Differences between self- and peer-rated likability in relation to social anxiety and depression in adolescents with mild intellectual disabilities

Anke M. Klein[a],[*], Esther O. Houtkamp[b], Elske Salemink[a], Jeanine M.D. Baartmans[c], Mike Rinck[d], Mariët J. van der Molen[b]

[a] *Developmental Psychology, University of Amsterdam, The Netherlands*
[b] *Clinical, Neuro, and Developmental Psychology, VU Amsterdam, The Netherlands*
[c] *Child Development and Education, University of Amsterdam, The Netherlands*
[d] *Behavioural Science Institute, Radboud University Nijmegen, The Netherlands*

ARTICLE INFO

ABSTRACT

Background: Social anxiety and depressive symptoms are relatively common in adolescents with Mild to Borderline Intellectual Disabilities (MBID). Unfortunately, there are only a few studies that focus on examining processes underlying social anxiety and depression in these adolescents.
Aims: The aim was to examine the differences between self- and peer-rated likability in relation to social anxiety and depression in the classroom environment.
Methods and Procedures: 631 normative non-clinical adolescents with MBID completed questionnaires to measure social anxiety, depression, and the estimation of their own likability by peers. Peer-reported likability was derived from peer-rating scales on likability.
Outcomes and Results: Adolescents with higher levels of social anxiety significantly rated their own likability as lower than their non-anxious peers. However, socially adolescents were equally liked by their peers. Adolescents with higher levels of depression were significantly less liked by their peers, but still underestimated their own likability than adolescents with lower levels of depression.
Conclusions and Implications: Social anxiety and depression are linked to a biased interpretation of likability, but only depression is linked to actually being less liked by peers. Social anxiety and depression are partly based on similar underlying cognitive biases.

What this paper adds?

Social anxiety and depressive symptoms are relatively common in adolescents with Mild to Borderline Intellectual Disabilities (MBID). Unfortunately, there are only a few studies that focus on examining processes underlying social anxiety and depression in this group. Clearly new theory and research is needed to develop and/or adapt existing treatments for adolescents with MBID. This study focused on how social anxiety and depression in adolescents with MBID is related to actual likability by peers and their ability to accurately estimate their own likability by peers. We found that adolescents with higher social anxiety rated their own likability as lower even though they were equally liked by their peers than adolescents with lower social anxiety. This discrepancy resulted in the fact that socially anxious adolescents estimated their likability as significantly lower when their self-assessment ratings were

---

compared to peer ratings. Socially anxious adolescents seem to have a biased interpretation of their own likability. Adolescents with higher levels of depression also rated their own likability as lower, but they were also significantly less liked by their peers. Additionally, we found that both anxiety and depression uniquely explained self-rated likability and the difference between self-rated and peer-rated likability. Clearly more studies are needed before firm conclusions can be drawn, but if future studies do indeed confirm the current findings, this might suggest that social anxiety and depression are partly based on similar underlying cognitive biases, and that adolescents with social anxiety might profit from different treatments than adolescents with depressive symptoms.

Symptoms of social anxiety and depression are highly prevalent in adolescents; also in adolescents with Mild to Borderline Intellectual Disabilities (MBID; Dekker & Koot, 2003). Anxiety and depression have a high co-morbidity and a strong overlap in genetic factors underlying vulnerability which makes it very interesting and important to study both constructs at the same time (e.g., Cole, Peeke, Martin, Truglio, & Seroczynski, 1998; Luebbe, Bell, Allwood, Swenson, & Early, 2010; Nivard et al., 2015). Studying anxiety and depression simultaneously gives us more insight into the overlapping and distinctive features of anxiety and depression, which could shed light on possible etiological pathways underlying their frequent comorbidity (see Cummings, Caporino, & Kendall, 2014). Moreover, an integrated understanding of how various processes may collectively influence the etiology and maintenance of anxiety and depression has important implications for the identification, prevention and treatment of anxiety and depression in adolescents. This is especially important for adolescents with MBID, as there are only a few treatment studies for anxiety and depression in this population and the overall effectiveness is shown to be lower than in individuals with an average IQ (e.g., Hronis, Roberts, & Kneebone, 2017). Clearly new theory and research on this topic is needed to develop and/or adapt treatments for adolescents with MBID, such as Cognitive Behavior Therapy (see also, Hronis et al., 2017; Unwin, Tsimopoulou, Kroese, & Azmi, 2016). Therefore, this study focused on examining processes underlying social anxiety and depressive symptoms in a normative non-clinical sample of adolescents with MBID.

