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The indecisive nature of bully-victims

An interpersonal trait approach to explaining differences between
bully-victims, bullies, and victims

Vera Antonia Ploegman

S2914433

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Supervisor and examiner: Minita Franzen

Second examiner: Nienke Jonker

Faculty of Behavioral and Social Sciences

Department of Psychology

University of Groningen

“A thesis is an aptitude test for students. The approval of the thesis is proof that the student has sufficient research and reporting skills to graduate, but does not guarantee the quality of the research and the results of the research as such, and the thesis is therefore not necessarily suitable to be used as an academic source to refer to. If you would like to know more about the research discussed in this thesis and any publications based on it, to which you could refer, please contact the supervisor mentioned.”

Thank you

Yi Ming

Carolin

Minita

Abstract

Bully-victims are associated with internalizing and externalizing problems but are often overlooked because of their low prevalence compared to bullies and victims. Previous literature (e.g., Kennedy et al., 2021) therefore calls for more inclusion of bully-victims in prevention and intervention programs. Description of differences between the three mentioned bullying groups has been approached with the Big Five personality traits by previous research. This apparently has not informed programs enough for them to become more inclusive of bully-victims. We examined the differences by focusing on interpersonal traits, since bullying occurs in interpersonal relationships. 260 adolescents ($M_{age} = 17$ years; 61% female, 37% male, 2% other) filled in two questionnaires on bullying experiences in the last month (32% bullies, 52% victims, 16% bully-victim), and on the following interpersonal traits: warmth, assertiveness, and angry hostility. We expected bully-victims to differ from bullies on warmth and to differ from victims on assertiveness and angry hostility. However, our results suggested that the groups are relatively similar on all three of the interpersonal traits, with the exception that bully-victims are significantly higher on angry hostility than bullies. This implies that bully-victims should be adopted as a separate group in intervention programs to stress their presence. Additionally, all groups show interpersonal behaviour that is associated with internalizing and externalizing problems, and that all would benefit from early recognition and interventions (e.g., training in assertiveness, aggression) to limit these problems. However, the current study design is underpowered, and thus the implications should be taken with caution.

Keywords: bully-victims, bullying experiences, interpersonal traits, adolescents, one-way ANOVA

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Introduction

"You know how I think they choose people for the Gryffindor team?" said Malfoy loudly. [...] "It's people they feel sorry for. See, there's Potter, who's got no parents, then there's the Weasleys, who've got no money -- you should be on the team, Longbottom, you've got no brains." Neville went bright red but turned in his seat to face Malfoy. "I'm worth twelve of you, Malfoy," he stammered. Malfoy, Crabbe, and Goyle howled with laughter [...]. "Longbottom, if brains were gold, you'd be poorer than Weasley, and that's saying something." (p. 178).

- J.K. Rowling, Harry Potter and the Sorcerer's Stone

Perhaps one of the most notorious, though fictional, bullies is Draco Malfoy from the globally renowned series of Harry Potter. The aforementioned quote illustrates an act of bullying, which can be defined as recurrent, systematic, and intentional aggressive behaviour in an interpersonal relationship in which power is out of balance, as defined by Olweus (1993). Different studies have found various prevalence rates, which might be explained by differences in the definition of bullying used to assess bullying experiences (Bjereld et al., 2020). To illustrate, one study found that about a fifth (17.2%) 11- to 16-year-olds in Northern-Ireland have been bullied (McGuckin et al., 2009). A study in the Netherlands found that of high school students 5% has experienced bullying victimization (Nelen et al., 2018). Estimations may be variable, but it can be stated that bullying is common. Bullying can occur throughout the whole lifespan but has been found to decrease with age and is therefore most prevalent in younger age (Due et al., 2005). It is a cross-cultural phenomenon (Nguyen et al., 2020; Volk et al., 2018) that can take many forms, such as overt or covert, verbal or physical, direct or indirect, face-to-face or cyberbullying (Yang & Salmivalli, 2013).

There are innumerable studies highlighting the long-term detrimental effects of bullying on mental health, schooling, social relationships and more (Kaufman et al., 2018). Many prevention and intervention strategies and programmes have been designed and implemented over the years to limit these negative effects. However, bullying remains an

active topic in literature (Farmani et al., 2021; Valle et al., 2020) and thus also appears to remain an active topic in daily life (Muijs, 2017).

Bullying Experiences

Literature on bullying originates in the 1970s (Koo, 2007), and has traditionally focused mostly on bullies and victims. Bullies show perpetrating behaviour but do not have victimization experiences, whereas for victims this is the other way around. Bullies have a higher chance on externalizing problems, such as antisocial behaviour, whereas victims have a higher chance on internalizing problems, like depression and anxiety (Hemphill et al., 2014). However, since the start of this century, research also took another subgroup into consideration, namely that of bully-victims (Yang & Salmivalli, 2013). Bully-victims, also known as aggressive victims or provocative victims, are found to be a distinct group (Schwartz et al., 2001; Solberg et al., 2007) and are characterized by both bullying behaviour towards others and by victimization by others. They appear to be a rather small group, Solberg et al., (2007) found a prevalence of 1.9% and Yang and Salmivalli (2013) found one of 2.7% and are therefore not always receiving as much attention as possibly needed. Namely, bully-victims have been found to be a vulnerable group for both internalizing and externalizing problems, more problems at school and more experiences with bullying as compared to bullies or victims and they should therefore be recognized as relevant next to a distinct group (Burk et al., 2011; Cook et al., 2010; Farmani et al., 2021; Kennedy, 2021; Schwartz et al., 2001; Yang & Salmivalli, 2013).

Programs to prevent or intervene in bullying have traditionally focused on the behaviour of bullies and victims in order to diminish the related internalizing and externalizing problems for individuals (Pronk et al., 2021). There is however an increasing number of researchers that recommend more tailored strategies to help more (if not all) individuals, and thus also bully-victims (Kaufman et al. 2018, Kennedy et al., 2021; Valle et al., 2021). Since these current programs appear to not, or not enough, include bully-victim behaviour, this brings forward the question as to how the behaviour of bully-victims is different from that of bullies and victims.

Personality

Differences in behaviour are often explained in research with the help of personality traits, as defined by the Big Five for example (McCrae & Costa, 1987). Likewise, personality traits of individuals also help explain what their behaviour and thus their involvement in bullying situations is like (Kelly et al., 2018). To illustrate the relation between bullying

behaviour and personality traits, individuals that are high on extraversion are found to show more bullying behaviour (Bollmer et al., 2006; De Angelis et al., 2016; Fossati et al., 2012; Scholte, 2005), whereas individuals who score low on this trait are more often victimized by others (De Bolle & Tackett, 2013; Scholte et al., 2005). Another example is that a high score on neuroticism has been associated with bullies (Bollmer et al., 2006; De Angelis et al., 2016; Tani et al., 2003), whereas victims and bully-victims have been found to score even higher on this trait (Alonso & Romero, 2017). Thus, an individual's experiences with bullying can be characteristic of their personality traits.

Interpersonal traits

As illustrated before, research has already focused on the association between Big Five-personality traits and bullying involvement. However, its results do not appear to inform enough to make prevention and intervention programs more inclusive for bully-victims. Adopting a narrower approach on personality traits themselves and their association with bullying experiences might provide with new information on what needs to be targeted when intervening in bully-victim behaviour specifically, and thus to what differs them from bullies and victims. Given the implicit interpersonal aspect to bullying (i.e., connected with relationships between people (Cambridge Dictionary, n.d.)), adopting an interpersonal lens on personality traits makes for an interesting approach.

A possible way to do this is by using the Interpersonal Circumplex (IPC; Pincus & Ansell, 2012; Sadler et al., 2009; Wiggins, 1979) as an explicatory model for describing and assessing traits and behaviours in interpersonal situations, as bullying is. The IPC encompasses two axes, communion and agency (see Figure 1), and can be coupled up with interpersonal traits coming from the Revised NEO Personality Inventory (NEO-PI-R; Costa & McCrae, 1995) as a means to interpret interpersonal behaviour. First, communion captures the tendency of wanting to be part of a social group. It stands for affiliation seeking behaviours with cold or quarrelsomeness on the one end of the axis, and warmth or agreeableness on the other (Pincus & Ansell, 2012). The cold side of this axis can be matched with NEO-PI-R's angry hostility, which is characterized by feelings of frustration, anger, and hatred. The warm side can be matched with the trait of warmth, which encompasses the wish to be intimate with others (Haas et al., 2015). Second, the agency-axis captures the tendency of wanting to be a differentiated individual. It stands for striving for power and mastery with submissiveness or unassertiveness on the low end of the axis, and dominance or assertiveness on the other (Pincus & Ansell, 2012). The NEO-PI-R trait of assertiveness captures the same

concept. Together, communion and agency can describe behaviour in interpersonal situations as a means to reach the two goals sought to achieve in human relations: security and self-esteem (Sullivan, 1953). Additionally, the principle of interpersonal complementarity explains how in interpersonal situations, interactional behaviour of individuals may fit together and influence each other (Sadler et al., 2011). To illustrate, bullying is less likely to work when the victim is rather assertive or dominant, because then there is potentially no disbalance in power between the bully and the victim.

