

Coping strategies and associations with depression among 12-15-year-old Norwegian adolescents involved in bullying

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Abstract

The aim of this study was to examine coping styles among young adolescents involved in bullying both as victims or aggressors, and the relationships between coping styles and depressive symptom levels. Possible moderating and mediating roles of coping in the relationships between bullying involvement and depression is also investigated. A representative community sample of 2464 adolescents was assessed. Coping styles were measured by the Coping Inventory for Stressful Situations. Depressive symptoms were assessed by the Mood and Feelings Questionnaire. ANOVA and standard linear regression methods were applied. Adolescents being bullied or being aggressive towards others both showed more emotional coping than non-involved adolescents ($p < 0.001$). Being bullied, and high emotional, low task and high avoidant coping styles were independently related to more depressive symptoms. The association between being bullied and depressive symptoms was both moderated and partially mediated by emotional coping.

Keywords: Bullying; Coping; Adolescence; Depression

Introduction

Bullying behaviour are serious problems that negatively affect schoolchildren's mental health, with international prevalence rates ranging from 9 % to 54 % (Kim and Leventhal, 2008; Nansel et al., 2004; Undheim and Sund, 2010). Prevalence in Norway, however, is somewhat lower than for most countries at 10 % (Undheim & Sund, 2010). A widely used definition by Olweus and Limber (2010) defines bullying or victimization as being bullied, intimidated, or victimized when students are exposed, repeatedly and over time, to negative actions from more powerful peers.

Being bullied by peers is reported to be related to low levels of psychological well-being and social adjustment, and high levels of psychological distress, depressive symptoms and adverse physical health symptoms (Rigby, 2003; Low et al., 2012; Undheim and Sund, 2010). Negative psychological consequences of bullying appear to persist into adulthood (Copeland, Wolke, Angold and Costello, 2013). Those who are both bullied themselves and bully others are in most studies perceived as a high-risk group in terms of psychological health (Kumpulainen, Rasanen, and Puura, 2001).

Focusing on coping strategies might inform us about how adolescent involved in bullying deal with their challenges and explain variation in mental health. Coping is a multifaceted psychological construct involving a range of ways used to respond to stress, and is considered as a stable, yet modifiable trait (Skinner and Zimmer-Gembeck, 2007). We have chosen to assess coping with the Coping Inventory for Stressful Situations (CISS), which has an empirical and theoretical base with sound psychometric properties (Endler and Parker, 1994). Three coping dimensions are addressed:

emotional, task and avoidant coping. These are the three most-robust dimensions identified in the general coping literature (McWilliams, Cox and Enns, 2003). These coping dimensions are also in line with the essence of Lazarus's transactional stress and coping model (Folkman and Lazarus, 1985) where the effect of a given stressor will depend on the appraisal of the stressor and availability of coping responses. Emotional and problem focused, or task oriented, coping are important categories of coping responses in this model. Later, Endler, and Parker (1990b) suggested avoidance as a third basic strategy that might be used in coping with stress, which incorporates activities and cognitive changes aimed at evading stressful situations via distractions. This is the version used in the present study.

Coping strategies play a major role in an individual's physical and psychological well-being when he or she is confronted with negative or stressful life events (Endler and Parker, 1990a). Particular coping styles can either facilitate or impede both mental and physical health (Endler and Parker, 1994). Emotion-oriented coping is associated with less-adaptive personality traits and psychological distress whereas the reverse has been found regarding task-oriented coping (McWilliams, Cox and Enns, 2003). Problem-solving skills are reported to be closely related to task-oriented coping by reconceptualizing problems or minimizing their impact (Endler and Parker, 1990a, 1994).

Earlier studies report that depressed individuals rely heavily on emotion-related coping behaviours (Billings and Moos, 1985). Maladaptive coping has been found to be among the predictors of depression, anxiety and stress among young college students (Mahmoud, Staten, Hall, and Lennie, 2012), and also of depressed mood among Chinese youths aged 8-14 years (Chan, 2012). Low task focused and high emotional oriented coping were related to emotional and behavioural problems, whereas perceived stress and emotion or avoidant coping was associated with adjustment problems

among 10 to 14 year old adolescents (Hampel and Peterman, 2006). However, among adults (Pu et al., 2012), avoidance oriented coping style was lower in a major depressed group compared with healthy controls. Coping style is reported to partially mediate the relationship between stressful life events and mental health during adolescence (Meng et al., 2011).

