

University of Groningen

## Bullying Victimization through an Interpersonal Lens: Focussing on Social Interactions and Risk for Depression

Franzen, Minita

DOI:  
[10.33612/diss.198284603](https://doi.org/10.33612/diss.198284603)

**IMPORTANT NOTE:** You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2022

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Franzen, M. (2022). *Bullying Victimization through an Interpersonal Lens: Focussing on Social Interactions and Risk for Depression*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen. <https://doi.org/10.33612/diss.198284603>

### Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

### Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

# Chapter 6

## General discussion

It is well known that victims of bullying have a higher chance for psychopathology compared to peers without bullying experiences. In this dissertation, I focussed on depression as a negative mental health consequence that many victims experience (Moore et al., 2017). Specifically, I focussed on learning more about *how* victims may develop depression symptoms, as this is much less understood than the likelihood that they may develop these symptoms. Coming to know more about mechanisms explaining the victimisation-depression relationship is crucial in order to help prevent such impactful psychopathology.

One factor that, outside the bullying field, has been suggested to help explain the development of depression symptoms is interpersonal functioning (e.g., Gadassi & Rafaeli, 2015; Hammen, 2006; Sato & McCann, 2007; Vrshek-Schallhorn et al., 2015). Although previous studies have reported associations between victimisation and interpersonal functioning (see below), research was still missing that tested victims' interpersonal functioning as an explanatory factor for their depression. This is why in this dissertation, I examined interpersonal functioning as a potential mechanism explaining victims' increased risk for depression.

Previous research provides support for the idea that interpersonal functioning is a relevant factor to consider in victims, and which distinguishes victims from individuals without bullying experiences. For example, victims have been reported to be more suspicious and to more often expect others to have bad intentions (Ziv et al., 2013). Thus, victims may have more negative interpersonal perceptions. Additionally, victims have also been shown to behave differently in social situations compared to their non-involved peers, such as reacting more hostile when triggered and being more submissive and less assertive (Manring, Christian Elledge, et al., 2018; Sijtsema et al., 2009). Therefore, victims may behave in a way that is considered maladaptive in social situations. Such interpersonal cognitions and behaviours can increase interpersonal conflicts, which victims also experience more often (Betts et al., 2017; Carney et al., 2011; Jantzer et al., 2006). In sum, victims seem to experience more interpersonal problems and have more maladaptive interpersonal characteristics than non-involved peers. These findings are comparable to research in populations with depression (Vrshek-Schallhorn et al., 2015). I took these findings as a starting point to systematically study the potential mediating role of interpersonal functioning in the victimisation-depression relation.

### **Methods: comment and choices**

In chapter 2, I argued that retrospective questionnaire-based studies, which have most often been used in bullied populations, are only a stepping stone to understanding victims'

interpersonal functioning. As an additional valuable step, I suggested applying experimental designs and performance-based measures, as well as intensive repeated measures in naturalistic settings (IRM-NS). These methods offer going from a broader, more general assessment of interpersonal functioning to systematically studying it in detail and testing cause-effect relations. Applying these methods serves as a next step towards understanding the role of victims' interpersonal functioning in explaining mental health problems such as depression.

Amongst the specific suggestions I provided, was the inclusion of virtual reality (VR) technology, for example within the context of studying emotion recognition. In chapter 3, I applied three performance-based tasks, one of which included VR technology. In more detail, I studied victims' emotion recognition accuracy (in a VR environment), empathic accuracy, and likely behavioural responses to facial emotions. While keeping a controlled environment, the applied tasks offered ecological validity in terms of social context, and included the empathic accuracy task which offers ecological validity in terms of naturalistic stimuli due to real-life, autobiographical video stimuli.

Regarding IRM-NS designs, in chapter 2, I specifically recommended using event-contingent recording (ECR) of social interactions as an approach to study multiple aspects of victims' real life interpersonal functioning, in various contexts, and very close in time to the social interaction. This method offers both, ecological validity in terms of social context and in terms of naturalistic stimuli. I applied ECR in chapter 4, to study victims' social behaviours, perceptions, and affect during real-life social interactions in the final year of high-school and one year later, after transitioning out of high school. This way, I was able to study smaller, more context-specific changes (or within-person variability) in interpersonal behaviour, such as the relation of the perceived behaviour of the interaction partner with a victim's interpersonal functioning. Thanks to the longitudinal set-up of my study, I was also able to study interpersonal functioning in terms of more general, broader changes such as the transition out of high school. This enabled me to learn more about stability of interpersonal style when the environment changes and individuals, for example, leave the bullying environment.

As a final step, in chapter 5, I tested my mediation model of victims' interpersonal functioning explaining their risk for depression symptoms (see chapter 1 and introduction of this chapter). Although I used retrospective questionnaire data, they came from a large longitudinal population-based study and enabled me to test whether high hostility and low assertiveness (at age 16 years) partially explained victims' (assessed at age 13) increased risk for depression symptoms (at age 19).

## Chapters 3, 4, & 5 in perspective

### *Depression in victims*

Across the studies presented in chapters 3-5, I consistently found that victims had higher depression symptom levels compared to non-involved peers. That is, victims experienced more depression symptoms while still in school (see chapters 3 and 4) as well as once transitioned out of high school and in early adulthood (see chapters 4 and 5). This is in line with previous research reporting both cross-sectional and longitudinal associations between bullying victimisation and depression (e.g., Camerini et al., 2020; Reijntjes et al., 2010; Schoeler et al., 2018).