NEO-PI-R interpersonal traits in bullying groups. So far, there appears to be no literature on comparing interpersonal (NEO-PI-R) traits in adolescents. For angry hostility, research did find the following: Arsenio and Lemerise (2001) state that proactively aggressive children appear to be more concerned with achieving instrumental goals and less with relational goals, which would imply more coldness or angry hostility for these individuals. Salmivalli and Nieminen (2002) found that bullies are more aggressive (proactive and reactive) as compared to victims, who only tend to show reactive aggression and to a lessened extent. Bully-victims were the most aggressive group (proactive and reactive) of all three, which suggests a higher score on angry hostility for bullies and bully-victims as compared to victims. For warmth, the affiliative basis hints more towards a focus on relational goals and therefore suggests a higher score on warmth for victims and a lower score for bullies. Given that based on this train of thoughts, warmth appears to be the opposite of angry hostility, bully-victims can be expected to score alike bullies on warmth as well: lower than victims. For assertiveness, the following can be stated: Victims were found to have low self-esteem. Natvig et al. (2001) and Perren and Alsaker (2006) additionally described victims to be more submissive and with fewer leadership skills, which relates victims to a lower score on assertiveness. Bullies, on the other hand, were found to show higher self-esteem (Natvig et al., 2001) and with more leadership skills (Perren & Alsaker, 2006), which pleads for a higher score on assertiveness. Assertiveness can be linked to the Big Five-trait of extraversion (Lucas & Diener, 2001) and this has been found to be positively associated to more bullying behaviour and less victimization (Scholte et al., 2005). Bully-victims both bully and get victimized, victims do not bully at all, and bullies only bully. This suggests that bully-victims would score higher on assertiveness as compared to victims, in which they would be more alike bullies.

Thus, it appears that there may be differences between the bullying groups on their interpersonal traits, which might provide information for prevention and intervention programs on what behaviour to target to include bully-victims as well.

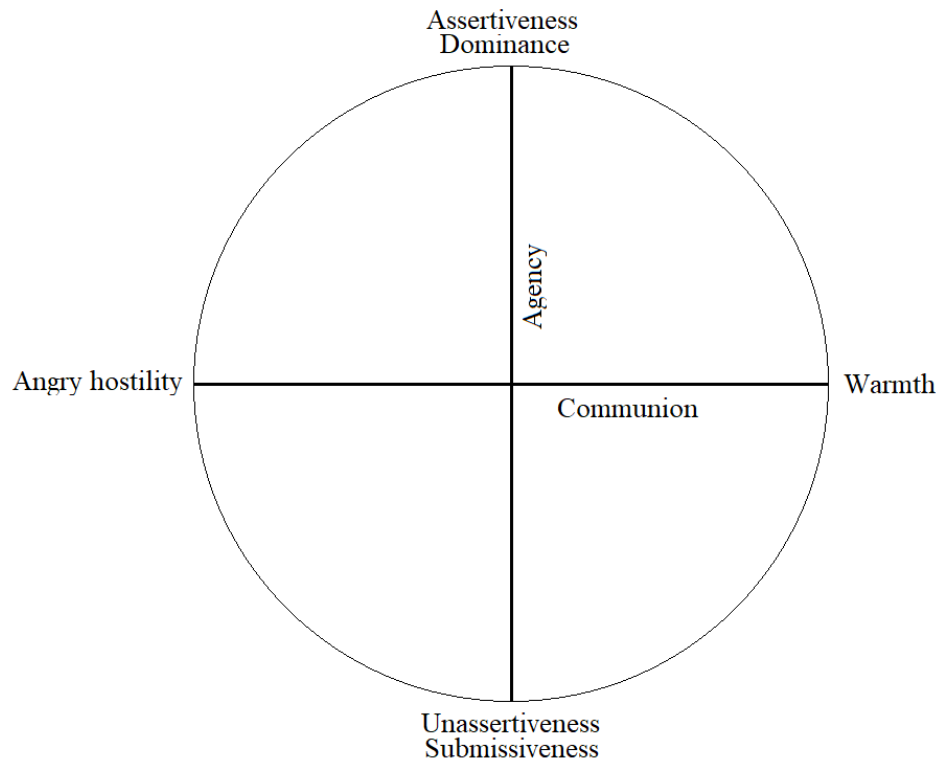


Figure 1: NEO-PI-R traits on the communion and agency-axes.

Present study

The present study investigated differences in interpersonal traits between bullying groups. It aimed to achieve a better understanding of how bully-victims differ from bullies and victims. This could hold implications on what behaviour to address in prevention and intervention programs, since these are often focused on behaviour of bullies and victims but should be inclusive for bully-victims as well (Kaufman et al., 2018; Kennedy et al., 2021; Valle et al., 2021).

Data was used from a study on teenagers' behaviour and perceptions. Bullying and victimization experiences were assessed, just as the interpersonal traits of warmth, assertiveness, and angry hostility.

Hypotheses

Warmth. In line with Arsenio and Lemerise (2001) and Salmivalli and Nieminen (2002) we expect to find the following for warmth:

1. All three bullying groups differ significantly.
 - 1a. Victims have the highest means and bullies the lowest.
 - 1b. Bully-victims score significantly higher compared to bullies and similar to victims.

Assertiveness. Based on Natvig et al. (2001), Perren and Alsaker (2006), and Schwartz (2000) we expect the following for assertiveness:

2. All three bullying groups differ significantly.
- 2a. Bullies have the highest means and victims the lowest.
- 2b. Bully-victims score significantly higher compared to victims and similar to bullies.

Angry hostility. In line with Arsenio and Lemerise (2001) and Salmivalli and Nieminen (2002) we expect to find the following for angry hostility:

- 3 All three bullying groups differ significantly.
- 3a. Bullies have the highest means and victims the lowest.
- 3b. Bully-victims score significantly higher compared to victims and similar to bullies.

Method

Binnenstebuiten-study

The dataset that was at disposal for this research paper is that of the Binnenstebuiten-study by Franzen (2022). This study generally enquires the feelings and social behaviour of Dutch or Dutch-speaking teenagers with their social environment (e.g., friends, family, peers, teachers). Data was collected from October 2017 until December 2017. The Ethics Committee of the Department of Psychology at the University of Groningen approved of the study protocol, under the ethics code of 16266-O.

Participants

Participants were recruited in several ways: by a research team visiting high schools, via a Facebook-page, and via www.binnenstebuiten-studie.nl. Thus, this study is based on convenience sampling. There were no main incentives for participation and the costs were time-investment of 10 to 20 minutes and possible reminders of unpleasant personal experiences. Prerequisites for participation were an age of 16 years or older. Other than these inclusion criteria, there were no exclusion criteria.

The raw dataset consisted out of 1670 inclusions. 244 of these participants did not report their age, reported it faulty (impossible human age (e.g., 5555)) or did not respond to all questions in the questionnaires and were therefore not included in the study. Another 1165 participants were classified as non-involved because, based on their answers, they did not belong to the groups of bullies, victims, or bully-victims. Given that this group is not of

interest for our hypotheses, these cases were therefore filtered in this study. Thus, the actual used dataset consisted out of a total of 261 participants. 84 of these participants were categorized as “bully” (32.3%), 136 as “victim” (52.1%), and 41 as “bully-victims” (15.7%). Additionally, 161 of the participants reported to be female (61.7%), 98 reported to be male (37.5%) and the remaining 2 reported a different sex (.8%). Lastly, ages ranged from 16 to 20 years ($M = 16.93$, $SD = .81$). Table 1 provides with a full overview of participant descriptions.

Procedure and materials

When individuals decided to take part in this online study, they first filled out an informed consent in which they were notified of the fact that participation was anonymous and that their data would be handled carefully. Then a few general questions regarding age, gender, schoolyear and level, nationality, and mother tongue were acquired. Following up were four questionnaires in total, of which two are of importance for this study and will thus be described below. After all questionnaires were administered, the participants received a gym bag as a reward. Since participants could engage in a second part of the study, there was no debriefing yet. This could have affected their responses in following measurements.

Questionnaires

Olweus Bully/Victim Questionnaire.

The Dutch translation (Lee and Cornell, 2009) of the self-report questionnaire Olweus Bully/Victim Questionnaire (BVQ; Olweus, 2007) was administered in this study to assess (A) victimization experiences and (B) bullying experiences. The BVQ can help categorizing participants into groups: bullies, victims, and bully-victims and non-involved. Both sections regarded a single and central question: “How often did you take part in bullying others in the past month?” and “How often have you been bullied in the past month?”. Both central questions were followed by 9 items, with answers ranging on a five-point Likert scale from “0 = never”, “1 = once”, “2 = two or three times”, “3 = approximately once a week” to “4 = several times a week”. An example question for victimization experiences is “Have you been physically bullied (e.g., beaten, pushed, kicked, spat on, or beaten up?” and for bullying experiences: “Have you been bullying someone verbally (e.g., scolded, hurt, insulted, humiliated, or threatened?”. There was a total of 20 items ($N = 20$).

The scores on this questionnaire can range from a minimum of 0 to a maximum of 72. In this study, we divided the scores in the following categories: “bully” is when a participant answered “2 = two or three times” or more on at least one out of ten questions on bullying

others and negatively (“0 = never”, “1 = once”) on all questions on have been bullied by others. The score of 2 or higher is based on the repetitive character of the definition of bullying. For “victim”, it was the other way around: at least one out of ten questions on bullying by others answered with “2 = two or three times” or more and all questions on bullying others answered negatively. For “bully-victim” participants answered at least one “2 = two or three times” on one or more questions for both categories.

NEO-PI-R.

Warmth, assertiveness, and angry hostility will be measured in this study with the help of the Dutch version of the NEO-PI-R (Hoekstra et al., 2007). Each trait contains 8 questions, and thus 24 in total ($N = 24$). The answers can be given on a five-point Likert-scale, ranging from ‘0 = completely disagree’, ‘1 = disagree’, ‘2 = neutral’, ‘3 = agree’ to 4 = completely agree. An example question for warmth is the following: “I really like most of the people I meet”, for assertiveness: “I am dominant, powerful, and confident”, and for angry hostility: “I am known for being hot-tempered and touchy”. There were several reversed questions which have been coded in the opposite way (with “0” as “4”, “1” as “3”, and “2” as it is) to cancel out the reverse-effect. For warmth, these are items 32 and 92 from the list of all NEO-PI-R questions. For assertiveness, item 42, 102, 162, and 222 from the list of all NEO-PI-R questions have been reversed, whereas for angry hostility these are items 32 and 92. Accordingly, the mean of all the items belonging to one trait formed the final variable and could range from a minimum of 0 to a maximum of 4. The internal consistency of these facets has been estimated between (α) = .66 - .80 and are thus fairly well (Hoekstra et al., 2012).