Cognitive theories of anxiety and depression emphasize the importance of cognitive processes in the onset and maintenance of anxiety and depressive symptoms and disorders. According to these theories, children and adults with anxiety and depression have schemata that direct processing resources towards threat-relevant or negative information, resulting in cognitive biases related to attention, interpretation and memory (e.g., anxiety: Williams, Watts, MacLeod, & Mathews, 1997; depression: Beck, 1976). As a result, many situations are associated with danger, fear and negativity. Research in adolescents with an average IQ who display anxiety and/or depressive symptoms has indeed provided evidence for the existence of biased cognitions related to social anxiety and depression (for overviews see, Bar-Haim, Lamy, Pergamin, Bakermans-Kranenburg, & van Ijzendoorn, 2007; Miers, Blöte, & Westenberg, 2011; Platt, Waters, Schulte-Koerne, Engelmann, & Salemink, 2017). However, to the best of our knowledge, there are no studies that examine the relation between biased cognitions and depression in adolescents with MBID, and only one study with respect to social anxiety in adolescents with MBID (Houtkamp, van der Molen, Salemink, de Voogd, & Klein, 2017). Houtkamp et al. (2017) studied the relation between social anxiety and interpretation biases in a normative sample of adolescents with MBID (12–19 years). Interpretation bias refers to the phenomenon that fearful individuals have the tendency to interpret ambiguous situations as negative and/or threatening. In their study, they used the Interpretation Recognition Task in which adolescents were asked to read 16 short ambiguous scenarios. Directly following each scenario, a negative interpretation of the scenario was given and adolescents were asked to indicate how likely they thought that this negative interpretation would finish the ambiguous scenario on a four-point Likert-scale. Houtkamp et al. (2017) found evidence for a relation between self-reported symptoms of social anxiety and a negative interpretation bias; socially anxious adolescents with MBID thought that negative endings were more likely to happen to them than non-anxious adolescents with MBID.

Thus, one could conclude that adolescents with higher levels of social anxiety and depression have unrealistic negative interpretations of ambiguous situations and that treatment should focus on restructuring these negative interpretations into more realistic interpretations. This is indeed one of the key elements of current CBT methods and the more recently developed Cognitive Bias Modification (CBM) techniques (see also Craske, 2010; Klein et al., 2018; Mogoaşe, David, & Koster, 2014). However, even though it might be very worthwhile to learn how to restructure negative interpretations, one could also speculate that these negative interpretations are in fact not unrealistic (see also Miers et al., 2011). It might be that anxious and/or depressed adolescents indeed have more negative experiences (e.g., being laughed at during a speech, not being included in a game), and that these negative interpretations are thus reality for them instead of a bias. If this would be the case, treatment should focus on reducing these negative experiences instead of restructuring a negatively biased view of the world. In order to choose the right treatment option, it is therefore important to study biased interpretations in more detail.

In this study, we focused on the relation between anxiety, depression and biases in interpretation with regard to the concept 'likability' within the classroom context. The fear of being less liked by others is one of the core aspects of social anxiety and is one of the reasons why socially anxious adolescents avoid social situations (American Psychiatric Association, 2013). Many studies indeed found that socially anxious adolescents have the tendency to report being less liked by their peers (e.g., for an overview see also Miers et al., 2011). Moreover, children with high levels of depression also have the tendency to estimate themselves as being less liked than their peers (Strauss, Forehand, Frame, & Smith, 1984; Zimmer-Gembeck, Hunter, & Pronk, 2007). Additionally, there are also numerous studies that focus on the relation between anxiety, depression and peer-acceptance from a self-reported and/or peer-perspective in adolescent samples (for a review, see Kingery, Erdley, Marshall, Whitaker, & Reuter, 2010). Overall, Kingery et al. (2010) concluded that most studies report a link between social anxiety and greater difficulties with peer relations, even though there is some inconsistency in the data, as there are also several studies that do not find these differences (e.g., Crick & Ladd, 1993). For example, Erath, Flanagan, and Bierman (2007) found that self-reported victimization was significantly related to social anxiety in both boys and girls, but peer-reported victimization was only significantly related to social anxiety in boys, but not in girls. Even though there are many studies reported on peer relations, to the best of our knowledge, none of the studies published so far explicitly