Children and adolescents are particularly vulnerable to victimization and can experience an array of different forms, such as community violence, maltreatment by caregivers, and peer victimization. Those who face exposure to multiple, different types of victimization in separate incidents, have been labelled “poly-victims” (Finkelhor, Ormrod, Turner, & Hamby, 2005b). For such children, victimization appears to be more of a condition than an event (Finkelhor, Ormrod, & Turner, 2007b). Research has shown that experiences of multiple victimizations in childhood are common. For example, in a sample of Spanish adolescents aged 12-17 years, 19.3% were classified as poly-victims (Pereda, Guilera, & Abad, 2014). Rates of poly-victimization have, however, been shown to vary depending on the country studied. For example, in Russia retrospective reports of victimizations experienced over the whole childhood-adolescence period revealed 45% reported experiencing 8-14 types of victimizations and 11% reported 15 or more types (Bogolyubova, Skochilov, & Smykalo, 2015).

Further findings suggest that child maltreatment (Gilbert et al., 2009) and peer victimization (Craig et al., 2009) are higher in Eastern European countries compared to those in Western Europe. In Poland, for example, a nationwide study found 63% had been subjected to some form of school violence (Komendant-Brodowska, Giza-Poleszczuk, & Baczko-Dombi, 2011). However, child victimization research conducted in Poland has only focused on singular forms of victimization and failed to investigate cumulative experiences. Yet comparatively greater rates of child victimization in Poland, and evidence of a high frequency of poly-victimization in other Eastern Europe contexts (Bogolyubova et al., 2015), highlights the need to examine poly-victimization in a Polish sample. The current study, therefore, aims to address this concern by examining the prevalence and patterns of poly-victimization in a Polish context. This study further aims to gain an understanding of factors
associated with poly-victimization risk, and how coping strategies may moderate the relationship between poly-victimization and emotional well-being.

**Risk Factors for Poly-victimization**

Given the high prevalence of poly-victimization revealed in past studies, understanding why some individuals are more vulnerable to victimization is a crucial area of investigation, with important implications for preventative measures. Previous research has shown that risk factors associated with poly-victimization span across individual, relationships and community domains, supporting an ecological perspective. For example, at an individual level, indicators of emotional and behavioral regulation problems, including anger, depression and anxiety, have been associated with poly-victimization risk (Dong, Cao, Cheng, Cui, & Li, 2013; Finkelhor, Ormrod, Turner, & Holt, 2009). Living in a chaotic family environment and poor family relationships have also been linked with poly-victimization (Finkelhor et al., 2009; Lila, Herrero, & Gracia, 2008; Romano, Bell, & Billette, 2011). Risk factors for poly-victimization from the community include lower school engagement and residing in communities where crime is high, social ties are weak and community supervision is lacking (Nurius, Russell, Herting, Hooven, & Thompson, 2009; Turner, Shattuck, Hamby, & Finkelhor, 2013).

Several theoretical frameworks, including Finkelhor and Asdigan’s (1996) revised lifestyle-routine activities framework, describe the likeliness of victimization occurring as the product of such risks, which make individuals more or less likely to become targets of harassment and abuse. This revised framework posits that factors, such as reduced guardianship stemming from problematic family environments, and exposure to dangerous community and school environments, should be viewed as environmental factors that place a child at risk, rather than a lifestyle or routine activity problem (Finkelhor, 2008). In addition
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to environmental conditions the model emphasises individual characteristics which can increase vulnerability to victimization by appealing to the needs, motives, or psychological vulnerabilities of potential perpetrators. This process is labelled ‘target congruence’. For example, deficits in emotional regulation and social information processing can result in victimized children reacting maladaptively in social situations, with inappropriately aggressive or withdrawn responses (Crick & Dodge, 1994; Shields & Cicchetti, 2001). This can signal vulnerability and make perpetrators view them as an easier target (Finkelhor & Asdigian, 1996).

Coping with Poly-victimization

Poly-victimization has been associated with a variety of worse outcomes, including greater trauma symptomology, depression, and delinquent behavior (Finkelhor, Ormrod, & Turner, 2007a; Ford, Elhai, Connor, & Frueh, 2010). However, outcomes of victimization may depend on an individual’s ability to cope with their experiences adequately, with research showing that different coping responses can have varying impacts upon psychological and social functioning (e.g. Dempsey, Stacy, & Moely, 2000; Kochenderfer-Ladd & Skinner, 2002).