It has also been reported that differences in problem solving skills (task coping) between controls and cases disappeared when depression was controlled for in a longitudinal study of adolescents (Kingsbury et al., 1999). Similar results have been reported in cross-sectional studies of youth (Schotte and Clum, 1982). Other studies reported that antecedent depression predicted decreased task-oriented coping and increased emotional coping across adolescence (Nrugham, Holen and Sund, 2012). These studies suggested that depression might inhibit the development of effective coping traits and may prevent the return to pre-morbid levels of healthy coping among affected adolescents.

A review study recently concluded that victims of bullying often have passive, emotionally-oriented and avoidant coping styles (Bitch Hansen, Steenberg, Palic and Elklit, 2012). Because such styles generally have been related to depression and negative mental health, they should be considered to be maladaptive styles. Alternatively, some coping styles may support psychological well-being in adolescence. A recent study (Garnefski and Kraaij, 2014) suggests that the cognitive strategies of rumination (strengthening) and positive refocusing (reducing) moderated the relationship between bullying and depression. However, experiencing the pressure of being bullied might impede the use of effective coping mechanisms. According to Hampel et al., (2005), victims of bullying were characterized by a mixed pattern of maladaptive coping.

It is thus well established that being involved in bullying is related to high levels of depressive symptom, especially among those being bullied. However, is it not well established which coping

mechanisms are more prevalent among those involved in bullying and what role coping strategies may play in the relationship between involvement in bullying and depressive symptoms levels. Consequently, this study aims to examine in a representative sample of adolescents: a) the coping styles manifested by those involved in bullying as victim or aggressor; b) the relationships between different coping styles and depressive symptoms levels among those involved in bullying; c) whether coping styles moderate, or buffer, the relationship between bullying involvement and depression. d) whether coping styles mediate the relationship between involvement in bullying and depressive symptoms levels. These aims will be addressed while controlling for several possible confounding factors such as gender, age and socio-demographic status.

Methods

Procedures and Participants

The study was approved by the Regional Ethical Committee, Mid-Norway. The present study is based on data from the first data-wave (T1). The present study was conducted as a cross-sectional analysis of “The Youth and Mental Health Study”, a longitudinal study that assessed mental health among adolescents aged 12–15 years in two counties in central Norway. Twenty-two schools were selected with a probability proportional to their size. The response rate in these schools was 88.3%. The original sample consisted of 2464 adolescents, 50.8% ($N = 1252$) girls and 49.2% ($N = 1212$) boys, with a mean age of 13.7 years (range: 12.5–15.7, $SD = 0.58$). Those who did not respond ($n = 327$) at the first data collection (T1) were significantly more likely to be male ($\chi^2(1) = 45.0, p < .001$) as well as younger adolescents ($\chi^2(1) = 5.47, p < .05$) than those who did respond. A total of 93.4%

had both parents born in Norway, 3.9% had one parent born in Norway and one parent born in another country, while 2.7% had both parents from Eastern Europe or Third-World-countries. Four adolescents with both parents from another western country were not included in the analyses because the group was too small. Of the final sample, 26.9% had divorced parents. Written consent was obtained from the adolescents and their parents. The questionnaires were completed during two consecutive school hours.

Measures

Sociodemographic status. Parental SES, based on the parents' occupation reported by the adolescents, was rated on a five-point scale (1 = professional leader, 5 = manual worker), in accordance with ISCO, the International Labour Organization Guidelines (1990). An ordinal scale ranging from 1 (highest) to 5 (lowest) was made. As 97.3 % of the sample reported one or two parents born in Norway and the rest of the sample represented a variety of different cultures, there was not enough variation to include ethnicity in the analyses as a control variable.