Table 1

Descriptive Statistics of Participant Characteristics and Bullying Groups

Descriptive Statistics	Total	Bullies	Victims	Bully-victims
N	1670			
Actual sample (%)	261	84 (32.2)	136 (52.1)	41 (15.7)
N/A	244	-	-	-
Non-involved	1165	-	-	-
Gender in numbers				
Female (%)	161 (61.7)	46 (54.8)	97 (71.3)	18 (43.9)
Male (%)	98 (37.5)	37 (44)	38 (27.9)	23 (56.1)

Other (%)	2 (0.8)	1 (1.2)	1 (0.7)	0 (0.0)
<hr/>				
Age in years				
Mean (SD)	16.93 (.81)	16.92 (0.75)	16.87 (0.81)	17.15 (0.91)
Range	[16 - 20]	[16 – 20]	[16 – 20]	[16 – 19]
<hr/>				
NEO-PI-R				
Warmth	2.56 (0.6)	2.6 (0.52)	2.55 (0.63)	2.54 (0.68)
Range	[1 – 3.63]	[1.5 – 3.63]	[1 – 4]	[1 - 3.63]
Assertiveness	2.06 (0.68)	2.15 (0.63)	1.96 (0.72)	2.17 (0.59)
Range	[0.13 – 3.88]	[1 – 3.88]	[0.13 – 3.63]	[0.75 – 3.25]
Angry hostility	1.78 (0.53)	1.66 (0.56)	1.8 (0.48)	2 (0.53)
Range	[0.13 – 3.38]	[0.13 – 3]	[0.63 – 3.38]	[1 – 2.88]

Note. N/A stands for not available and encompasses all inclusions that did not fully report. Gender, age, and NEO-PI-R are reported solely in numbers of actual sample. NEO-PI-R encompasses mean and standard deviation.

Statistical Analyses

Three models were studied in this paper with the help of the statistical program SPSS (version 26; IBM Corp., 2019). An overall significance level of 5% was used. Bullying experiences (i.e., bully, victims, bully-victim) served as the independent variable, and interpersonal traits (i.e., angry hostility, warmth, assertiveness) functioned as the dependent variables.

Our three models and related hypotheses have been stated in a similar manner. Because of this similarity, the testing of these hypotheses was similar as well. The first hypotheses of all three models (i.e., hypotheses 1, 2, and 3) were tested with one-way ANOVA's. The second (1a, 2a, and 3a) and third (1b, 2b, and 3b) hypotheses of the models were approached with post-hoc tests of Tukey's honestly significant difference (HSD), on the condition that the related first hypotheses can be supported.

The assumptions for the one-way ANOVA's were analysed as followed. First, the assumption of independence was approached by evaluating the study design. The assumption of normality was analysed with the use of Q-Q plots. Lastly, Levene's Test was used to approach the assumption of heterogeneity.

Power

Given the fact that the data for this study were already collected, the statistical power of this test could only be calculated post-hoc. Running three analyses in G*Power 3.1 (Faul et al., 2009), provided with a power of 6% and an effect size of 0.02 ($f = 0.02$) for the model that includes warmth as a dependent variable. For the assertiveness-model, this accordingly is 27% and ($f = 0.1$) and for the angry hostility-model 34% and ($f = 0.11$).

Results

Information on descriptive statistics for participant characteristics, bullying experiences, and NEO-PI-R are to be found in Table 1.

Preliminary Analyses

Tests on the three assumptions of one-way ANOVA's showed that there was little reason for concern. First, the testing conditions were equal for all participants since the questionnaires did not differ between participants. Thus, the assumption of independence has been met. Second, the Q-Q plots (Appendices A, B, and C) presented rather similar lines and thus the assumption of normality has been met. Lastly, Levene's Test (Appendix D) provided the following scores for warmth $F(2, 258) = 1.76, p = .17$, for assertiveness $F(2, 258) = 2.2, p = .11$, and for angry hostility $F(2, 258) = 1.57, p = .21$. Thus, the assumption of homogeneity of variance was found tenable.

Main Analyses

Information on descriptive statistics for the NEO-PI-R traits of warmth, assertiveness, and angry hostility can be found in Table 1. Table 2 encompasses the one-way ANOVA results and Appendix F provides line graphs of the means on the traits.

Warmth

Group differences on warmth (H1). There were no significant group differences regarding warmth between bullies, victims, and bully-victims $F(2, 258) = 0.28, p = .76$.

Comparison bullies and victims on warmth (H1a). Based on the outcomes of the ANOVA-analysis, no post-hoc analysis has been performed.

Ordination of bully-victims next to bullies, and victims on warmth (H1b).

Following the results of the ANOVA, a post-hoc analysis has not been carried out.

Assertiveness

Group differences on assertiveness (H2). There were no significant group differences regarding assertiveness between bullies, victims, and bully-victims $F(2, 258) = 2.78, p = .06$.

Comparison bullies and victims on assertiveness (H2a). Given the results of the ANOVA, no post-hoc test has been performed.

Ordination of bully-victims next to bullies, and victims on assertiveness (H2b). Based on the outcomes of the ANOVA, no post-hoc analysis has been carried out.

Angry hostility

Group differences on angry hostility (H3). There was a significant difference to be found on angry hostility between the groups bullies, victims, and bully-victims $F(2, 258) = 6.2, p = .002$.

Comparison bullies and victims on angry hostility (H3a). The post-hoc analysis provided no significant differences between bullies and victims.

Ordination of bully-victims next to bullies, and victims on angry hostility (H3b). The post-hoc test Tukey's HSD (Appendix E) highlighted that bully-victims ($M = 2.00$) score significantly higher as compared to bullies ($M = 1.66, p = .00$).

Table 2

One-way ANOVA

		df	F	Sig.	Partial Eta Squared
Warmth	Between Groups	2	0.28	.76	.00
	Within Groups	258			
	Total	260			
Assertiveness	Between Groups	2	2.78	.06	.05
	Within Groups	258			
	Total	260			
Angryhostility	Between Groups	2	6.2	.002	.02
	Within Groups	258			
	Total	260			

Note. The results of three one-way ANOVA analyses for assertiveness, warmth, and angry hostility.

Discussion

In the present study, with the use of self-reported data of young adolescents from the Binnenstebuiten-study, we examined how bully-victims differ from bullies and victims on an interpersonal trait-level. We expected that this will provide with information that can be of use for prevention and intervention programs to be more inclusive of bully-victims.

Main findings

Warmth

Our results showed no significant differences in means between any of the bullying groups on warmth, which suggests that they appear to be equally warm, disregarding of being bullies, victims, or bully-victims. This is not in line with previous research (Arsenio & Lemerise, 2001; Salmivalli & Nieminen, 2002), and does not support our hypotheses (i.e., 1, 1a, and 1b). It could potentially be that there are differences between the groups, but that we could not detect them due to the low power of the study design.

Another methodological explanation for the possibly undetected differences could be that the participants were not representing their bullying groups very well. The individuals forming the respective categories (i.e., bullies, victims, and bully-victims) can have had different intensities and durations of their bullying experiences which may, in turn, have impacted on their personality traits to a more or lessened extent. To illustrate, when one individual has been bullied every day for five years, then the impact of the experiences is likely to have a larger impact on one's personality traits than on someone who has been bullied once a week for half a year. Both individuals from the example would have been categorized as victims in this study when the bullying has been present in the past month. However, their personality traits are likely to differ due to differences in the intensity and duration of their experiences.

A more theoretical explanation for the similarity in scores but the possible dissimilar nature of the groups can be found in that warmth as a NEO-PI-R trait might hold different meanings for different bullying groups. If the groups do pursue different goals in relationships (i.e., relational or instrumental; Arsenio & Lemerise, 2001; Salmivalli & Nieminen, 2002), then this could possibly influence the way they interpret the meaning of the questions on warmth. Namely, NEO-PI-R's facet of warmth is categorized under the Big Five extraversion-scale (e.g., outgoing, social), but is also correlated with agreeableness (e.g., trust, kindness, prosocial) and openness to experience (e.g., open-mindedness; Hoekstra et al.,

2007). This suggests that NEO-PI-R's warmth-facet intends to measure the wish to be interpersonally intimate from an outgoing and social perspective, but that it also encompasses several other components (e.g., trust, open-mindedness) that may be recognized more by groups who pursue different goals in relationships. To illustrate, assuming that bullies focus more on instrumental values (e.g., social) and victims on relational values (e.g., trust), then they might recognize different components in the same questions but score themselves equally as high. Thus, the items of warmth might hold different meanings for different bullying groups which influences their scores on this facet.

However, it could also potentially be that all groups are equal in warmth, which would mean that they all have the wish to be interpersonally intimate with others (Haas et al., 2015) and focus on relational goals. This is in line with the idea that humans innately desire to connect (Baumeister et al., 1995). However, the similarity in this trait between the groups would suggest that there might be a different factor explaining the differences in the behaviour of the groups, than the warmth-trait itself.

Assertiveness

Our results show that the means on assertiveness do not differ significantly between the bullying groups. This suggests that bullies, victims, and bully-victims appear to be equally assertive, which is neither in line with previous research (Natvig et al., 2001; Perren & Alsaker, 2006) nor our hypotheses (i.e., 2, 2a, and 2b). It could potentially be that there are, in essence, differences between the groups but that we were not able to detect them due to the low power of our study design or that a possibly flawed representability of the bullying groups impacted the scores on this trait. Both explanations have also been presented for the similarity in scores on warmth.

However, the bullying groups could possibly be equal in their assertiveness because the age of the participants could have had an impact on the reliability of the personality trait since young adolescents are still developing their personality (Klimstra et al., 2018). Especially the trait of assertiveness may become more pronounced when personality stabilizes with age, since individuals become less dependent on their parents (Baumeister & Tice, 1986), and may thus become more assertive. This means that within this age group, there is a lot of variability in the current scores of individuals of all groups, which in turn balances out into approximately similar group means. We do not have a statistical foundation for this, but visual inspection of Graph 2 in Appendix F and Graph 5 in Appendix G highlight the

similarity of the groups as well as the variability of scores. It is possible that when personality becomes less fluid, a pattern per group becomes visible.

