullying at school often happens because a person or group are trying to find their identity and will try to distance themselves from anything that is perceived as 'other' and therefore undesirable. They want to feel like they belong somewhere (Bianchi et al., 2021). They are trying to find a place or group where they feel like they belong.

The need to belong is a focal promotor for social behaviour, including bullying (Solomontos-Kountouri & Strohmeier, 2021). It refers to the amount of acceptance and inclusion a person wishes to feel in their social environment (Gere & MacDonald, 2010). More specifically it is satisfied through regular positive contact within an established relationship (Bouman et al., 2012). This concept was first explored in Maslow's Hierarchy of Needs (Maslow, 1943). Through further studies throughout the years need to belong has been more defined as a concept and the understanding of its influences on cognitive processes (i.e. motivation) and behaviour (i.e. bullying) has been furthered. Some of the findings show that need to belong can be essential for the wellbeing of a person. If not fulfilled it can have long term effects on the person. An unrealised need to belong can lead to loneliness, depression, and can even have negative influences on the health of a person (Gere & MacDonald, 2010). An adolescent feeling an unmet need to belong will change their behaviour to "fit in" with a socially desirable group. This includes bullying others to make themselves seem socially strong and weaken perceived competition for an inclusion in the group (Solomontos-Kountouri & Strohmeier, 2021). To date there is sufficient evidence for a link between need to belong and bullying. However, it is uncertain if can be generalised to all adolescents.

Both bullying and need to belong have been found to relate to birth order differences. This might indicate that is an effect of birth order on the link between bullying and need to belong. Birth order has been shown to influence various traits in children, for example presentation motivation, adaptability, and intelligence (Marquez-Caraveo et al., 2021). A protective factor against unrealised need to belong are family bonds. Parents and especially siblings with strong bonds can fulfil the need to belong (Tsamparli & Halios, 2019). Sibling relationships have a strong impact on the social development of children. It is often the first social contact with a person close to their own age where a child can try out different ways of social interactions and reactions (Tsamparli & Halios, 2019). For the purpose of this study a distinction between first-born, later-born, and only children has been made. Only children tend to prioritise academic achievements but not having playmates of a similar age at home leads to their social needs often not being met (Ergüner-Tekinalp & Terzi 2014). They have to look for social connections around their age outside of home. Only children show a higher need to belong than first-born and are often rated being less socially capable than younger children (Eckstein et al, 2010). Within sibling groups there are also variations of need to belong. In general, first-borns adolescents are found to be socially more independent and value academic achievements more than extensive social connections. There is less of a need to be part of a

group. Younger children tend to be more adaptable and focus more on strong social connections (Laura Weinstein, 1967; Eckstein et al, 2010). This group never experienced the full attention of their caregivers. From birth on they have another person, usually close to their age and developmental level that they can learn from and often have to compete with for resources (i.e. parental attention). Younger children develop social skills much faster than first-born (Eckstein et al, 2010). Later-born children frequently score higher on need to belong scales than first-born (Eckstein et al., 2010; Koukouriki et al. 2021). First-borns are more likely to bully younger siblings. This might be an effort to regain lost status and attention from caregivers after the birth of a second child (Tsamparli & Halios, 2019; Toseeb et al., 2020). This bullying behaviour may be transferred to interactions with peers (Toseeb et al., 2020). First-born children are the group that stands out the most with regard to bullying and need to belong. There seems to be a negative correlation for this group as it generally shows low levels of need to belong and more occurrences of bullying than the other groups (Tsamparli & Halios, 2019; Toseeb et al., 2020). Whereas studies researching a link between these two variables show a positive correlation (Solomontos-Kountouri & Strohmeier, 2021). This is discernible with only children and later-born adolescents. The former tends to have a high need to belong and correlating bullying scores, the latter show a medium need to belong and tend to be socially more adaptable and have learned at home to use different techniques to reach their social goal (Eckstein et al, 2010). While there are studies on bullying within families, very little research has been done on the function of birth order on bullying of peers and its link to need to belong.