Being Bullied. The adolescents answered three items measuring teasing, exclusion or physical assault (Alsaker, 2003) during the last six months, in school or on the way to school. Each item was rated on a six-point scale (0 = never, 5 = more than three times a week). A dichotomized variable was constructed to differentiate between students who had been exposed once a week or more ("frequently") to any of the items during the past six months and students who had not reported being bullied or had reported being bullied occasionally, i.e. only once or twice during the past six months.

This dichotomy is consistent with that of Roland (2002), and was used in frequency analyses to examine differences among groups, and in bivariate and multivariate analyses. Adolescents who reported frequently being both aggressive towards others and victim of aggressive behavior (bullying-victims) in this sample were too few (0.4 %) to be separated as a distinct group and were included in the Bullied group.

Aggression toward others. Four items from the Youth Self-Report (YSR) (Achenbach, 1991) describing behavior, possibly representing bullying were used to measure aggression towards others: “I am mean to others,” “I physically attack people,” “I tease others a lot,” and “I threaten to hurt people.”. The YSR is a widely used self-reporting measure for assessing emotional and behavioral problems among adolescents aged 11–18 years. A Norwegian version of the YSR was published by Kvernmo and Heyerdahl (1998) and has good reliability and support for its validity. Each item is rated on a 0–2 scale (0 = not true, 1 = somewhat or sometimes true, 2 = very true or often true). A dichotomized variable was constructed to differentiate between those who reported “often” being aggressive toward others on any of the four items, and those who rated the items as “not true” or reported being aggressive “sometimes” in the last six months. The dichotomized variable was used to calculate the frequency of aggression toward others, to examine differences among groups, and in univariate and multivariate regression analyses.

Depressive symptoms was measured with the MFQ, which is a 34-item questionnaire designed for children and adolescents 8–18 years of age, soliciting report of depressive symptoms in the past two weeks, as specified by the DSM-IV (Angold, 1989). The MFQ covers affective, melancholic, vegetative, cognitive and suicidal aspects of depression. The total score ranges from 0 to 68, with

high scores representing high depressive symptom levels. Responses are made using a three-point scale (“not true,” “sometimes true,” and “true”). In the present sample, three-week and two-month test–retest reliabilities of the total scale have been reported to be $r = .84$ and $r = .80$, respectively (Sund et al., 2001), while internal consistency was $\alpha = .91$ and convergent validity with the Beck Depression Inventory (Beck, 1979) was $r = .91$ (Sund et al., 2001). The MFQ has been validated using clinical samples (Daviss et al., 2006).

Coping with stress was measured by a 1990 version of the Coping Inventory for Stressful Situations (CISS) which approaches coping as a stable trait (Endler and Parker, 1990a). CISS has an empirical and a theoretical base with sound psychometric properties (Endler and Parker, 1990b) and measures three coping dimensions using 17 items: Task-oriented (TASK, range 5-20), Emotional oriented (EMO, range 6-24), and Avoidance oriented (AVOID, range 6-24). Five task-oriented items describe purposeful solution-focused or problem-solving efforts, cognitive restructuring or attempts to alter situations. Six emotional oriented items lists affective reactions to reduce stress such as self-preoccupation and fantasizing. Responses are made on a four-point scale from almost never to almost every time. Six avoidance oriented items cover activities and cognitive changes aimed at evading stressful situations via distractions. A high score means a positive result. In our sample, Cronbach’s α at T1 for emotional coping = .78; task-oriented coping = .80; and avoidance coping = .66.

Statistics

Data was analyzed using the Statistical Package for the Social Sciences (SPSS, ver. 16, Chicago, IL). Relationships between categorical variables were estimated by χ^2 statistics. Differences between

group means were tested using Student's *t* tests or one-way ANOVA with Bonferroni post hoc tests. Standardized multiple linear regressions were performed to assess the role of bullying and coping as a predictor of depressive symptoms at the mean age of 13.7, controlled for SES, gender, and age. Multicollinearity was examined using the Variance Inflation Factor (VIF). Analyses of the differences between the unstandardized beta values were performed when comparing the two genders (Paternoster et al., 1998). Responders who had omitted more than 10% of the items were removed from the analyses; otherwise missing values in scales were replaced by the mean item score. All tests were two-tailed and used a significance level of $p < .05$.