One model that can help explain why victims are reliably found to have more depression symptoms than non-involved individuals is the diathesis-stress model, which in the context of bullying, has been termed the social-ecological diathesis–stress model of peer victimization (Swearer & Hymel, 2015). It suggests that individuals have certain vulnerabilities for depression, such as biological (e.g., genetic predispositions) or cognitive (e.g., negative self-concept). This can also include interpersonal traits, for example, tendencies to be more hostile or less assertive and perceive others as untrustworthy (Swearer & Hymel, 2015). In line with this, previous research provided evidence to suggest that victims have interpersonal struggles before they are exposed to bullying (Kljakovic & Hunt, 2016). When experiencing stress, such as becoming the victim of bullying, these vulnerabilities can be activated and amplified and turn the predisposition for depression into actual psychopathology. Importantly, the activation and amplification highlight the idea of a bi-directional association between interpersonal style and victimisation, acting as a catalyst for psychopathology. Taking a diathesis-stress perspective can therefore help explain why victims have a higher risk for depression than non-involved individuals, who might also have vulnerabilities such as hostile or non-assertive traits, but lack the stressful experiences which in turn contribute to the development of depression.

My results regarding victims' increased depression symptom levels were as expected and in line with previous research. Apart from differences in depression symptoms, I examined interpersonal differences between victims and non-involved individuals (chapter 3, 4, & 5) and tested whether these mediate and therefore help explain victims' increased depression symptoms (chapter 5).

### *Interpersonal differences during high school*

In chapter 3, I reported that, compared to their non-involved peers, when accounting for depression symptoms, victims ( $M_{age} = 16.8$  years) had a lower emotion recognition accuracy,

specifically for neutral faces which they mainly mistook for angry faces. Similarly, in chapter 4, I found that while victims ( $M_{age} = 17.2$  years) were still in high school, they perceived their interaction partners as less agreeable than their non-involved peers. In addition, victims also experienced more negative affect during social interactions. Findings in chapter 4, regarding interpersonal perceptions and affect relate to experiences across social interactions and not just in specific contexts (i.e., when with individuals perceived as highly dominant). Besides from my cross-sectional findings from chapters 3 and 4 regarding interpersonal functioning in victims, I also studied short-term longitudinal associations while individuals were still in school (i.e., in the likely bullying environment). Specifically, in chapter 5, I found that victimisation at age 13 years was associated with more hostile and less assertive interpersonal traits at age 16.

These results suggest that, across my studies, victims had a more maladaptive interpersonal style compared to non-involved counterparts, although less pronounced than expected. I found evidence for victims experiencing social interactions as more negatively and having a hostile attribution bias, and victims having more hostile and non-assertive traits, which is in line with previous research (Manring, Christian Elledge, et al., 2018; Sijtsema et al., 2009). Of note, however, when examining actual day to day interpersonal behaviours of victims (as in chapter 4), or asking victims to indicate their likely behavioural responses in response to other people's facial emotions (as in chapter 3), I did not find evidence for the idea that victims might behave differently compared to non-involved individuals. In sum, data of two studies showed victims having more negative interpersonal cognitions, whereas data regarding (potentially) maladaptive behaviours were mixed.

My findings regarding the interpersonal cognitions of victims relate to cognitive theories of depression, specifically Beck's cognitive theory of depression and its updated version, the generic cognitive model (Beck & Haigh, 2014). These theories suggest that certain cognitive vulnerabilities or biases impact social information processing, leading to more negative interpretations about the self, others, and the world and subsequently to depression. More specifically, a person's experiences lead to the formation of cognitive schemas or representations of self, others, and the world. Therefore, negative experiences promote the development of more negative schemas which over time can become more exaggerated and increase feelings of threat and social challenges. A self-perpetuating cycle of negative thoughts and information processing can develop, increasing the chance for individuals to experience depression (Beck & Haigh, 2014). Being bullied can activate or intensify cognitive vulnerabilities such as hostile attributions, increasing interpersonal problems and, thereby, the chance for depression.

How interpersonal cognitions specifically impact interpersonal situations and how they interact with interpersonal behaviours and affect in creating (context-specific) interpersonal styles can be understood with the help of contemporary integrative interpersonal theory (CIIT; Pincus, 2005; Pincus & Ansell, 2013) and the interpersonal situation model (Hopwood et al., 2019, 2021). Both are based on the interpersonal circumplex (Kiesler, 1983; Wiggins, 1991) and the concept of interpersonal complementarity (Orford, 1986), which I have repeatedly used throughout my thesis to describe the dynamics of interpersonal situations (see chapters 2-5 and also Figure 2 in chapter 1). Accordingly, interpersonal processes occur both within a person as well as between persons, and a person's interpersonal functioning is a combination of perceiving, interpreting, feeling, and behaving. Interpersonal cognitions are an example of internal, within-person processes, mental representations of the self and others. If a person has a bias towards perceiving other people's behaviours or intentions as more negative or threatening, this will likely lead to a more negative behavioural response of that person (Hopwood et al., 2019, 2021), which in turn, can lead to the interaction partner also reacting more negatively (cf. Orford, 1986; Sadler et al., 2011). Therefore, an interpersonal situation, or in this case a bullying situation, is influenced by within-person processes (e.g., perceptions influencing own behaviours) as well as between-person processes (e.g., behaviours of one person influencing responses of the other). This means that for victims, negatively interpreting and perceiving social situations can increase the chance of experiencing negative interpersonal situations, with bullies (i.e., re-victimisation) but also with others. Importantly, this interplay might have a developmental component with initial negative cognitions impacting behaviours over time (e.g., as a consequence of repeated perceived conflicts) rather than (only) immediately.