Roth and Cohen (1986) proposed two general strategies of coping: approach and avoidance. Approach strategies involve addressing the stressor directly by problem-solving or seeking social support. Avoidance involves staying away from the stressor and includes cognitive distancing (ignoring or minimizing the stressor), internalizing (focusing emotions inward), and externalizing (projecting emotions onto other people or objects). Approach strategies are, in general, assumed to be more beneficial as they allow appropriate action to be taken to prevent continued exposure to the threat and a resolution of the stressor (Roth & Cohen, 1986). In contrast, avoidant strategies are thought to be less adaptive as they can
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interfere with attempts to resolve the stressor (Roth & Cohen, 1986) and can result in subsequent emotional and behavioural difficulties (Fitzpatrick & Boldizar, 1993).

Prior research investigating coping on psychological adjustment following victimization has produced inconsistent findings. Research into peer, cyber, and community victimization has suggested that avoidant coping styles can exacerbate the negative impact of these victimizations (Kochenderfer-Ladd & Skinner, 2002; Scarpa, Haden, & Hurley, 2006; Völlink, Bolman, Dehue, & Jacobs, 2013). However, findings regarding approach coping strategies are more mixed. Hampel, Manhal, and Hayer (2008) found that the detrimental effects of peer victimization on psychological functioning were reduced by the use of problem-focused coping. Similarly, Machmutow, Perren, Sticca, and Alsaker (2012) found some support for the benefits of social support-seeking, showing that close social support from peers and parents buffered the effects of cyberbullying on depressive symptoms, however more distant informative social support had no effect. In contrast, other research has shown that telling an adult at home or school exacerbated the emotional impact of racially-focused victimization (Mendez, Bauman, Sulkowski, Davis, & Nixon, 2016) and that cyberbully victims who used more approach coping were more likely to show increased anxiety (Na, Dancy, & Park, 2015).

The impact of coping in the context of poly-victimization has not been widely examined. The exception to this are the recent studies from Guerra, Pereda, Guileria, and Abad (2016) and Guerra, Ocaranza, and Weinberger (2016), who investigated the effects of poly-victimization and coping strategies on internalising and externalising symptoms in a sample of clinical adolescents. Findings revealed non-productive coping strategies partially mediated the effect of poly-victimization on internalizing symptoms, so that poly-victimization reduced the coping skills of adolescents, and led to the development of anxiety and depression (Guerra, Pereda, et al., 2016). Further, the extent of searching for social
support was found to moderate the relationship between poly-victimization and externalizing symptoms (Guerra, Ocaranza, et al., 2016). Thus, by using a direct coping approach to activate a support network, the negative effects of poly-victimization were reduced.

In both studies, however, the small sample was small and drawn from a clinical population. Findings are therefore limited and cannot be generalized to the wider adolescent population. Further, conclusions regarding which specific styles of non-productive coping are associated with internalizing symptoms cannot be drawn, as analysis was based on a total non-productive coping score and did not distinguish between different strategies. Finally, Guerra, Ocaranza, et al. (2016) only investigated social support seeking as a protective strategy, and failed to assess other adaptive coping styles. Consequently, further research is needed to determine the varying impact different coping strategies may have upon poly-victimization outcomes.

The Present Study

To our knowledge there is no research available on poly-victimization prevalence, nor an understanding of associated risk and outcomes, in Poland. Additionally, prior poly-victimization research has examined a relatively limited set of risk factors and consequently numerous variables linked to individual forms of victimization, such as low social preference, have yet to be explored with regard to poly-victimization risk. Furthermore, previous studies have primarily relied on self-reports of risk factors, which could result in a biased perspective. This study will aim to address these gaps in the literature by examining the prevalence and potential predictors of poly-victimization among Polish adolescents, drawing on self, teacher and peer reports.