Results

Descriptives

Ten percent ($n = 240$) of adolescents ($n = 2464$) reported being victim of bullying behavior once a week or more frequently. The bullied adolescents reported significantly ($p < .000$) higher depressive symptom levels compared with non-involved students (17.30 vs 9.50), and the aggressive students (15.50 vs 9.50), see Table 1. However, the difference between bullied and aggressive students was not significant.

Coping strategies among bullied, aggressive, and non-involved adolescents

Adolescents involved in bullying both in terms of being bullied and aggressive reported more emotional coping than non-involved adolescents ($p < .001$), see Table 1. Bullied and aggressive adolescents were not significantly different from one another. The six different items constituting the

CISS emotional scale is shown with frequencies and significant differences between the groups in Table 2. The differences among bullied and non-involved adolescents were significant on all items, while among the aggressive adolescents the “I feel sorry “ item did not show significant difference between these adolescents and the non-involved adolescents. Only the single item “I feel sorry” showed significant differences between the bullied and the aggressive groups ($p=.012$) in that more bullied than aggressive adolescents reported to be sorry. Task and avoidant coping showed no significant difference between the groups, see Table 1.

Multivariate analyses to predict depression

First, separate regression analyses were performed to establish a possible relationship between different coping styles and depression. The results showed relationships between depression levels and emotional coping (beta .044, $F= 203.97$, $p<.001$ and avoidant coping (beta .166, $F= 55.89$, $p<.001$), but not task coping (ns), when controlling for gender, age, and SES.

In the multivariate analyses, using MFQ as the dependent variable, and emotional, avoidance and task coping, being bullied and being aggressive as predictor variables, all three coping styles (high EMO and AVOID, both $p < .001$, and low TASK, $p=.002$) and being bullied and being aggressive (both $p< .001$) predicted depression, when controlling for gender, age, and SES. This model explained 30.9 % of the variance ($F= 124.18$ (8, 2224) $p<.001$). Emotional oriented coping accounted for half of this variance (15.6%) while all the other variables explained smaller portions of the variance (being bullied 2.6 %, gender 1.5 %, low task oriented coping 1.1 %).

Moderating analyses

As a step two (step –up) in the regression analysis, the interaction between being bullied each of the three Coping styles was included, one at a time. Two-way interactional analyses between being bullied and each of the three coping variables only showed a significant interaction between being bullied and emotional coping on depressive symptom levels ($p < .01$), see Table 3. This analysis showed that among bullied adolescents the positive relationship between emotional coping and depression was stronger than among non-bullied adolescents, ($p < .001$). Among those being bullied a high level of emotional coping more strongly predicted a higher level of depressive symptoms than among those who were not bullied. The added explained variances of the interactional variables, however, were small, see Table 3. Moreover, none of the interactions between being aggressive towards others and emotional, task or avoidant oriented coping on depressive symptom levels were significant.

Mediating analyses

Mediating analyses intended to assess if the relationship between being bullied and depressive symptom levels was mediated through coping when controlling for gender, age and SES. Comparing the association between being bullied and depression without and with the introduction of each of the coping styles in separate analyses, the regression coefficient for being bullied decreased significantly from 7.51 ($p < .001$) to 5.38 ($p < .001$) when emotional coping was introduced ($z = 2.49$,

p=0.025). However, the decrease was negligible when avoidant and task coping were introduced. The relationship between being bullied and depressive symptom levels thus was partially mediated by emotional coping.

Discussion

This study assesses different coping styles among young adolescents involved in bullying compared with non-involved adolescents. Further, the study examines different ways in which coping styles play a possible role either as a moderating or mediating factor in the relationship between bullying and depressive symptoms.

It is noteworthy that both bullying victims and aggressors scored significantly higher than non-involved adolescents on emotional coping, showing that both groups tend to use more unhealthy coping styles in stressful situations. This is consistent with Hampel et al., (2005) reporting maladaptive coping styles among bullied youth, and Bitch, Hansen, Steenberg, Palic and Elklit, (2012) reporting that victims often display an emotional coping style. However, it was not obvious that there was no difference in the use of emotional coping between bullying victims and aggressors. This suggests that both victims and aggressors may be under stress and pressure, resulting in emotional coping, even if their roles in bullying are quite different. Maladaptive coping styles that have been observed among bullying victims might also be well established among aggressors. Aggressors might not be more on top of the situation than their victims.