This potential developmental component could help explain why I found perceptual but not behavioural differences between adolescent victims and non-involved peers in chapter 4. Potentially, although victims' maladaptive interpersonal cognitions were already consolidated, everyday behavioural differences might have not been manifested yet and may only emerge later, in adulthood. In chapter 4, I assessed everyday interpersonal functioning, multiple times a day, across various situations and contexts. Due to continued negative interpersonal situations such as being bullied, victims' hostile attributions might have already generalised across situations and contexts. This has already been suggested in earlier retrospective questionnaire studies reporting more hostile intent attributions in victim of bullying (Reijntjes, Thomaes, et al., 2011). In comparison, maladaptive behaviours might have still been more context-specific, which is why I may not have detected global behavioural differences between victims and non-involved peers. This could suggest a developmental component of maladaptive behaviours develop or at least become more prevalent later in time. This would be in line with previous research reporting victims

having more hostile attributions one year later which explained their increase in externalising behaviours two years later (Perren et al., 2013).

However, potentially, victims' behaviours might generally be more context-specific than their interpersonal cognitions. When assessing global interpersonal traits, as in chapter 5, I found victims to describe themselves as more hostile and non-assertive. Yet, I did not find evidence for behavioural hostility and non-assertiveness in day to day life. Victims' interpersonal behavioural tendencies might actually be not as pronounced on a day to day basis but might only be present in specific, stressful interpersonal contexts. This would be in line with research in the field of social anxiety, which victims also often experience (Chiu et al., 2020; Pontillo et al., 2019). A study on real-life interpersonal functioning in individuals with social anxiety reported that, although generally being more submissive than individuals without social anxiety, individuals with social anxiety reported particularly more submissiveness during anxiety provoking social interactions (Russell et al., 2011). The idea of context-specific interpersonal behaviours of victims would also be in line with research reporting victims to show more reactive but not proactive aggression than peers (Sijtsema et al., 2009), thus only when triggered and not more generally, across situations.

In line with the social ecological perspective (as discussed in chapter 1), interpersonal situations are part of every person's life, as we typically interact with people on a daily basis. That is why experiencing interpersonal stressors seems unavoidable, especially when holding cognitive vulnerabilities and having biased social information processes. This in turn demonstrates why it is considered so important to take an interpersonal perspective when explaining conflicts and psychopathologies (cf. Hopwood et al., 2021). Part of the social ecological perspective is the idea that apart from daily interpersonal situations, also various other social levels influence a person. Although my focus and argumentation has been focussed on person to person interpersonal processes, which lie more in the field of psychology, these also expand to other levels of the social ecological model, such as in the classroom or the family environment, which relate more to the field of sociology. Victims' maladaptive interpersonal cognitions (as found in my studies) are likely associated with interpersonal situations on multiple social ecological levels. This is why it also seems warranted to test victims' interpersonal functioning after a major environmental change such as a transition out of high school, which I have done in chapter 4.

#### *Interpersonal differences after transitioning out of the bullying environment*

In chapter 4, I examined how stable interpersonal characteristics are after a major life transition, in this case, the transition out of high school. Approximately one year after participants



had reported on their everyday social interactions during the last year of high school, they again reported on their everyday behaviours, perceptions, and affect as experienced during real-life social interactions. At that time, most participants had left high school (i.e., the bullying environment for victims) and started tertiary education or a job. Compared to findings of interpersonal style during high school, there were no overall differences anymore between victims and non-involved peers, suggesting that their interpersonal style became more similar after transitioning out of high school.

A transition, such as the one I examined in chapter 4, can have different meanings to different people, and victims could follow multiple pathways after their bullying experiences (McDougall & Vaillancourt, 2015). One pathway that people follow, and potentially also my participants followed, after transitioning out of high school is to take it as an opportunity to start over: To let go of past experiences and therefore find new ways to cope with new situations. Potentially, victims use this opportunity to take back control of their narrative and thus to prevent re-victimisation (cf. Graham & Juvonen, 1998). This is in line with the idea of posttraumatic growth, a term coined within the general trauma literature to describe positive psychological adaptations, including an increased sense of personal strength, after traumatic life events (Tedeschi & Calhoun, 2004). At first glance, my findings seem to be comparable to these strategies as I did not find overall differences anymore between victims and non-involved peers in that victims did not have more maladaptive interpersonal characteristics anymore. Thus, potentially, victims adapted to the new (assumed bullying-free) environment and were generally able to let go of learned interpersonal strategies such as being vigilant and generally having more negative expectations of interactions with others (as found in chapters 3 & 4).