Angry hostility

Our results show a significant difference between the means of bully-victims and bullies. This finding suggests that bully-victims appear to be higher in angry hostility than bullies and are thus more alike to victims. This does neither comply with previous literature (Arsenio & Lemerise, 2001; Salmivalli & Nieminen, 2002), nor does it support our hypotheses (i.e., 3, 3a, and 3b). Rather, it highlights the opposite of our third hypothesis that bully-victims would score higher than victims.

In explaining this unexpected finding there appears to be a contradiction. Namely, in line with the results, bully-victims are more proactively aggressive than bullies, which hints towards a higher score on angry hostility. However, given that victims are not proactively aggressive would suggest that bully-victims would differ from victims even more than from bullies, which is not in line with the found results. Explanations for this discrepancy could again follow the lead of the low power of the study design, the possibly flawed representability of the bullying groups and the statement on personality development.

Additionally, visually inspecting the means of the groups (see Graph 3 in Appendix F) shows that, relatively seen, bully-victims scored the highest of all three groups. This could possibly be explained by bully-victims experiencing more problems (i.e., internalizing and externalizing, and more bullying experiences) as compared to bullies and victims (Burk et al., 2011; Cook et al., 2010; Kennedy, 2021; Schwartz et al., 2001; Yang & Salmivalli, 2013). These negative effects could result in more feelings of frustration, hatred, and anger, or shortly: in higher angry hostility.

Additional findings

Our results also provided additional findings that were not in the scope of our research but may be valuable either way. First, the size of the bully-victim group in our dataset supports previous literature on the prevalence of bully-victims. Yang and Salmivalli (2013) found that their dataset consisted for 2.7% out of bully-victims. For Solberg et al. (2007) this came down to 1.9%. Both studies included bullies, victims, bully-victims, and a non-involved group. Our study found a prevalence of 2.9% for bully-victims when compared to bullies, victims, and the non-involved group. Additionally, as a reference we would find a prevalence of 9.5% for victims, which Solberg et al. (2007) also found. This result supports previously made statements on the smaller size of the bully-victim group. However, its consistent

prevalence supports the call for more inclusion of this group in prevention and intervention programs.

Another additional finding considers the means of bullies, victims, and bully-victims on all three of the interpersonal traits since visual inspection highlights that these appear to not vary extensively (see Table 1). Theoretically, the potential maximum range in means is from 0 up to 4, where the actual found range is from 1.66 up to 2.6. Thus, the group means of all traits lie relatively closely to another (i.e., less than one point apart), whereas there is a hypothetical potential for the means to be four points apart and thus to lie relatively far apart (see Appendix F). It suggests that the groups are in general relatively similar on their interpersonal traits, with the exception of the significant difference between bully-victims and bullies regarding angry hostility. This is not in line with the group differences that can be expected from previous literature and may be attributable to the study design (i.e., low power, representability participants). However, it may also imply that interpersonal traits are not predictive (enough) for differences in bullying behaviour.

Strengths and limitations

To our knowledge, this study is one of the first to focus on how interventions could be more inclusive of bully-victims, next to bullies and victims. Strengths to this study are the validated questionnaires to assess bullying experiences and NEO-PI-R traits, as well as that the bully-victims prevalence (2.9%) appears to be representative because it is similar to the prevalence found in other studies. Additionally, the relatively simple nature of the applied statistical methods is a strength because the researchers recognize and respect the limits to their statistical knowledge and therefore only apply methods in which they have been trained well in order to limit possible errors.

However, the current study also has its limitations with the most critical one being the low power of the study design which might have influenced the ability to detect differences between the groups (Brysbaert, 2019; Button et al., 2013). Therefore, the low power of this study is likely to have adversely impacted its replicability, and its findings should be taken with precaution. A larger sample size could have restricted the possible effects of this limitation.

Second, the researchers actively and consciously chose to focus on groups with bullying experiences only. That also meant that the non-involved individuals were not included in the study, and thus that there was no comparison group. Having a comparison group would have provided the opportunity to also compare interpersonal traits between no

bullying experiences and bullying experiences in general (i.e., bullies, victims, and bully-victims combined), but now this option has been restricted.

Additionally, self-report questionnaires, like the BVQ and NEO-PI-R, are limited in the sense that they are subjective to the social desirability bias (Demetriou et al., 2015). Especially with the BVQ it is imaginable that for example bullies attenuate their answers on how often they bully when they are aware that bullying is socially unacceptable. Downplaying answers on bullying behaviour could have possibly led to smaller effects in our results, whereas more truthful answers might have provided larger effects. Farmani et al. (2021) add that self-report instruments on bullying mostly focus on questioning the repetitiveness and negative character but lose power imbalance and intention out of sight, which are also inherent characteristics to the definition of bullying. This is also something we recognize in the BVQ and suggests that our bullying groups might not represent bullying experiences as they were meant to be.

Another limitation addresses the representability of the bullying experiences as measured by the BVQ, as it solely focusses on the past month and dismisses the lifetime bullying history. This history can possibly be just as, or even more, relevant and informative as information on the past month can be. To illustrate, victimization of a fictive participant might have lasted for years but stopped half a year ago due to a change of school. The hypothetical data of this example would not register the significance of previous experiences and thus would not categorize the participant as a victim, even though in essence it would qualify as one. Therefore, the BVQ may not always place participants in the category that is in essence applicable and might have introduced noise into our dataset which then resulted in insignificant results.

Lastly, the NEO-PI-R is not a measure that finds its roots in the interpersonal approach. Locke (2011) states that there are measures that focus specifically on interpersonal traits that represent the IPC and it is likely that using one of those may make for more solid approach in quantifying the interpersonal traits.

Future directions

Future studies should focus on bettering the study design. Starting with an a priori power analysis, and subsequently an adhering data collection, to provide the dataset with a power of 80% or higher to be more certain of finding an effect when there is one. Additionally, both measure instruments for bullying experiences and interpersonal traits can be selected more specifically. As suggested earlier by mentioning Locke (2011), there are

specific measurements for interpersonal traits that represent the IPC and that also aim for younger participants, such as the Child and Adolescent Interpersonal Survey (CAIS; Sodano & Tracey, 2006). Such an approach, instead of the NEO-PI-R, may be more suitable for this study design given the basis that IPC provides for the choice of traits and the age of the participants. Also, the disputed sole self-report basis and its social desirability bias of the BVQ could be supplemented by reports of peers or others in the surrounding of the participant. Lastly, to address the limitation of the BVQ by only reporting on the past month, the construction of a new measure regarding lifelong bullying history is encouraged. As far as we are concerned, this is not available yet but would be insightful, given the long-lasting effects that bullying can have (Kaufman et al., 2018). However, a longitudinal design could also provide with a better insight in the bullying history of the participants.

Implications

Our research has underlined the consistent prevalence of the bully-victim group and therefore stresses the importance of including it in prevention and intervention programs. Our results however did not find many significant differences on interpersonal traits between bully-victims, bullies, and victims. This could imply that an important step in including bully-victims, next to bullies and victims, in these programs is to acknowledge bully-victims as a separate group in order to enlarge their importance.

It is crucial that interpersonal behaviour is acknowledged as a possible precursor to interpersonal problems, disregarding the bullying group that an individual belongs to. To illustrate, submissiveness and frequent aggression have been shown to be associated with internalizing and/or externalizing problems (Burk et al., 2011; Cook et al., 2010; Kennedy, 2021; Schwartz et al., 2001; Yang & Salmivalli, 2013). Our results suggest that individuals from all groups appear to show these interpersonal traits and thus behaviours. Therefore, it is important for parents and teachers to pay attention to this presence in their surroundings. Early recognition and interventions could possibly limit the development of internalizing and externalizing problems associated with such behaviour. With interventions, one can think of trainings regarding assertiveness, aggression, and social skills. Approaching interpersonal behaviour from the opposite direction: adult patients with aggressive behaviours could alert clinicians to further inquire their bullying history.

Conclusion

This study administered self-report questionnaires to adolescents in their last year of high school to assess their bullying experiences and the interpersonal traits warmth, assertiveness,

and angry hostility as a means to get more insight into the differences between bully-victims with bullies and victims. Our results indicated that bully-victims are indeed a consistently prevalent group. However, they also suggested that bully-victims do not appear to differ from bullies and victims as much as we expected. This suggests that prevention and intervention programs should explicitly mention bully-victims as a separate group next to bullies and victims as to stress their importance. However, all bullying groups appear to show interpersonal behaviour such as submissiveness and aggression that is related to future internalizing and externalizing problems. Therefore, all groups would benefit from early recognition and trainings regarding these specific interpersonal behaviours to limit these problems. However, since the study design is underpowered, these interpretations should be taken with serious caution.