However, when examining the single items constituting the emotional oriented coping style, there were strong differences between involved (victims and aggressors) and non-involved adolescents, as

well as between bullying victims and aggressors. Bullied adolescents scored significantly higher than aggressive adolescents on the single item “I feel sorry”. These results suggest that bullied adolescents experience sadness and vulnerability and may take the blame if something negative or stressful happened to them. This experience appears relatively absent among aggressors scoring much lower on this item.

The findings of different levels of emotional oriented coping among bullied and non-involved adolescents, and their independent relationships to depressive symptom levels are consistent with earlier studies (Billings and Moos, 1985) suggesting depressed adolescents rely heavily on the emotional oriented coping style. Being bullied might represent a feeling of loneliness and isolation similar to feelings other vulnerable adolescents might have. It is therefore understandable that being bullied is related to psychological distress, low psychological wellbeing and a high level of depressive symptoms (Rigby, 2003; Undheim and Sund, 2010). Greater use of task oriented coping is considered more adaptive, although more challenging. Bullied adolescents in this study generally showed a coping style similar to established risk-groups like suicide attempters (Pollock and Williams, 2004) and homeless youth (Kidd and Carroll, 2007; Unger et al., 1998), relying heavily on emotional coping. This makes them more vulnerable, however, consistent with earlier studies (Unger et al., 1998). A task oriented and more constructive coping style is considered an important source of power for patients struggling with major depression (Pu et al., 2012). However, the stress of being bullied might not allow for using a more challenging coping style without access to more support.

In the cross-sectional analyses, the relationships shown between coping and being bullied on depressive symptom levels must be interpreted with caution. As well as coping strategy being a causal factor of depression, depression might similarly result in maladaptive coping like high

emotional coping, low task and high avoidant coping. Also, being bullied might be related to depressive symptoms in a bidirectional way. For example, depressed adolescents might act withdrawn, and being not particularly confident, may make them targets for bullying behavior. While the relationship between being aggressive and depressive symptom levels might mirror the possible emotional stress the aggressive youth might feel when hurting other people. Depressed youth often hide depressive feelings and some “act out aggressive behavior”, which is mirrored in the equivalence of the depressed and irritable mood criteria for major depression in DSM-IV.

According to Kraemer et al., (2001), a moderator affects the relationship between another variable and the outcome. Among those being bullied a high level of emotional coping more strongly predicted a higher level of depressive symptoms than among those who were not bullied. Coping style among not bullied did not seem to play such an important role regarding depressive symptom levels. According to Baron and Kenny (1986) a mediator variable is one that explains the relationship between the two other variables. Emotional coping in this study seemed to mediate the relationship between being bullied and depressive symptom levels by partly explaining the levels of depression.

Clinical implications

The present study suggests on one hand that by reducing bullying the impact of emotional coping is reduced on depressive symptom levels. On the other hand by reducing emotional oriented coping, preferably by replacing it with more adaptive coping, the impact of a risk factor like being bullied in the development of depressive symptoms may be reduced. It is therefore important to prevent maladaptive coping strategies from turning into long-established styles that might be difficult to change. More adaptive coping strategies should be acquired as early as possible. Interventions with elements from cognitive – behavioral therapies for depressed adolescents, including recognizing and

challenging negative thoughts, stop self-blaming, and increasing self-worth could be helpful.

Schools should teach and stimulate students in using more task-oriented coping, especially in stressful situations. Clinical trials are needed to evaluate such interventions.

Strengths and limitations

The strengths of this study were its large representative sample, the high response rate (88.3%), and its use of internationally standardized self-report measures of psychosocial problems. The study includes adolescents before the age when school dropout is considered a serious problem, and therefore represents the general student population well. Bullying was measured by three questions, compared to only one used in most studies. Yet even three questions might not cover all areas important in youth cultures today, notably cyber bullying.