However, at a second glance, when in a situation with a dominant other, victims reported less adaptive reactions than non-involved peers. Specifically, in this type of situation, victims behaved less dominantly and perceived the interaction partner as less agreeable. Potentially, victims perceived interactions with dominant interaction partners as stressful because they reminded them of past experiences with bullies, who are generally considered dominant (Salmivalli, 2010). As a consequence, previously developed, more maladaptive interpersonal functioning patterns or vulnerabilities might have been elicited again. This context-specific stress-sensitivity suggests that, even after the bullying has ended and the environment has changed, in specific stressful situations, past bullying experiences continued to distinguish victims from non-involved peers. This is in line with previous research reporting victims to be more sensitive to being rejected compared to non-involved individuals (Gao et al., 2021), which has also been found in adult samples with past bullying experiences (e.g., Valera-Pozo et al., 2021). These findings point towards a vicious cycle that can develop (cf. Kiesler, 1982, 1986), with

vulnerabilities being fed and maintained by certain interpersonal situations perceived as stressful by the victim, not only with bullies but also with individuals reminding them of past interpersonal conflicts. This is in line with the earlier described diathesis-stress perspective and can help explain why victims in my study continued to have more depression symptoms than their non-involved peers after their transition out of high school.

#### *Interpersonal traits as an explanation for how victims develop depression*

As a final step, I tested my proposed mediation model (see Figure 1 in chapter 1), namely, if the link between victimisation and the subsequent development of depression can be explained by victims' interpersonal traits. Specifically, in chapter 5, I tested assertiveness and hostility as mediators of the victimisation-depression relation. I found that victims' hostility explained about a third of their increased risk for depression (compared to that of non-involved peers). Therefore, I found some evidence for my proposed model of interpersonal characteristics explaining how victims develop depression symptoms.

Experiencing repeated negative interpersonal situations, such as being bullied, can affect individuals' adjustment, for example, by evoking hostile attributions and being more sensitive to rejection (Gao et al., 2021; Nepon et al., 2021). As individuals feel less safe in social situations, some might act aggressively as a means of self-protection (Gardner & Moore, 2008; Verhoef et al., 2021). In line with the principle of interpersonal complementarity (Orford, 1986; Sadler et al., 2011), such hostile behaviours can in turn increase hostile responses by others (Reijntjes, Thomaes, et al., 2011). This negative interpersonal cycle can, over time, lead to mental health problems (as also discussed in chapter 1 and earlier in the present chapter). This highlights the impact of hostility on social functioning and could help to understand why I found it to be an explanatory factor for victims' depression symptoms. Moreover, this can also explain why I also found hostility to explain depression symptoms of bully-victims and bullies (see chapter 5) who have repeatedly been shown to be more hostile than victims (Camodeca et al., 2002; Sijtsema et al., 2009; Veenstra et al., 2005).

Some research suggests that hostility may generally become more pronounced during adolescence. Transitioning from childhood into adolescence means that many adolescents strive to gain more autonomy from their parents and more often turn towards peers as a reference point (Rubin et al., 2006). Therefore, this developmental period is accompanied by changes in the nature of interpersonal relationships, likely driven by striving to achieve autonomous and communal interpersonal motives. For example, adolescents can find negotiating independence

from their parents stressful and may struggle with doing so in an adaptive way. They might turn to hostility as a means to distance themselves from their parents, for example, because they believe that expressing hostility gives the impression of control and power (Zeman & Shipman, 1997). This might explain why conflicts with parents typically increase from childhood to adolescence (Holmbeck, 2018). In addition, adolescent hostile behaviour in the family has been proposed to be a risk factor for adolescents' later aggression problems (Fosco et al., 2014).

Nevertheless, there is also research reporting general hostility to decrease with adolescence, thanks to increased social competence linked to more developed social information processing (Arnold & Lindner-Müller, 2012; Cole et al., 2008; Eccles et al., 2003). Although this might be an overall tendency for adolescents, studies also report that individuals with bullying experiences have social information processing deficits, including a hostile attribution bias, which can in turn lead to hostile behaviours (Perren et al., 2013; Verhoef et al., 2019) as well as depression (Smith et al., 2016). Indeed, my findings are in line with previous research, as I found (a) victims as well as bully-victims and bullies to be more hostile than non-involved individuals, and (b) their hostility to explain their depression risk (see chapter 5 for a more elaborate discussion on findings for bully-victims and bullies).

I found hostility to be a mediator for the victimisation-depression relation, but not (low) assertiveness. A potential reason for why a lack of assertiveness did not serve as a mediating factor could be a differential influence on social situations. In social situations, hostility is assumed to create more interpersonal problems, as people are more "socially allergic" to it than to non-assertiveness, and perceive it as more irritating and provoking (O'Connor, 2011). Thus, victims' hostility might more often lead to interpersonal conflicts and rejection than their lack of assertiveness and therefore more directly relates to the development of depression symptoms.

My study in chapter 5 enabled me to test my mediation model. Although it was based on retrospective questionnaires (see chapter 2) and used an existing database, it serves as a stepping stone for future research to further explore the role of victims' interpersonal functioning in explaining their depression symptoms and other mental-health problems (also see Future Research below).

## **Implications**

I found interpersonal differences between victims and non-involved individuals, both at a more cognitive level (i.e., more negative interpersonal perceptions and lower emotion recognition accuracy) and to a certain degree also at a behavioural level (i.e., less dominance when with

dominant others, even a year after victimisation had been assessed and after participants' social environment had changed). Additionally, I found evidence that increased interpersonal hostility explains victims' risk for depression. Thus, my findings highlight that addressing victims' interpersonal style deserves attention. Focussing on victims' interpersonal functioning could help in terms of preventing negative interpersonal situations, including re-victimisation, but also in terms of decreasing the chance for mental health problems, specifically depression.