This study aims to investigate whether birth order moderates the association between need to belong and bullying behaviour. Two research questions are addressed. First, is need to belong concurrently and prospectively associated with bullying behaviour? It is expected that need to belong will be positively associated with bullying behaviour, and that need to belong will be related to increases in bullying over time. Second, does birth order moderate the associations between need to belong and bullying behaviour? Due to adolescents with older siblings' desire for strong social relationships, and adolescents without siblings' desire to make peer connections, it is hypothesised that the positive association between need to belong and bullying behaviour will be of greater magnitude for adolescents with older siblings and adolescents without any siblings compared to first-born adolescents.

Methods

Participants

In this study the data of students from the first to third year of secondary education is utilised. The students participated from 2012-2013 in two annual assessments. The students age range is initially 11-16 ($M=13.58$, $SD=.96$). The majority of students are of Dutch descent (95%). The total sample consisted of 706 students. 12 participants had to be excluded due to missing values in the Olweus Scale at T1. Another 15 students did not complete the need to belong scale. The analytic sample was 682 (52.3% female).

Procedure

This study makes use of two assessments from the Kandinsky Longitudinal Study, which includes annual assessments since 2010 from a Dutch high school (Stoltz et al, 2016). Parents were advised of the procedure and aim of the research and asked to provide parental consent by the school. The students gave their consent before each assessment and were informed they could stop at any time during the process. The data is handled anonymously. These procedures have been approved by Institutional Review Board of the Faculty of Social Sciences of Radboud University (ECG2012-2505-038). First a research assistant explained the process and confidentiality, then gave instructions for the tasks. Throughout the testing they were available for questions. Students filled in the assessments individually on computers in 45–60-minute sessions. The procedure and timing of the assessments (autumn of the school year) have remained identical over the years.

Measures

Bullying. Bullying was assessed at T1 and T2 and was measured with self-reported items from the Olweus Scale (Olweus, 2007) and peer nominations. For the Olweus Scale 6 items with 4 response options between 0 (never) to 4 (3 or more times a week) were used. For example: “Did you tell rumors about another student?” “Did you shove, kick, or hit other students?”. The Olweus Scale has a moderate to high reliability at T1 (Cronbach’s alpha = .77) and T2 (Cronbach’s alpha = .71). Peer-nominations were assessed through classmates. The peer nomination question consisted of a list of names of students from their class, where the student could select as many as they wanted with a minimum of one. They could not select themselves. A student’s score was calculated by the number of nominations they received from classmates and were subsequently standardised to control for class size.

Need to belong. The extent to which adolescents perceived their need to belong was measured with 10 questions from the scale developed by Leary, Kelly, Cottrell, and Schreindorfer (2001). For each item the responses were recorded on a 7-point scale, between -3 (does not apply to me at all) to 3 (definitely applies to me). Three items were inverted (R). The higher the score, the higher the need to belong. For example: “I don’t like being alone.” “I seldom worry whether other people care about me.” (R). The reliability of this scale is high as reported by Leary (2013) (Cronbach’s alpha = .78-.87).

Birth order. In order to identify the birth order of participants, two items were used that described the number of older and younger brothers and sisters reported by participants. “How many older brothers/sisters do you have?,” “How many younger brothers/sisters do you have?”. Three birth order groups were created from these items: Only children, first-born, and later-born. Only children consist of participants who indicated that they do not have any older or younger siblings. First-born consist of participants who reported having only younger siblings. Later-born consist of participants who reported having at least one older sibling.

Data analysis

The first research question concerning the associations between need to belong and the self- and peer-reported measures of bullying behaviour are assessed with correlations to examine the concurrent association, and with multiple linear regressions to examine prospective association. The multiple linear regression includes bullying behaviour at T2 as the dependent variable, and need to belong and bullying behaviour at T1 as predictors. The second research question concerning the moderating effect of birth order on the association between need to belong and bullying is assessed with four multiple linear regression analyses. The first two linear regressions examine whether birth order moderates the concurrent association by including need to belong, birth order, and the interactions between these measures as predictors, and first bullying behaviour with the self-reported measures and then with peer-reported measures at T1 as the dependent variable. Since birth order includes three groups, two dichotomous measures are used to examine differences between first-born adolescents and younger siblings (FvsY), and between first-born and adolescents without siblings (FvsO). The interactions involving birth order are created by multiplying these dichotomous variables by the centred score of need to belong. The two regression analyses examining the prospective association include the same predictors as the previous analysis (need to belong, two dichotomous measures for birth order, and two interactions) as well as

first self-reported bullying behaviour at T2 and then peer-reported measures at T2, as the dependent variable in this final analyses.