References

- Alonso, C., & Romero, E. (2017). Aggressors and victims in bullying and cyberbullying: A study of personality profiles using the five-factor model. *The Spanish Journal of Psychology*, *20*, E76. <https://doi.org/10.1017/sjp.2017.73>
- Arsenio, W. F., & Lemerise, E. A. (2001). Varieties of childhood bullying: Values, emotion processes, and social competence. *Social Development*, *10*(1), 59–73. <https://doi.org/10.1111/1467-9507.00148>
- Baumeister, Roy F. & Leary, Mark R. (1995). "The need to belong: Desire for interpersonal attachments as a fundamental human motivation". *Psychological Bulletin*. *117* (3): 497–529. doi:10.1037/0033-2909.117.3.497.
- Baumeister, R. F., & Tice, D. M. (1986). How adolescence became the struggle for self: A historical transformation of psychological development. In J. Suls & A. G. Greenwald (Eds.), *Psychological perspectives on the self* (Vol. 3, pp. 183–201). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Bjereld, Y., Augustine, L., & Thornberg, R. (2020). Measuring the prevalence of peer bullying victimization: Review of studies from Sweden during 1993–2017. *Children and Youth Services Review*, *119*, 105528. <https://doi.org/10.1016/j.childyouth.2020.105528>
- Bollmer, J. M., Harris, M. J., & Milich, R. (2006). Reactions to bullying and peer victimization: Narratives, physiological arousal, and personality. *Journal of Research in Personality*, *40*(5), 803–828. <https://doi.org/10.1016/j.jrp.2005.09.003>
- Burk, L. R., Armstrong, J. M., Park, J.-H., Zahn-Waxler, C., Klein, M. H. & Essex, M. J. (2011). Stability of early identified aggressive victim status in elementary school and associations with later mental health problems and functional impairments. *Journal of Abnormal Child Psychology*, *39*(2), 225–238. <https://doi.org/10.1007/s10802-010-9454-6>

- Button, K. S., Ioannidis, J. P. A., Mokrysz, C., Nosek, B. A., Flint, J., Robinson, E. S. J., & Munafò, M. R. (2013). Power failure: Why small sample size undermines the reliability of neuroscience. *Nature Reviews Neuroscience*, *14*(5), 365–376.
<https://doi.org/10.1038/nrn3475>
- Cambridge Dictionary. (n.d.). Interpersonal. In *dictionary.cambridge.org*. Retrieved June 6, 2022, from <https://dictionary.cambridge.org/dictionary/english/interpersonal>.
- Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School Psychology Quarterly*, *25*(2), 65–83. <https://doi.org/10.1037/a0020149>
- Costa, P. T., & McCrae, R. R. (1995). Domains and facets: Hierarchical personality assessment using the revised NEO personality inventory. *Journal of Personality Assessment*, *64*(1), 21–50. https://doi.org/10.1207/s15327752jpa6401_2
- De Angelis, G., Bacchini, D. & Affuso, G. (2016). The mediating role of domain judgement in the relation between the Big Five and bullying behaviours. *Personality and Individual Differences*, *90*, 16–21. <https://doi.org/10.1016/j.paid.2015.10.029>
- De Bolle, M., & Tackett, J. L. (2013). Anchoring bullying and victimization in children within a five-factor model-based person-centred framework. *European Journal of Personality*, *27*(3), 280–289. <https://doi.org/10.1002/per.1901>
- Demetriou, C., Ozer, B. U., & Essau, C. A. (2015). Self-Report Questionnaires. In R. L. Cautin & S. O. Lilienfeld (Eds.), *The Encyclopedia of Clinical Psychology* (pp. 1–6). John Wiley & Sons, Inc. <https://doi.org/10.1002/9781118625392.wbecp507>
- Brysbaert, M. (2019). How many participants do we have to include in properly powered experiments? A tutorial of power analysis with reference tables. *Journal of Cognition*, *2*(1), 16. DOI: <http://doi.org/10.5334/joc.72>

- Due, P., Holstein, B. E., Lynch, J., Diderichsen, F., Gabhain, S. N., Scheidt, P. & Currie, C. (2005). Bullying and symptoms among school-aged children: International comparative cross sectional study in 28 countries. *European Journal of Public Health, 15*(2), 128–132. <https://doi.org/10.1093/eurpub/cki105>
- Farmani, S., Fathi Azar, E., Mirnasab, M. M., Nemati, S. & Vahedi, S. (2021). Development and validation of a new instrument for screening bullies and victims in classrooms. *Journal of Interpersonal Violence, 36*(19–20), 9460–9483. <https://doi.org/10.1177/0886260519868204>
- Faul, F., Erdfelder, E., Buchner, A. & Lang, A.G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149–1160. doi:10.3758/BRM.41.4.1149.
- Fossati, A., Borroni, S. & Maffei, C. (2012). Bullying as a style of personal relating: Personality characteristics and interpersonal aspects of self-reports of bullying behaviours among Italian adolescent high school students. *Personality and Mental Health, 6*(4), 325–339. <https://doi.org/10.1002/pmh.1201>
- Franzen, M. (2022). Bullying victimisation through an interpersonal lens: Focussing on social interactions and risk for depression. [Doctoral dissertation]. Rijksuniversiteit Groningen.
- Haas, B. W., Brook, M., Remillard, L., Ishak, A., Anderson, I. W. & Filkowski, M. M. (2015). I know how you feel: The warm-altruistic personality profile and the empathic brain. *PLoS ONE, 10*(3). <https://doi.org/10.1371/journal.pone.0120639>
- Hemphill, S. A., Tollit, M., & Herrenkohl, T. I. (2014). Protective factors against the impact of school bullying perpetration and victimization on young adult externalizing and internalizing problems. *Journal of School Violence, 13*(1), 125–145.
- Hoekstra, H. A., Ormel, J. & de Fruyt, F. (2007). NEO-PI-R en NEO-FFI Handleiding. Hogrefe.
- IBM Corp. (2019). *IBM SPSS Statistics for Windows, Version 26.0*. Armonk, NY: IBM Corp.

- Kaufman, T. M. L., Kretschmer, T., Huitsing, G. & Veenstra, R. (2018). Why does a universal anti-bullying program not help all children? Explaining persistent victimization during an intervention. *Prevention Science*, 19(6), 822–832. <https://doi.org/10.1007/s11121-018-0906-5>
- Kelly, E. V., Newton, N. C., Stapinski, L. A., & Teesson, M. (2018). Prospective associations between personality and bullying among Australian adolescents. *Australian & New Zealand Journal of Psychiatry*, 52(2), 173–180. <https://doi.org/10.1177/0004867417726583>
- Kennedy, R. S. (2021). Bully-Victims: An Analysis of Subtypes and Risk Characteristics. *Journal of Interpersonal Violence*, 36(11–12), 5401–5421. <https://doi.org/10.1177/0886260517741213>
- Klimstra, T. A., Borghuis, J., & Bleidorn, W. (2018). Personality development in adolescence and young adulthood. In V. Zeigler-Hill & T. K. Shackelford (Eds.), *The SAGE handbook of personality and individual differences: Origins of personality and individual differences*. (2018; pp. 181–202). Sage Reference. <https://doi.org/10.4135/9781526451200.n11>
- Koo, H. (2007). A time line of the evolution of school bullying in differing social contexts. *Asia Pacific Education Review*, 8(1), 107–116. <https://doi.org/10.1007/BF03025837>
- Leary, T. (1957). *Interpersonal diagnosis of personality; a functional theory and methodology for personality evaluation*. Ronald Press.
- Lee, T., & Cornell, D. (2009). Concurrent validity of the Olweus bully/ victim questionnaire. *Journal of School Violence*, 9(1), 56-73.
- Locke, K. D. (2011). Circumplex Measures of Interpersonal Constructs. In L. M. Horowitz & S. Strack (Eds.), *Handbook of interpersonal psychology: Theory, research, assessment, and therapeutic interventions* (pp. 313-324). John Wiley & Sons.
- Lucas, R.E. & Diener, E. (2001). Extraversion. *International Encyclopedia of the Social & Behavioural Sciences*. (pp. 5202-5205). Oxford: Pergamon.

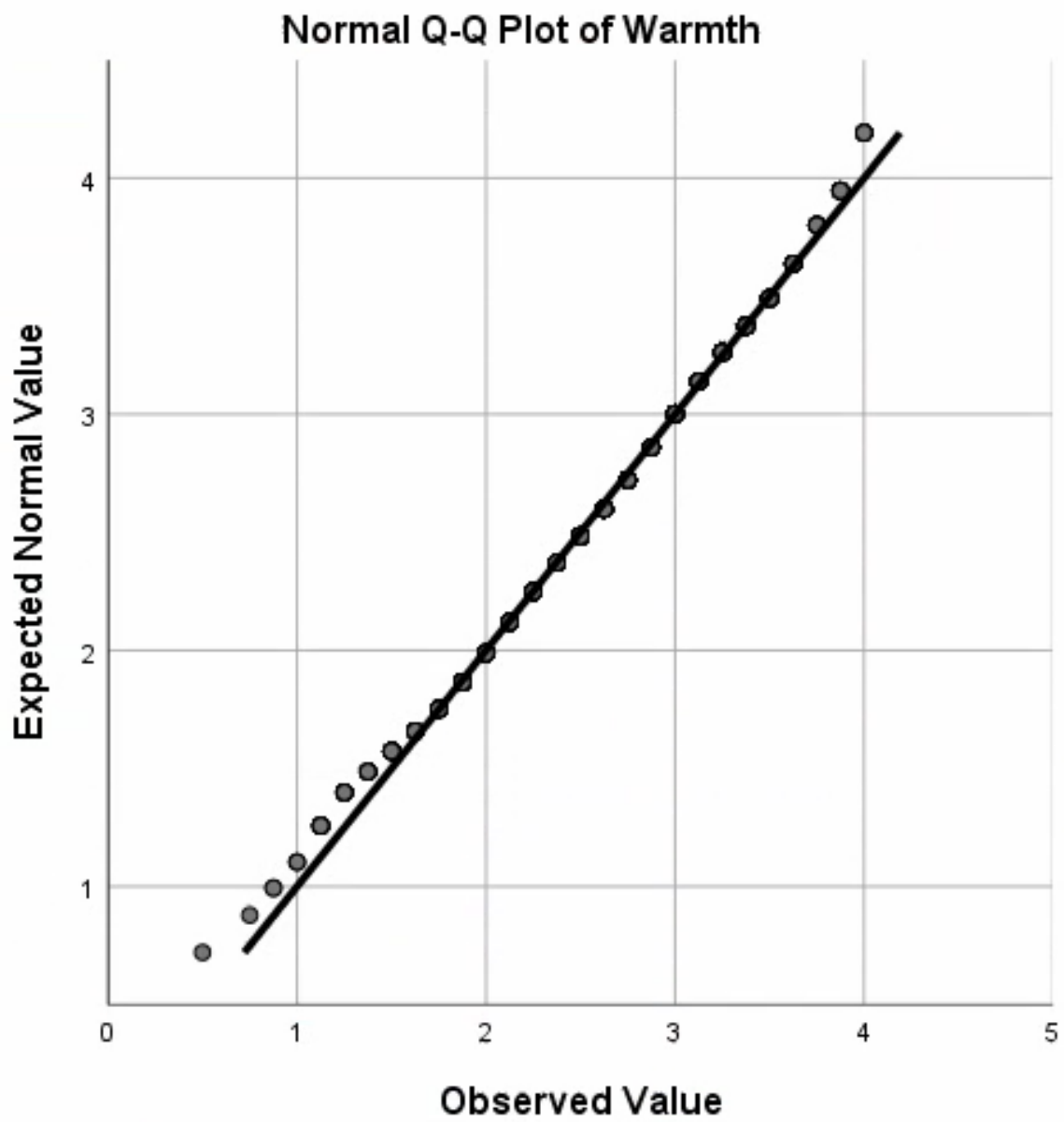
- McCrae, R. R. & Costa, P. T. Jr. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology*, 52(1), 81-90.
- McGuckin, C., Cummins, P. K., & Lewis, C. A. (2009). Bully/victim problems in Northern Ireland's schools: Data from the 2003 Young Persons' Behavior and Attitude Survey. *Adolescence*, 44(174), 347-358.
- Muijs, D. (2017). Can schools reduce bullying? The relationship between school characteristics and the prevalence of bullying behaviours. *British Journal of Educational Psychology*, 87(2), 255-272. <https://doi.org/10.1111/bjep.12148>
- Natvig, G. K., Albrektsen, G. & Qvarnstrom, U. (2001). School-related stress experience as a risk factor for bullying behavior. *Journal of Youth and Adolescence*, 30, 561-75.
- Nelen, W., Wit, W. d., Golbach, M., van Druten, L., Deen, C., & Scholte, R. (2018). Sociale veiligheid in en rond scholen: Primair (Speciaal) Onderwijs 2010-2018; Voortgezet (Speciaal) Onderwijs 2006- 2018.
- Nguyen, A. J., Bradshaw, C., Townsend, L., & Bass, J. (2020). Prevalence and correlates of bullying victimization in four low-resource countries. *Journal of Interpersonal Violence*, 35(19-20), 3767-3790. <https://doi.org/10.1177/0886260517709799>
- Olweus, D. (1993). Bullying at school: Basic facts and effects of a school based intervention program. *Journal of Child Psychology and Psychiatry*, 35(7), 1171-1190. <https://doi.org/10.1111/j.1469-7610.1994.tb01229.x>
- Olweus, D. (2007). Olweus Bullying Questionnaire – Standard school report. Hazelden Publishing.
- Perren, S. & Alsaker, F. (2006). Social behavior and peer relationships of victims, bully-victims, and bullies in kindergarten. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 47, 45-57. <https://doi.org/10.1111/j.1469-7610.2005.01445.x>