Following the social ecological perspective, attention towards interpersonal functioning of victims can occur on various levels. I focus on school and family, and also discuss implications for clinical settings.

Luckily for everyone involved, schools have already realised the urgency of addressing bullying and, in the Netherlands, many have implemented anti-bullying programs such as KiVa (Salmivalli et al., 2010), which has been shown to be effective in reducing bullying (Huitsing et al., 2020). KiVa includes interpersonal aspects such as raising empathy for the victim and encouraging bystanders to engage, thereby raising the interpersonal integrity within the classroom. Nevertheless, bullying still occurs and therefore attention for the victims (and the bullies) is still warranted. Importantly, although it is important to tackle bullying on the group level, as is also primarily done within KiVa, following the interpersonal situation perspective, my thesis highlights the idea that bullying should also be addressed on the person level which includes giving victims' interpersonal functioning the focus of attention.

Introducing CIIT and the interpersonal situation model to teachers can help the understanding of interpersonal situations within the classroom and create more awareness for victims' interpersonal functioning. In a similar vein, parents can also benefit from learning more about interpersonal processes. Of note, across my studies, I found that victims had maladaptive interpersonal cognitions (which are internal and less directly observable) but I less often found that victims showed more maladaptive interpersonal behaviours (which are more directly observable to others). Therefore, victims' interpersonal struggles might not always be visible and observable for teachers and parents and it seems understandable that teachers or parents might miss certain clues that could hint towards more general interpersonal problems of victims and in the long run also mental health problems (cf. Oldenburg et al., 2016). This highlights the importance of generally creating a safe environment in which victims feel they can turn to teachers and parents as a source of support (Yoon & Bauman, 2014). Knowing that people around them are open and willing to help could help reduce victims' generalisation of negative expectations of others and hostile attributions and could help prevent long-term negative consequences for victims. Indeed, research has already shown that having a good social support

system helps prevent victims from developing mental health problems, including depression (Ttofi et al., 2014).

Although involving teachers and parents are important steps, some victims might still be in need of professional help (e.g., psychotherapy). In a clinical setting, if therapists have clients with a history of bullying victimisation, it might be helpful to include interpersonal functioning directly into the therapy process. This can be both at the assessment/diagnostic stage as well as during the intervention phase. For example, as part of the diagnostic procedure, an interpersonal traits measure, such as the Inventory of Interpersonal Problems-Circumplex (IIP-C; Pincus & Wiggins, 1990) could be applied. Interpersonal traits, specifically high dominance and quarrelsomeness as measured with the IIP, have been shown to be negatively related to the quality of the therapeutic alliance (Renner et al., 2012). Being aware of a client's interpersonal traits can therefore help improve treatment quality and success and it seems helpful to integrate the victim's interpersonal style in the therapeutic process.

Being aware of the client's interpersonal style can also be used in the intervention phase. This can be done by directly addressing interpersonal characteristics during psychotherapy, for example, by applying the interpersonal circumplex and the interpersonal situation model to discuss the dynamics of interpersonal situations and conflicts. Doing so, as an addition to cognitive behavioural interventions, has been suggested as a treatment for interpersonal problems (Guhn et al., 2019) as well as in the context of treating depression (Engel et al., 2012; also see CBASP Keller et al., 2000; Negt et al., 2016). For victims of bullying, the direct application of the interpersonal circumplex within psychotherapy is not yet a common approach. Nevertheless, it might be worth considering to add it to more standard cognitive behavioural interventions for victims of bullying (e.g., Fung, 2018; Rajabi et al., 2017) in order to increase treatment success for reducing their depression and other internalising symptoms.

### **More methodological considerations**

In chapters 3-5, I have already discussed study-specific methodological considerations and their potential impact on our results. In the following, I reflect on my used methods and findings, taking a broader perspective across studies.

#### *Assessment of bullying victimisation*

Comparing my three studies, there were differences regarding the time frame of the assessed bullying victimisation. It ranged from larger time spans such as during high school (chapter 3), and during the past six months (chapter 5), to a shorter assessment period of the

past four weeks (chapter 4). This impacts the comparability of the victimisation experiences which has been found to be a rather common problem in the field (Vivolo-Kantor et al., 2014). The definition of bullying includes repeated exposure, which technically means at least two times. However, it is less clear in which time frame the repeated victimisation needs to occur (Kaufman et al., 2020; Volk et al., 2017). One suggestion for a cut-off point for classifying persons as victims is the occurrence of it at least twice a month, in order to capture individuals who struggle psychosocially (Solberg & Olweus, 2003). I performed analyses on a dichotomous victimisation variable. In other words, no matter the time frame, once a person indicated exposure at least twice, they were categorised as a victim. This decision was mainly made due to the relatively small sample sizes but can, to a certain degree, also compensate for the differences in assessed frequency and therefore increase the comparability between our studies. Additionally, my analyses in chapter 4 are based on “stable” victims, who have been victimised in the previous four weeks at two time points, which were approximately six months apart. This means that the difference in relative frequency compared to the other two studies is not as large as it initially may appear.