Results

The means for the correlations of need to belong and peer-reported bullying at T1 were 45.27 ($SD=8.41$) and $-.00$ ($SD=.98$) respectively. The mean for self-reported bullying at T1 was 3.00 ($SD=3.21$), for peer-reported bullying at T2 the means was $-.01$ ($SD=.97$), and for self-reported bullying at T2 the mean was 2.34 ($SD=2.73$). Table 1 presents the means of bullying behaviour at T1 and T2 for self- and peer-reported bullying across the three birth order groups.

Pearson correlations examined the relationship between need to belong and concurrent measures of self-reported and peer-reported bullying. Need to belong showed weak and negative correlations which were statistically non-significant with self-reported bullying at T1 ($r=-.060$, $p=.117$). Peer-reported bullying at T1 showed a significant correlation ($r=-.084$, $p=.027$). Need to belong was significantly correlated with self-reported bullying at T2 ($r=.72$, $p=.01$) and peer-reported bullying at T2 ($r=-.098$, $p=.01$). The self- and peer-reported bullying measures were also associated. Self-reported bullying at T1 and T2 positively correlated ($r=.279$, $p<.001$), as did the T1 and T2 peer-reported bullying measures ($r=.684$, $p<.001$). Correlations between self-reported and peer-reported bullying at T1 and T2 showed weak and positive correlations which were significant (respectively: $r=.219$, $p<.001$; $r=.210$, $p<.001$). This indicates a relation exists between need to belong and self-reported bullying at T2, as well as peer-reported bullying at T1 and T2.

The first set of regressions examine prospective associations between need to belong and bullying at T2. Both of these analyses explained a statistically significant amount of variance on changes in bullying behaviour: Self-reported bullying at T2 ($F(6, 675)=11.204$, $p<.001$, $R^2=.092$) and peer-reported bullying at T2 ($F(6, 675)=99.783$, $p<.001$, $R^2=.470$). The relationship between need to belong and self-reported bullying at T1 ($b=-.011$, $se=.023$, $p=.624$) as well as between need to belong and peer-reported bullying at T1 ($b=-.001$, $se=.007$, $p=.941$) proved non-significant. The results indicate that need to belong was related to changes in both self- and peer-reported bullying at T2.

The second set of regressions test birth order as a moderator. First the concurrent association is analysed. The analysis involving self-reported bullying at T1 did not explain a statistically significant amount of variance ($F(5, 676)=1.051$, $p=.386$, $R^2=.008$). The analyses

show that need to belong did not significantly predict self-reported bullying ($b=-.011$, $se=.023$, $p=.624$), neither did the birth order variable FvsY ($b=.115$, $se=.257$, $p=.655$), the birth order variable FvsO ($b=-.680$, $se=.546$, $p=.213$), interaction between FvsY and need to belong ($b=-.016$, $se=.031$, $p=.615$), and the interaction between FvsO and need to belong ($b=-.047$, $se=.056$, $p=.406$). The analysis involving peer-reported bullying at T1 did explain a statistically significant but minute amount of variance ($F(5, 676)=2.347$, $p=.040$, $R^2=.017$). There were no significant predictions for peer-reported bullying from need to belong ($b=-.001$, $se=.007$, $p=.941$), the birth order variable FvsO ($b=-.037$, $se=.166$, $p=.823$), the interaction between FvsY and need to belong ($b=-.013$, $se=.009$, $p=.170$), and the interaction between FvsO and need to belong ($b=-.025$, $se=.017$, $p=.147$). There was a significant effect for the birth order variable FvsY in relation to peer-reported bullying ($b=.156$, $se=.078$, $p=.046$). The main effect indicates that the groups first-born and later-born adolescents differ in the concurrent peer-reported measure.