- Pincus & Ansell. (2012). Interpersonal theory of personality. In *Handbook of Psychology, Personality and Social Psychology* (pp. 141–159).
- Pronk, J., Olthof, T., de Vries, R. E. & Goossens, F. A. (2021). HEXACO personality correlates of adolescents' involvement in bullying situations. *Aggressive Behavior*, 47(3), 320–331.
<https://doi.org/10.1002/ab.21947>
- Sadler, P., Ethier, N., Gunn, G. R., Duong, D. & Woody, E. (2009). Are we on the same wavelength? Interpersonal complementarity as shared cyclical patterns during interactions. *Journal of Personality and Social Psychology*, 97(6), 1005–1020.
<https://doi.org/10.1037/a0016232>
- Sadler, P., Ethier, N., & Woody, E. (2011). Interpersonal complementarity. *Handbook of interpersonal psychology: Theory, research, assessment, and therapeutic interventions*, 123-142.
- Salmivalli, C., & Nieminen, E. (2002). Proactive and reactive aggression among school bullies, victims, and bully-victims. *Aggressive Behavior*, 28(1), 30–44.
<https://doi.org/10.1002/ab.90004>
- Scholte, R. H. J., van Lieshout, C. F. M., de Wit, C. A. M. & van Aken, M. A. G. (2005). Adolescent personality types and subtypes and their psychosocial adjustment. *Merrill-Palmer Quarterly*, 51(3), 258–286. <https://doi.org/10.1353/mpq.2005.0019>
- Schwartz, D., Proctor, L. J. & Chien, D. H. (2001). The aggressive victim of bullying: Emotional and behavioral dysregulation as a pathway to victimization by peers. In J. Juvonen & S. Graham (Eds.), *Peer harassment in school: The plight of the vulnerable and victimized*. (2001-00685-006; pp. 147–174). The Guilford Press. <http://search.ebscohost.com.proxy-ub.rug.nl/login.aspx?direct=true&db=psyh&AN=2001-00685-006&site=ehost-live&scope=site>

- Sodano, S. M., & Tracey, T. J. G. (2006). Interpersonal traits in childhood and adolescence: Development of the Child and Adolescent Interpersonal Survey. *Journal of Personality Assessment*, 87, 317–329.
- Solberg, M. E., Olweus, D., & Endresen, I. M. (2007). Bullies and victims at school: Are they the same pupils? *British Journal of Educational Psychology*, 77(2), 441–464.
<https://doi.org/10.1348/000709906X105689>
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York, NY: Norton.
- Tani, F., Greenman, P. S., Schneider, B. H. & Fregoso, M. (2003). Bullying and the big five: A Study of childhood personality and participant roles in bullying incidents. *School Psychology International*, 24(2), 131–146. <https://doi.org/10.1177/0143034303024002001>
- Valle, J. E., Williams, L. C. A. & Stelko-Pereira, A. C. (2020). Whole-school antibullying interventions: A systematic review of 20 years of publications. *Psychology in the Schools*, 57(6), 868–883. <https://doi.org/10.1002/pits.22377>
- Volk, A. A., Schiralli, K., Xia, X., Zhao, J. & Dane, A. V. (2018). Adolescent bullying and personality: A cross-cultural approach. *Personality and Individual Differences*, 125, 126–132. <https://doi.org/10.1016/j.paid.2018.01.012>
- Wiggins, J. S. (1979). A psychological taxonomy of trait-descriptive terms: The interpersonal domain. *Journal of Personality and Social Psychology*, 73, 395-412
- Yang, A. & Salmivalli, C. (2013). Different forms of bullying and victimization: Bully-victims versus bullies and victims. *European Journal of Developmental Psychology*, 10(6), 723–738.
<https://doi.org/10.1080/17405629.2013.793596>

Appendix A

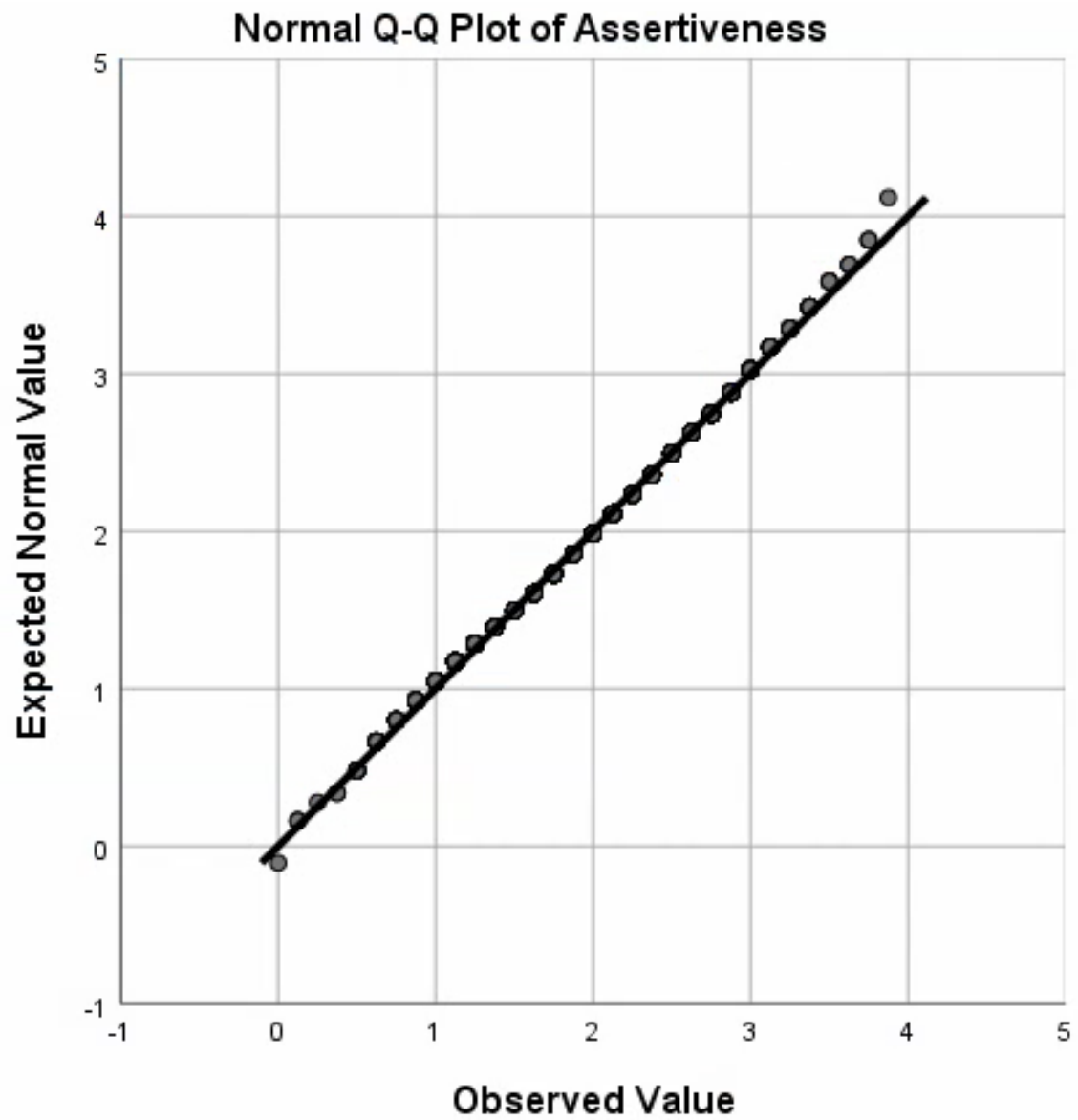
Q-Q plot warmth



Note. To assess the normality assumption, created in SPSS.