In addition, much research examining the impact of poly-victimization has focused on clinical symptomology (e.g., Alvarez-Lister, Pereda, Abad, & Guilera, 2014; Ford, Elhai,
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Connor, & Frueh, 2010), however poly-victims do not necessarily experience the most severe forms of victimization, such as physical or sexual abuse, and therefore it is possible that many of these victims will report no signs of psychopathology, but may still experience other detrimental outcomes, such as lowered well-being. Thus, poly-victimization research which solely focuses on clinical outcomes may not gain a full understanding of the effects. This study will, therefore, examine how poly-victimization impacts upon emotional well-being. Furthermore, findings concerning the role of coping strategies on the impact of victimization remain unclear and have not been widely examined in poly-victims. Therefore, the current study will investigate whether coping strategies can moderate the effects of poly-victimization on emotional well-being.

It is hypothesized that those presenting a higher level of risk factors will be predicted to have increased odds of being poly-victims. It is further predicted that the detrimental impact poly-victimization is expected to have on emotional well-being will partially depend on the coping strategies adopted. Specifically, approach coping strategies are predicted to protect against poor emotional well-being, whereas avoidant coping styles are expected to exacerbate the negative impact of poly-victimization on emotional well-being.

Method

Participants

Participants were 454 adolescents (281 female and 173 male) recruited via an opportunity sample from 22 schools across Opole, Greater Poland, Silesian, and Łódź provinces in Poland. From each school one class was randomly selected to take part in the study. All participating schools were public, of which two were primary schools, eight were lower secondary schools, eight were general upper secondary schools, and four were vocational upper secondary schools.
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Due to lack of parental or participant consent ($n=137$) or absences on the day of the study ($n=19$), 482 of the original target population of 638 took part in the study. Of these some were excluded due to high amounts of missing data ($n=22$) or because they were classified as outliers ($n=6$). The mean age of the final sample was 16.56 ($SD=1.44$), with a range from 13-19 years of age. Participants were asked to indicate their ethnicity as either “White Polish” or “Other”. 100% of participants classed themselves as White Polish. With regard to family structure, the majority of the sample (74.6%) came from families with two biological/adoptive parents. 12.1% resided in a single-parent household, 11.5% in a step-parent household, and 1.8% were primarily cared for by another relative or guardian. 32.8% indicated at least one caregiver had completed higher education, 59.9% reported their caregiver(s) highest education level as higher secondary school or vocational training, and 7.3% indicated their caregiver(s) completed lower secondary school.

Measures

All measures were translated from English to Polish via a forward–backward translation procedure. Two bilingual translators, who were native speakers and culturally aware, translated all scales from English to Polish, and back from Polish to English. These translations were completed independently. No substantial dissimilarities emerged, but any differences between the original and the back-translated versions of measures were discussed and resolved by both translators.

Victimization. Victimization experiences in the last 1-year period were assessed using the Juvenile Victimization Questionnaire: 2nd Revision (JVQ-R2) (Finkelhor, Hamby, Turner, & Ormrod, 2011). This measure assesses a broad range of victimization experiences which can occur during childhood and adolescence. The original measure consists of 34 items covering victimizations across five ‘modules’. The JVQ allows for selection of specific
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modules or items that meet particular study needs, as such the JVQ was adapted for the current study. The Sexual Victimization module was excluded to address concerns of participating schools and items concerning ‘extraordinary’ victimizations which only occur to a small number of children (e.g., exposure to war or ethnic conflict), were excluded in order to focus on pandemic victimizations and ensure a shorter measure. The final version of the JVQ used in the current study covered modules of Conventional Crime (8 items), Child Maltreatment (3 items), Peer and Sibling Victimization (including supplemental Peer Relational Aggression items; 7 items) and Witnessing Violence/Indirect Victimization (5 items). The Electronic Victimization module was also added (2 items). The final measure therefore consisted of 25 items and showed good internal consistency (α = .84).

Participants were asked to indicate “yes” or “no” as to whether they had experienced each type of victimization in the past 1-year period. Victimization exposure was measured by summing the number of different victimizations for which participants responded “yes”, resulting in a three-level grouping: non-victimized, less victimized (1-5 victimizations) and poly-victimized (six or more victimization types). The poly-victimization threshold was defined using the Screener Sum Version criteria set out by Finkelhor, Ormrod, Turner, and Hamby (2005a) (i.e., all adolescents with victimizations above the mean +1).