The last set of regressions test birth order as a predictive moderator. The analysis involving self-reported bullying at T2 did not explain a statistically significant amount of variance ($F(6, 675)=11.204$, $p<.001$, $R^2=.091$). The analyses show that need to belong did not significantly predict changes in self-reported bullying at T2 ($b=-.010$, $se=.019$, $p=.592$). Neither did the birth order variable FvsY ($b=-.039$, $se=.210$, $p=.853$), the birth order variable FvsO ($b=-.675$, $se=.445$, $p=.130$), interaction between FvsY and need to belong ($b=.046$, $se=.025$, $p=.065$), and the interaction between FvsO and need to belong ($b=-.037$, $se=.046$, $p=.414$). Self-reported bullying at T1 did predict self-reported bullying at T2 ($b=.24$, $se=.03$, $p<.00$). The main effect of the predictive association on peer-reported bullying at T2 ($F(6, 675)=99.783$, $p<.001$, $R^2=.470$) was significant. There were no significant predictions for peer-reported bullying from need to belong ($b=-.006$, $se=.005$, $p=.250$), the birth order variable FvsY ($b=-.002$, $se=.057$, $p=.972$), the birth order variable FvsO ($b=-.005$, $se=.121$, $p=.967$), the interaction between FvsY and need to belong ($b=.003$, $se=.007$, $p=.657$), and the interaction between FvsO and need to belong ($b=-.004$, $se=.012$, $p=.745$). Peer-reported bullying at T1 did predict peer-reported bullying at T2 ($b=.674$, $se=.028$, $p<.001$). The results indicate that birth order did not significantly predict changes in either self- or peer-reported bullying.

Table 1:

Descriptive statistics: Means and standard deviation of bullying for three subgroups of birth order

Birth order	Descriptive measure	Peer-reported bullying T1	Self-reported bullying T1	Peer-reported bullying T2	Self-reported bullying T2
Only child	<i>M</i>	-.03	2.35	-.02	2.90
	<i>SD</i>	.87	2.26	1.05	3.10
	Range	3.60		4.39	
	<i>N</i>	40	40	40	40
First-born	<i>M</i>	-.09	2.96	-.07	2.31
	<i>SD</i>	.87	3.00	.87	2.58
	Range	5.30		5.28	
	<i>N</i>	274	274	274	274
Later-born	<i>M</i>	.07	3.10	.04	2.29
	<i>SD</i>	1.06	3.43	1.03	2.80
	Range	5.89		5.34	
	<i>N</i>	368	368	368	368

Discussion

This study investigated whether need to belong is concurrently and prospectively associated with bullying behaviour and if these associations were moderated by birth order. The question whether there is an association between need to belong and bullying could be confirmed with a significant negative correlation between need to belong and concurrent and prospective peer-reported bullying, as well as a significant positive prospective correlation with self-reported bullying but no significant concurrent correlation. This means that adolescents with high need to belong were less likely to be nominated as bullies by their peers. However, a high need to belong also meant a higher likelihood of prospective self-reported bullying behaviour. There is no relationship between need to belong and concurrent self-reported bullying behaviour. Furthermore, investigating the prospective association of need to belong and the two measures of bullying at T2 revealed significant main effects for both. That means that bullying behaviour can be predicted by need to belong. At last, the question about the moderation effect of birth order on bullying has been investigated. The only significant effect was found between first- and later born adolescents in concurrent peer-

reported bullying. This indicates that adolescents with older siblings exhibit more bullying behaviour than first-born, but only in the concurrent peer-reported measure.

The first hypothesis about the correlation between need to belong and bullying could be confirmed. However, the hypothesis that it is a positive association could not be fully supported. While need to belong showed a moderately strong ($r=0.7$) significant and positive correlation with self-reported bullying behaviour, it was weakly negatively ($r>-0.01$) correlated with peer-reported bullying. While there is little research into the association between need to belong and bullying the negative correlation found differs from the majority of previous findings (Solomontos-Kountouri & Strohmeier, 2021; de Vries et al., 2021). It is possible that adolescents with a high need to belong used more ingratiating behaviour to make themselves acceptable to peers and were thus perceived as less threatening (MacNeill & DiTommaso, 2022). The much stronger positive correlation with need to belong and self-reported bullying, however, is in accordance with existing literature. Need to belong was described as having a positive correlation with bullying behaviour. Meaning that during adolescence need to belong was reported as an important predictor for social behaviour (Bianchi et al., 2021; Solomontos-Kountouri & Strohmeier, 2021). Adolescents generally want to belong with their peers and bullying is one way that allows them to strengthen their social position (Bianchi et al., 2021). Need to belong does influence bullying for adolescents to establish a position with their peers, but it can also influence it in other directions. For example, changing their behaviour or looks to fit in with their chosen peer group (MacNeill & DiTommaso, 2022).). This may have influenced the results of this study. An explanation for the difference in correlation between peer- and self-reported bullying might be the subjective perception of the participants of themselves. Adolescents with a high need to belong might also have been self-critical regarding their social behaviour and thus over-reported their own bullying behaviour (MacNeill & DiTommaso, 2022).). The self-reports are based on the adolescent's viewpoint of themselves and are a subjective opinion, while the peer-reports are more objective since they are based on the judgement of many (Bouman et al., 2012).