Apart from the frequency of the bullying experiences, the perceived intensity needs to be taken into account. Intensity, or the degree of it experienced as harmful, differentiates bullying from playful teasing or fighting (Volk et al., 2014). Although bullying incidences might have occurred only a few times and months apart, victims can still experience them as intense and hurtful and suffer from its consequences (cf. Volk et al., 2014). As it is part of the definition of bullying, it has been recommended to explicitly assess experienced intensity, which so far has rarely been done in previous studies (Kaufman et al., 2020); also not in mine. Nevertheless, across studies I found that victims had higher depression symptom levels than non-involved peers. These depression scores could be directly related to the intensity of the victimisation or they might at least symbolise that, across the different time frames used to assess bullying, victimisation has had a negative impact on the individual and was therefore likely experienced as intense and hurtful.

In line with the majority of bullying studies (see Vivolo-Kantor et al., 2014), I mainly relied on self-reports of my participants to gain information about their bullying experiences. Only in chapter 5, I also had reports of their classmates. I used this opportunity to compare the two information sources and found that our hypotheses were not supported when relying on peer-reports and that my mediation model was only applicable when relying on self-reported victimisation information. The inconsistency in findings could be explained by the small overlap of participants being categorised as victims in both cases. Only 19% of self-reported victims was also labelled as such by their peers. The majority (73%) of self-reported victims were reported as

non-involved by their peers. This discrepancy has also been reported in other studies (cf. Branson & Cornell, 2009; Vessey et al., 2014), suggesting that when individuals perceive themselves as being victims of bullying perpetration, they might not be necessarily also perceived or noticed as such by peers.

Both peer-reports and self-reports come with advantages and disadvantages. Some consider peer-reports a more reliable judgment of the involvement in bullying as they usually rely on aggregated scores across multiple peer nominations (cf. Branson & Cornell, 2009; Card & Hodges, 2008). At the same time, peers might not perceive someone as a victim, might not have observed the bullying, or did not notice because it was too subtle. In comparison, self-reports are considered as more closely assessing the personal feelings and perceptions of the individual (cf. Juvonen et al., 2001; Pellegrini, 2001). Some see this subjectivity as a disadvantage as individuals might not feel comfortable sharing their bullying experiences and thus under-report their experiences, or more readily interpret something as bullying and thus over-report bullying experiences (Ladd & Kochenderfer-Ladd, 2002; Vessey et al., 2014). Nevertheless, self-reported victims' perceptions and feelings are valid and are therefore a valuable source of information. Above, I have discussed at length how and why cognitive biases might actually help to explain interpersonal conflicts and victims' risk for depression. This is why, I purposefully chose to rely on the participants themselves as informants for experienced bullying and why I consider self-reports and with it the subjective experience of victimisation, including a potential biased perception, as a valuable and important source when studying risks and mechanism of developing psychopathologies, more specifically internalising disorders such as depression.

### *Assessment of interpersonal functioning*

My focus was on learning more about interpersonal characteristics of victims. Interpersonal characteristics include a variety of cognitions and behaviours that interact with each other and are often also influenced by other internal factors (e.g., a person's mood) and external factors (e.g., interaction partner's behaviour). Subsequently, studying interpersonal functioning is complex for multiple reasons which I discussed in chapter 2.

Combining my studies, I examined interpersonal aspects from various angles. Nevertheless, I am aware that per study I mostly assessed only a limited range of interpersonal variables. In chapter 3, the main focus was on interpersonal cognitions and likely behavioural responses to emotions which I systematically assessed in a controlled environment. Chapter 5 provided information regarding victims' personality traits that are known to correlate with

interpersonal behaviours. Therefore, both studies assessed some, however, only indirect or only potential indications regarding victims' actual interpersonal behaviours. Only in chapter 4 real-life behaviours were assessed, using victims' self-reports and applying a validated methodology specifically designed to assess ecologically valid interpersonal behaviours, cognitions, and affect, repeatedly and across contexts. Therefore, although on their own, my studies might only contribute a limited insight into victims' interpersonal characteristics, taken together, they provide a picture of relevant facets of their interpersonal functioning which helps understand victims' interpersonal struggles and risk for depression.

I followed my own recommendations of chapter 2 by using different performance-based measures as well as using ECR of real-life social interactions. However, I did so in different samples. Therefore, I applied a multimethod approach across studies but not within a study/on the same participants. This also impacts the strength with which I can generalise my findings. Nevertheless, I used complementary study methods from more experimental controlled to capturing real-life, more ecologically valid interpersonal characteristics and in a representative population-based sample with multiple follow-up periods.

My model was based on the idea that victims' interpersonal functioning could explain how they develop depression symptoms. Of note, I only tested the actual mediation model in one of my studies (i.e., chapter 5). Due to limited available data, in chapter 4, I only reported correlational findings and found that victims' interpersonal style during high school was not predictive of their depression symptoms one year later. Results of my other cross-sectional studies suggest that especially interpersonal cognitions might be altered in victims compared to their non-involved peers, which I was unable to test for its explanatory potential for victims' depression risk. Unfortunately, we were unable to test the explanatory effect of those perceptions on the victimisation-depression relation. I am aware that these additional mediation analyses would have been valuable in gaining a better understanding to what degree both interpersonal behaviours and perceptions might explain victims risk for depression, even after a transition out of the bullying environment.