Limitations of the study were its focus on just one geographical region in Norway with only one moderately sized city, and the participants' restricted age range. All measures used were youth self-report instruments, and no complementary source of information, for example, from teachers or parents, was included. The aggressive towards other items were not specifically assessing behavior towards other adolescents so behaviors directed at adults might also be included in their answers. Three of the six emotional coping items in CISS possibly addressed similar feelings as the MFQ. However, CISS asks about what a person would do in stressful situation, whereas MFQ asks about general and pervasive thoughts and feelings and not specifically about stressful situations. Finally, in this cross-sectional study, we cannot make any inferences about the causality in the relationships.

Conclusion

In cross-sectional multivariate analysis, at mean age 13.7, being bullied, being aggressive, high emotional oriented and avoidant coping as well as low task oriented coping were associated with depression, when controlling for gender, age, and SES. Adolescents involved in bullying (both as being bullied and being the aggressor) showed more emotional oriented coping than the non-involved adolescents. Further, interactions between being bullied and emotional oriented coping and on depressive symptoms levels emerged. The association between being bullied and depressive symptom levels was partly mediated by emotional coping. Information on coping strategies used by those involved in bullying, might be helpful in development of interventions towards bullying and its associated mental health problems.

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Table 1

Means (SDs) for the Emotion, Task and Avoidance coping sub-scales of Coping Inventory for Stressful Situations (CISS) and MFQ in the being bullied, aggressive toward others and non-involved groups.

Variable	Score Range	Being bullied (1) n=214	Aggressive toward (2) n=101	Non-involved (3) n=1949	Total sample n=2664	Group difference <i>F</i>	Post hoc comparison
Emotion coping	6-24	14.22(3.7)	13.83(4.2)	12.28(3.5)	12.52(3.65)	35.50***	(1,2) >3
Task coping	5-20	12.95(2.8)	12.32(3.3)	12.71(3.2)	12.69(3.16)	1.40	
Avoidant coping	6-24	14.99(3.4)	15.19(3.9)	14.47(3.2)	14.55(3.24)	4.60	
MFQ-Depression	0-68	17.30(11.4)	15.50(12.0)	9.50(8.6)	10.65(9.53)	87.16***	(1,2) >3

Note: MFQ, Mood and Feelings Questionnaire

**p<.01

***p<.001

Table 2

Prevalence of endorsement of the six items constituting the CISS emotional scale (EMO) for the bullied, aggressive, non- involved groups

	Sometimes true/True		
	Being bullied	Aggressive	Non-involved
	n=225	n=103	n=1980
I get angry	54.6*	59.2*	47.1
I get upset	47.6***	41.7***	24.8
I am very stressed	55.2***	52.9***	34.8
I feel sorry	56.1***	40.8	36.4
I blame myself	32.1***	36.0***	19.4
I feel there is something wrong with me	32.6***	33.7***	16.6

Chi- square analyses indicate significant differences between being bullied or aggressive from non-involved.

*p<.05, **p<.01, ***p<.001,

Table 3

Multiple regression analyses using depressive symptoms (MFQ) as the dependent variable, and EMO, TASK, AVOID coping styles, being bullied, being aggressive and gender, age, SES, as predictor variables.

Variables	Unstandardized beta (SE)	Standardized beta	T	Part ² Effect size (eta squared)
Being bullied	5.30 (.59)	.16	9.06***	2.6%
Aggressive towards others	3.35 (.83)	.07	4.03***	0.5 %
EMO T1	1.17 (.05)	.45	22.43***	15.6 %
TASK T1	-.34 (.06)	-.11	-6.01***	1.1%
AVOID T1	.18 (.06)	.06	3.09**	0.3%
Gender	-2.42 (.35)	-.13	-6.94***	1.5%
Age	.71 (.29)	.04	2.44*	0%
SES	.20 (.11)	.03	1.73	0%

Total R²= 30.9 %

Two-way interaction stepwise, one interaction at a time with MFQ as the dependent variable

Step 2

Bullied*EMO	.53 (.16)	.24	3.34**	.3%
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R²= 31.2 %

Step 3

R²= 31.0 %

Bullied*gender	-2.53 (1.2)	-.12	-2.19*	.2%
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*p<.05, **p<.01, ***p<.001