Appendix B

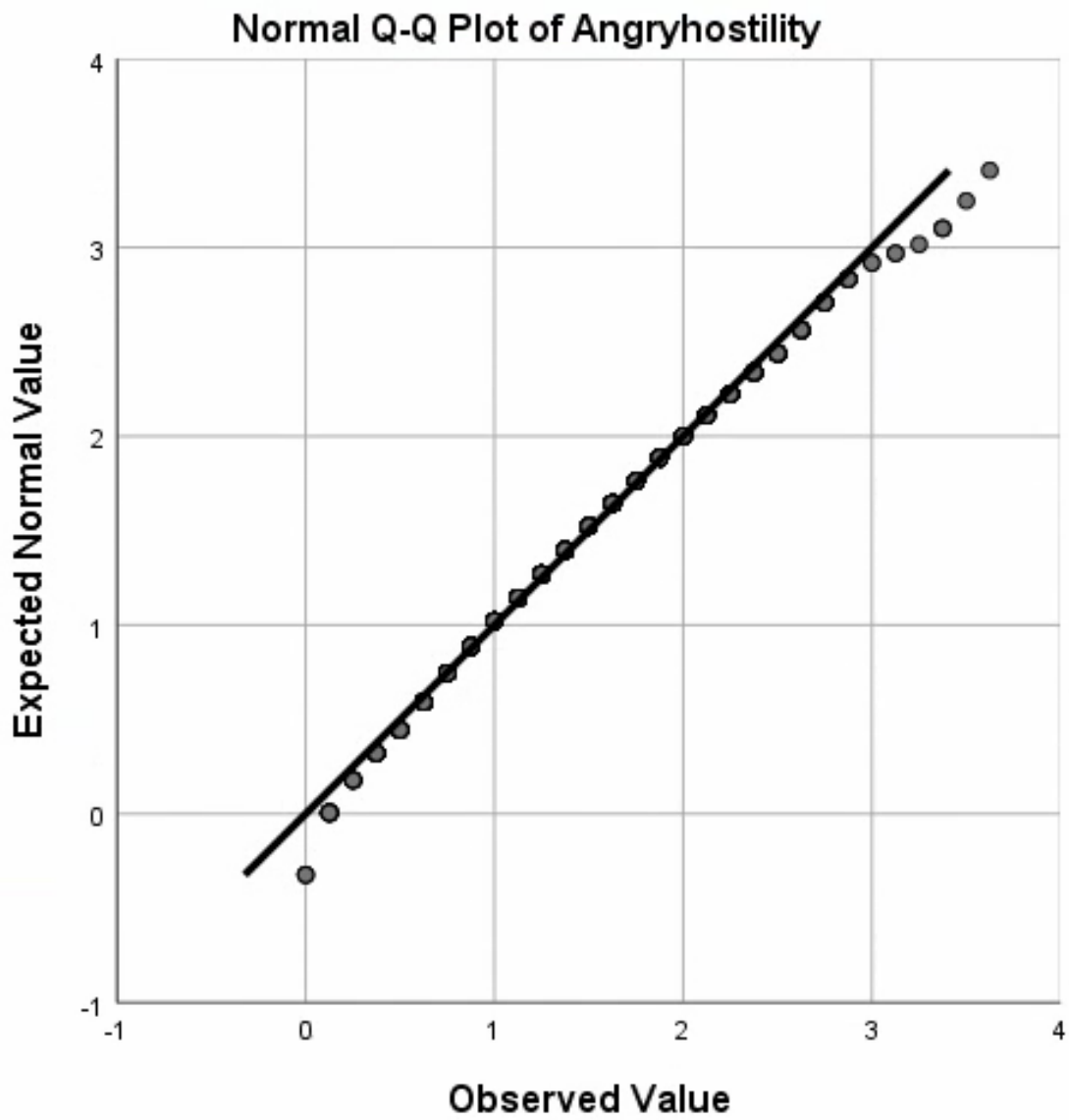
Q-Q plot assertiveness



Note. To assess the normality assumption, created in SPSS.

Appendix C

Q-Q plot angry hostility



Note. To assess the normality assumption, created in SPSS.

Appendix D*Test of Homogeneity of Variances*

		Levene Statistic	df1	df2	Sig.
Assertiveness	Based on Mean	2.2	2	258	.11
Warmth	Based on Mean	1.76	2	258	.17
Angryhostility	Based on Mean	1.57	2	258	.21

Note. To assess the assumption of homogeneity of variances.

Appendix E

Multiple Comparisons – Tukey HSD

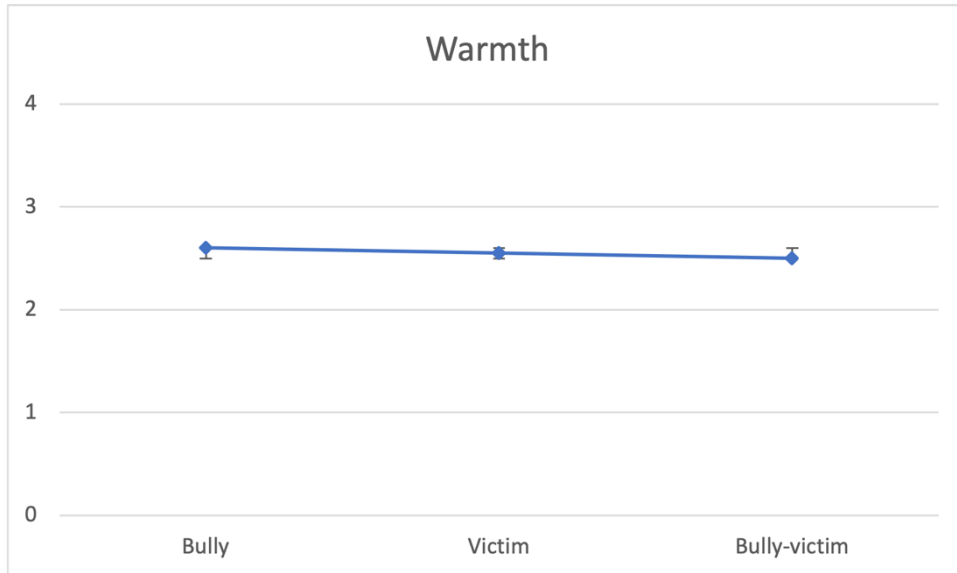
Dependent Variable	(I) victimstatus	(J) victimstatus	Mean Difference (I-J)	Sig.
Warmth	Bully-victim	Victim	-0.00	1.00
		Bully	-0.06	.85
	Victim	Bully	-0.06	.76
Assertiveness	Bully-victim	Victim	0.21	.18
		Bully	0.03	.98
	Victim	Bully	-0.19	.11
Angry hostility	Bully-victim	Victim	0.21	.06
		Bully	0.34	.00
	Victim	Bully	0.14	.14

Note. Post hoc pairwise comparisons

Appendix F

Graph 1

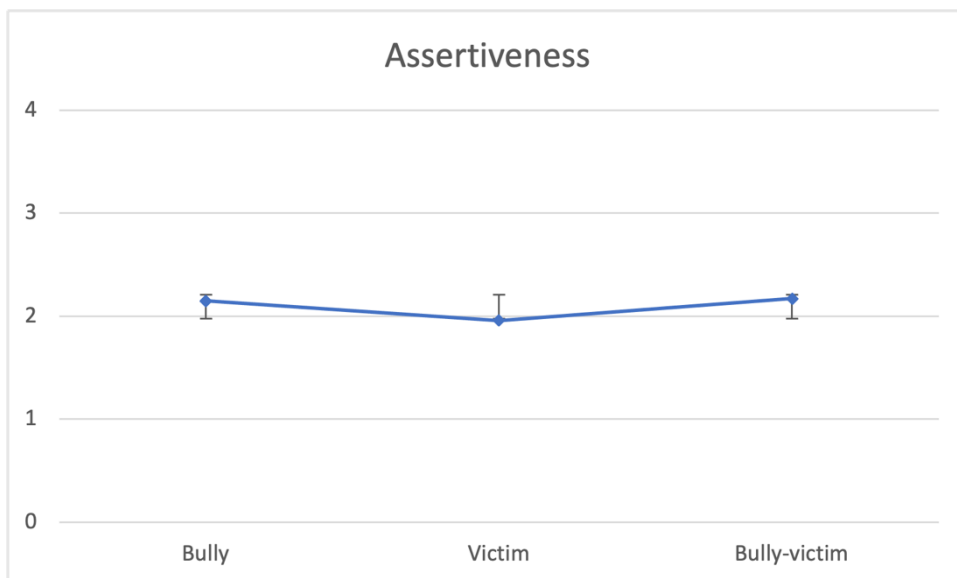
Mean scores on warmth



Note. The mean scores and standard deviations of the three bullying groups on warmth.