### *Depression (symptoms)*

As the outcome of my mediation analyses, I combined sub-clinical with clinical levels of depression. This means that some but not all of the victims likely would have fulfilled the criteria for a formal diagnosis. Although this was done for feasibility reasons, research has shown that also sub-clinical levels are associated with impairments in various life domains (Penninx et al., 2013;



Rudolph et al., 2007; Wang et al., 2017) and are therefore worth studying. In addition, depression, as other psychopathologies, has a developmental or dynamic component (Nelson et al., 2017), in that over time, in specific contexts or circumstances, symptom severity can increase and also reach a critical point when they become of clinical severity (Brose et al., 2017; Wichers et al., 2019). I found that hostility explained parts of victims' depression symptoms, therefore, my model was applicable for sub-clinical levels of depression. Following the idea that symptoms over time can result in clinical levels of depression, the mediation of interpersonal traits might be even more pronounced in a clinical population as compared to my analogue sample. Nevertheless, this needs to be tested in empirical studies with clinical populations of victims of bullying.

### **Suggestions for future research**

In this project, I have put the interpersonal functioning of victims of bullying central. I have argued that this is beneficial to understand negative interpersonal situations because mental health problems can develop as a result of these situations, and the associated changes in interpersonal functioning. As my main model, I suggested and subsequently found evidence for the idea that interpersonal traits can be an explanatory factor for victims' increased risk for depression.

One of my recommendations (see chapter 2) was to systematically study victims' interpersonal functioning by means of a multi-method approach, combining experimental designs, performance-based measures, as well as IRM-NS. Although I have used several of those methodologies in chapter 3 and 4, I have not fully followed my own suggestions, as I applied the methods in separate studies on different samples instead of together. This is why I encourage future research to actually set up multi-method studies, in order to combine the advantages of these approaches and therefore systematically study victims' interpersonal style in both controlled contexts as well as in real-life, and repeatedly over time. For example, if a longitudinal population-based study such as TRAILS (data of which I used in chapter 5) were to be set up again, I would highlight that more interpersonal measures were to be included. That is, questionnaires such as the IIP-C, but also include IRM-NS periods and experimental and performance-based assessments of interpersonal functioning (see chapter 2 for examples). This might seem unfeasible due to high participant burden, however, the population-based study Netherlands Study of Depression and Anxiety (NESDA; [www.nesda.nl](http://www.nesda.nl)), an ongoing longitudinal Dutch cohort study in adults, serves as an example that this is possible. Over the course of the NESDA project, measures such as the IIP, performance-based tasks such as the approach-avoidance task, as

well as IRM-NS periods were added. The Adolescent Research Collaborative ([dahl-lab.berkeley.edu/research](http://dahl-lab.berkeley.edu/research)) serves as an example that combining performance-based with IRM-NS tasks is also possible in child and adolescent samples (e.g., Forbes et al., 2009; Silk et al., 2007).

Combining lab studies (e.g., performance-based tasks) and IRM-NS, more specifically ECR, in one sample could be helpful to, for example, compare systematically assessed interpersonal cognitions in a controlled context with real-life perceptions of interaction partners. In the same sample of victims of bullying, are hostile attributions as found in a lab study also found in a real-life study in the form of more negative perception of interaction partners? This offers testing for validity of the specific findings of interpersonal styles, for context-sensitivity, and could indicate personal differences, such as whether the frequency of victimisation distinguishes individuals within the group.

For example, it would be interesting to follow-up on my findings regarding context-specific interpersonal differences of victims. I found that during interactions with highly dominant others, victims had more negative perceptions and behaved less dominantly than when they were with less-dominant others. I argued that these interactions might have reminded the victims of interactions with dominant bullies and were therefore stress-inducing for them. Importantly, because of the real-life nature of the assessed interactions, there is no control regarding the stimulus of “dominant interaction partner”. More control and therefore more comparability between groups without losing too much of the ecological validity of the stimulus can be achieved with a VR set-up. VR technology offers to have participants interact with avatars that not only show certain facial emotional expressions, but that also show gestures and even speak with the participant (see for example the entire DiSCoVR program, Nijman et al., 2020, of which I used the emotion recognition part). To create a virtual interaction with a dominant, assertive other, the avatar could be programmed to directly approach the participant, and stress could further be induced by the avatars showing rejecting facial expressions (e.g., disgust or anger) and gestures (e.g., crossed arms). The interpersonal grid (Moskowitz & Zuroff, 2005) could then be used to assess both interpersonal perceptions of the avatars (similar to how I used it in the real-life setting in chapter 4) as well as to assess likely behavioural reactions to these interpersonal encounters (similar to the FERT task used in chapter 3). This set-up can help to more systematically test whether indeed especially dominant others elicit relatively strong "victim-specific" interpersonal responses in victims compared to non-involved individuals.

Apart from continuing to more systematically study the relation between victimisation and interpersonal functioning, whether victims' hostility contributes to their depression deserves to be studied with an experimental set-up. For example, it would be interesting to directly target hostility in a controlled intervention study to see if victims in the intervention group, compared to victims in a waitlist control group, would indeed have less depression symptoms following the intervention. The intervention condition could consist of cognitive restructuring, therefore targeting hostile attributions, as well as behavioural or social skills training, to generate less hostile responses to social provocations, thereby directly targeting hostile behaviours. To further disentangle the roles of interpersonal cognitions and interpersonal behaviours in victims' depression, the intervention condition could have three arms, one focussing on cognitions, one on behaviours, and one on both. Research in children, adolescents, and adults with anger problems (bullying history unknown) has reported beneficial effects of both cognitive and behavioural interventions (when offered separately and together) at reducing hostility (Dodge et al., 2013; Durlak et al., 2011; Hofmann et al., 2012; Saini, 2009; Stoltz et al., 2013; van Teffelen et al., 2021). By applying such a controlled intervention in victims of bullying, it could be tested if addressing victims' hostility will reduce their depression symptom levels, as well as whether there are differences in strength when addressing various aspects of their interpersonal functioning.