The second research question considered the moderation effect of birth order on bullying behaviour. The hypothesis that the association between need to belong and bullying is greater for adolescents with older siblings has not been supported. There was no statistically significant interaction effect for any of the birth order groups. It is difficult to conclude whether it fits with previous literature as these three variables have not been researched in relation with all of them together. There was a significant effect at T1 comparing the birth

order groups first- and later-born with bullying behaviour. Adolescents with older siblings bullied more than first-born adolescents according to peer-reports. This effect did not show in the analyses for T2. These findings fit with previous literature about differences between first- and later-born adolescents. Later-born adolescents have been shown to have a higher need for social inclusion and subsequent bullying behaviour (Eckstein et al, 2010). This need is expressed through bullying behaviour to find a position with their peers (de Vries et al., 2021). Interestingly there was no significant interaction effect of need to belong and birth order on bullying in the same analysis, meaning that there is no moderation of birth order on the need to belong effect on bullying. There is no research examining birth order as a moderator for the effect of need to belong on bullying. The hypotheses for this research were based on conclusions from several studies examining bivariate correlations but not the results of multivariate tests involving all three variables. Birth order has been found to have a correlation with bullying. Studies have found that first-born adolescents bully more than later-born. However, these studies primarily investigated bullying within families, not with peers (Tsamparli & Halios, 2019; Toseeb et al., 2020). When comparing birth order with need to belong the correlation is inversed. First-born adolescents show a lower need to belong than later-born and only children (Laura Weinstein, 1967; Eckstein et al, 2010). A factor that this study disregarded because of time constraints was the gender of the siblings. There are indications that purely female sibling groups show less physical bullying behaviour than purely male sibling groups. Mixed groups show less variance in bullying behaviour (Tanrikulu & Campbell, 2015). This warrants a closer look in future research and there might be other factors influencing these variables that are not obvious yet and might be a point of consideration for future exploratory research.

There were some limitations in this study. An existing data set was used for this research, which means that children belonging to the three birth order groups were not equally sampled. Specifically, there were only 40 only children, compared to 274 first-born, and 368 later-born. This could have caused inadequate statistical power for the comparison of only children versus first-born. This should be taken into consideration for any future study. Another limitation is that the nature of this research is correlational, not experimental. So, it is difficult to say anything about the causes of the found significant associations. At last, there are various factors that can influence bullying behaviour. Due to limited resources and time this study focused on need to belong and did not take other factors that could possibly influence bullying behaviour into account. On the other hand, a strength of this study is that

both self- and peer-reports were used to measure bullying behaviour. Self-reports are very easily influenced by the participants personal opinion. Peer-reports are more stable, but they have been shown to be vulnerable to the social status of the nominee. Using both measures makes the analyses more reliable and mitigates the limitations of either (Branson & Cornell, 2009). For the self-reported bullying measure, several types of bullying were included by the Olweus scale to cover a wider range. For example, verbal and online bullying. Another strength is the validity of the scales. Both the need to belong scale and the Olweus scale are established instruments formed and updated through research (Leary et al., 2001; Olweus, 2007). Furthermore, the data used in this study stems from large sample followed longitudinally.

As mentioned before there is no existing research examining need to belong, birth order, and bullying behaviour together. Although this study is not conclusive on some of the associations, it fills a gap within the literature. There seems to be a difference between some of the birth order groups for bullying even if there is no interaction with need to belong. When researching bullying behaviour, future studies should take the birth order position as well as the gender of the participants into consideration. Additionally, the differences of need to belong and bullying on account of birth order warrant more investigation. Even though bullying behaviour is changing with new technologies, it stays a relevant topic for adolescents. And as this study has shown both need to belong and birth order have influence on this behaviour.

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