Graph 2

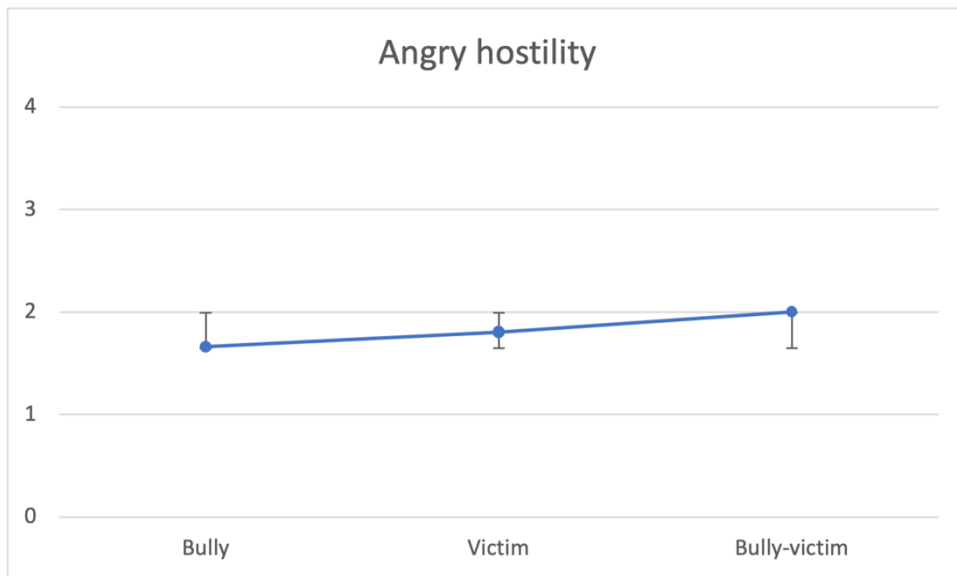
Mean scores on assertiveness



Note. The mean scores and standard deviations of the three bullying groups on assertiveness.

Graph 3

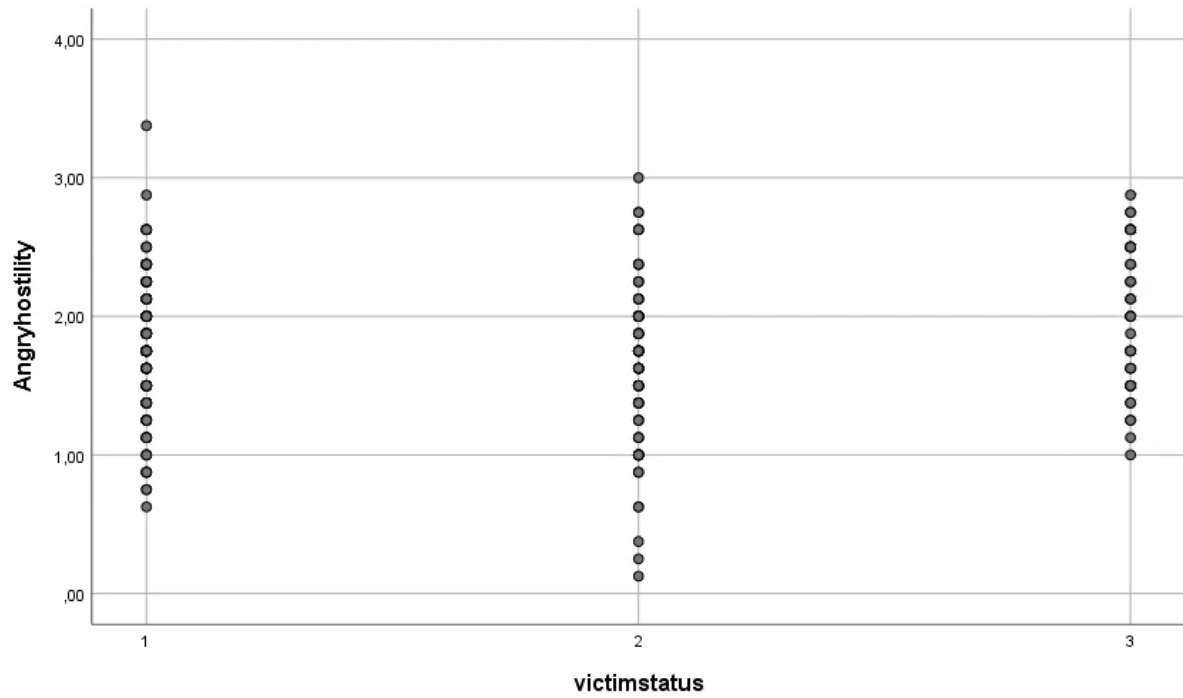
Mean scores on angry hostility



Note. The mean scores and standard deviations of the three bullying groups on angry hostility.

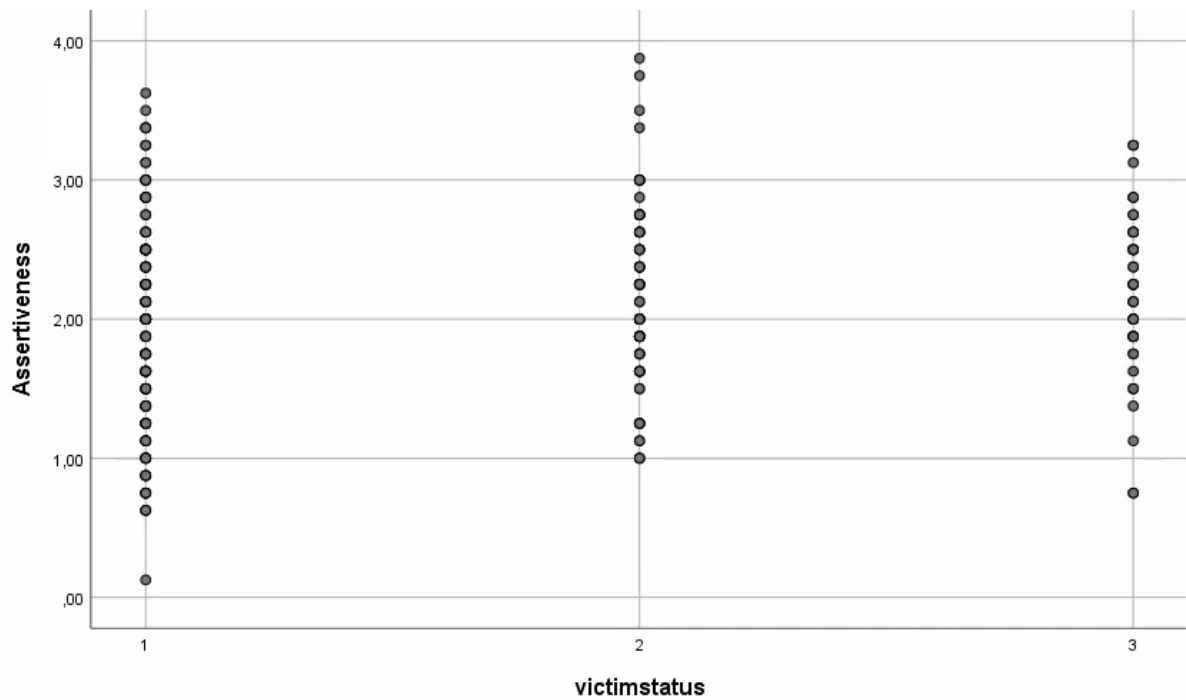
Appendix G

Graph 4

Scatterplot warmth

Note. 'victimstatus' 1 contains the victim-group, 2 stands for bullies, and 3 for bully-victims.

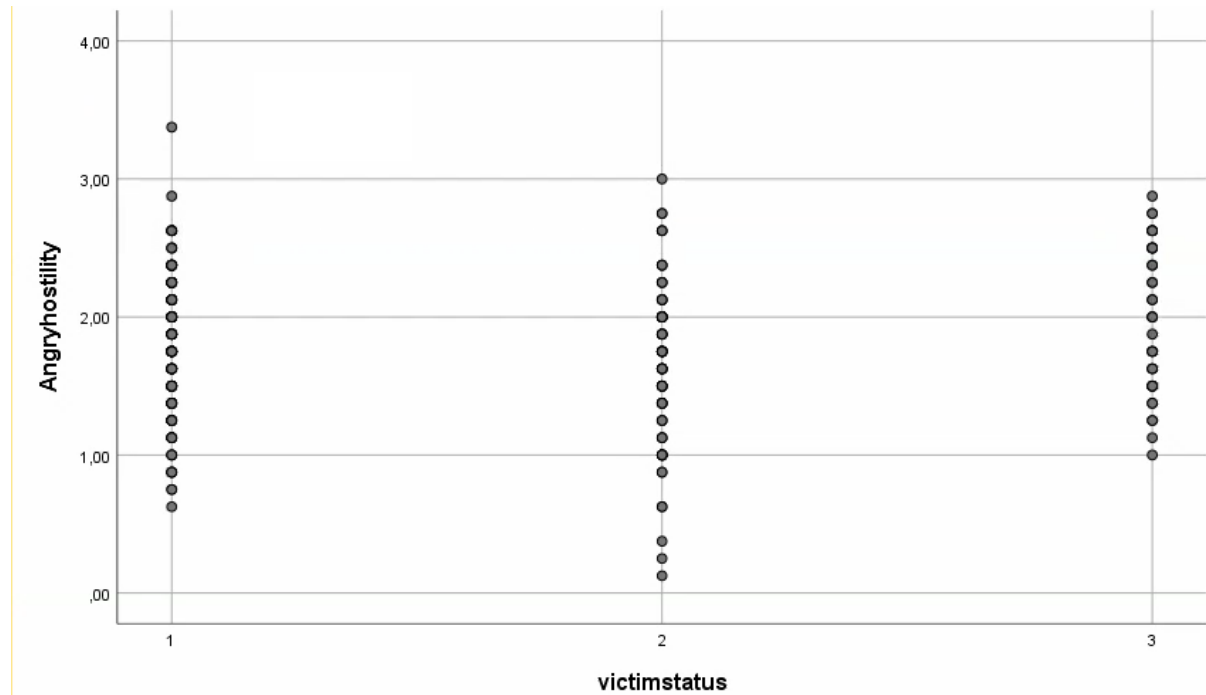
Graph 5

Scatterplot assertiveness

Note. 'victimstatus' 1 contains the victim-group, 2 stands for bullies, and 3 for bully-victims.

Graph 6

Scatterplot angry hostility



Note. 'victimstatus' 1 contains the victim-group, 2 stands for bullies, and 3 for bully-victims.