More generally, a longitudinal study set-up would be beneficial to take into account the developmental perspective of interpersonal problems and depression symptoms developing over time. This way, also the stability and context-dependency of interpersonal traits could further be studied. I have examined short-term (i.e., one-year) stability by examining the victims before and after their transition out of high school. Further extending the length of data collection would enable us to study bullying experiences and interpersonal functioning in a workplace environment, including the transition into this life phase. Research suggests that bullying also occurs in the workplace and negatively affects victims' mental health as well as productivity and absence (Nielsen, 2013; Nielsen & Einarsen, 2018; Nielsen et al., 2019; Nielsen et al., 2016). This warrants research in older adult victims of bullying. By also conducting research in this population, the impact of interpersonal traits can be tested at an age when personality traits are considered more stable than during adolescence and early adulthood (Allemand et al., 2013).

Of note, future longitudinal research needs to take attrition into account and how it can limit the power and thereby the validity of the findings, as I found attrition to be high in my study described in chapter 4. Apart from the general length of the study, a change of environments can further increase chances for drop-outs, due to participants moving away and therefore being less

available. In my own study, I tried to account for the drop-out by starting with a large number of participants in the initial screening ( $N = 1660$ , coming from 12 different schools across the north of the Netherlands) of which I invited all suitable persons for the first ECR period ( $n = 286$ ). A total of 157 individuals decided to take part in the study and 125 completed the first wave of the study. For the follow-up, in order to have a high chance to be able to contact participants again for the second wave one year later, after their transition out of high school, I collected various contact information (i.e., email addresses and phone numbers). Nevertheless, I had 62 persons who did not want to participate or that I was unable to get in contact with. Nine of those were willing to provide me with feedback as to their reason to decline participation: Seven indicated not having time, one because they were abroad, and one simply did not want to participate again. Potentially, many of my participants did not have time to participate because of responsibilities in their new environment, which for most of them was university or their first job. This is something future research also needs to keep in mind when assessing data that includes life transitions.

For those individuals who were still interested in participating, I tried to accommodate them by offering to give study instructions via video call, instead of in person, so that living in a different city was not an obstacle for participation. What I would recommend for future research is to explain in more detail, at the beginning of the study, why the follow-up period is so vital for the project. This could further help increase the engagement of participants and their willingness to continue with the study at follow-up. Also directly calling participants to invite them to the study, instead of via email, can help participants' long-term commitment to the study. Finally, future research could consider offering (visual) feedback about participants' interpersonal profiles (in line with Locke et al., 2017; Locke et al., 2018) as an incentive (cf. van Berkel et al., 2017).

On a more theoretical note, an additional benefit of a long-term longitudinal study set-up is to test the bi-directional nature of the victimisation-interpersonal style relation and the victimisation-depression relation. My project was based on already experienced bullying victimisation as a starting point and focused on subsequent interpersonal characteristics and increased depression symptoms. However, as I have indicated in several of my chapters, research also indicates the presence and potential relevance of interpersonal characteristics prior to initial victimisation (Kljakovic & Hunt, 2016). Only long-term studies offer to disentangle the role of interpersonal functioning in the onset of bullying victimisation as well as in subsequent mental health consequences.

In my project, I focussed on pure victims of bullying, individuals who have experienced bullying but have not bullied themselves. Only in chapter 5, I also included bully-victims (victims

that also bullied others) and bullies (those who only bullied others) in my analyses, and actually found that for those two groups, high hostility explained an even greater part of their increased depression risk than for victims. This is in line with previous research reporting bully-victims and bullies to be more aggressive than victims (Camodeca et al., 2002; Sijtsema et al., 2009; Veenstra et al., 2005). Thus, potentially my model may also be applicable to individuals with other bullying experiences.

## Closing

In this dissertation, I argued that taking a social ecological perspective, or more specifically an interpersonal one, is central in order to better understand bullying victimisation, its consequences, and potentially its precursors. I specifically focussed on examining victims' interpersonal functioning as a means to learn how they develop depression symptoms. Apart from finding that victims had more negative interpersonal cognitions and, in certain contexts, behaved differently interpersonally compared to non-involved individuals, I also found evidence that hostile traits partly explained victims' risk for depression. Thus, studying the interpersonal traits of victims offers to better understand their interpersonal struggles and their development of depression.

This suggests that addressing the interpersonal functioning of victims by means of interventions, whether at school or in a psychotherapy setting, could help prevent victims from experiencing more interpersonal conflicts and potentially developing mental health problems as a consequence of these negative experiences. Overall, I argue that interpersonal functioning deserves a more prominent role in future research when studying bullying victimisation. I also hope that future research takes my findings and my recommendations for a multi-method approach as a starting point to also systematically study the interpersonal functioning of bully-victims and bullies. As humans are social creatures and interpersonal situations part of everyone's life, it seems likely that interpersonal functioning can explain mental health consequences for more individuals involved in bullying, not just victims.