**Individual risks.** The Acting-out and Shy-Anxious subscales of the Teacher-Child Rating Scale (Hightower et al., 1986) were used to assess (i) teacher rated disruptive, and (ii) teacher rated withdrawn behavior problems. Each subscale contained 3 items (e.g., “constantly seeks attention” / “withdrawn”). Teachers were asked to rate to what extent each behavior was a problem for the adolescent on a 5-point scale ranging from 1 = “not a problem” to 5 = “very serious problem”. Both subscales showed good or acceptable internal consistency (acting-out, α = .85; shy-anxious, α = .73).
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**Relationship risks.** Subscales of the Communities That Care Youth Survey (CCYS; Arthur, Hawkins, Pollard, Catalano, & Baglioni, 2002) were used to measure (i) *family conflict* (3 items; e.g., “People in my family often insult or yell at each other”), and (ii) *poor family management* (7 items; e.g., “When I’m not home my parents know where I am and who I am with”), characterized by unclear expectations and rules, and poor supervision. Adolescents were asked to rate how true each statement was to them on a 4–point scale from 1 = “definitely not true” to 4 = “definitely true”. Subscales showed acceptable internal consistencies (family conflict, $\alpha = .76$; poor family management, $\alpha = .77$). (iii) *Peer social preference* was measured using a sociometric peer nomination procedure (Coie & Dodge, 1983). Using assigned codes adolescents were asked to indicate three classmates who they “most like to spend time with” and three they “least like to spend time with”. The number of nominations each participant received were summed and standardized within classrooms. To gain a measure of social preference the number of least liked nominations were subtracted from most liked nominations. A higher score indicates greater peer preference.

**Community.** (i) *Community disorganization* was assessed from a subscale of the CCYS (Arthur et al., 2002), which measures indicators of community deprivation and crime. Adolescents were asked to rate how much each statement describes their community on a scale from 1 = “definitely not true” to 4 = “definitely true” (6 items; e.g., “Lots of graffiti”). (ii) *Low commitment to school* was measured with a subscale of the CCYS (Arthur et al., 2002). Participants responded to items concerning their involvement and opinions of school on a 5-point scale from 1 = “never” to 5 = “almost always” (6 items; e.g., “How often do you try to do your best work in school?”). Subscales showed acceptable internal consistency (community disorganization, $\alpha = .75$; low commitment to school, $\alpha = .72$).

**Emotional well-being.** Emotional well-being was assessed on three dimensions: *positive affect, negative affect* and *life satisfaction*. Positive and negative affect were
POLY-VICTIMIZATION IN POLISH ADOLESCENTS measured using the reduced 10 item Positive and Negative Affect Schedule-Child (Ebesutani et al., 2012). Participants were asked to rate to what extent they have felt given positive (e.g., “Joyful”) and negative (e.g., “Afraid”) emotions and feelings over the last week on a 5-point scale ranging from 1 = “not at all/ very slightly” to 5 = “extremely”. Both subscales showed good internal consistency (positive affect, $\alpha = .86$; negative affect, $\alpha = .83$). Life satisfaction was measured using an adapted version of the Students Life Satisfaction Scale (Huebner, 1991). The scale consisted of 7 items where adolescents were asked to rate how much they agreed or disagreed with each statement (e.g., “I would like to change things in my life”) on a 4-point scale ranging from 1 = “disagree” a lot to 4 = “agree a lot”. The scale showed good internal consistency ($\alpha = .80$).

**Coping strategies.** Coping strategies in response to victimization were measured using of a modified version of the Self-report Coping Scale (Wright, Banerjee, Hoek, Rieffe, & Novin, 2010). Adolescents were asked to report, using a 5-point scale from 1 = “not at all” to 5 = “all the time”, how much they would use each of the coping responses if they had experienced one or more forms of victimization as described in the JVQ. The *problem-solving* subscale consisted of 7 items (e.g., “I do something to change the situation”); the *social support-seeking* subscale contained 4 items (e.g., “I ask someone in my family for advice”), the *internalizing* subscale covered 5 items (e.g., “I think about it so much I can’t sleep”), the *externalizing* subscale consisted of 4 items (e.g., “I yell or shout to let off steam”) and the *distraction* subscale contained 4 items (e.g., “I do something else to help me forget about it”). All subscales showed good or acceptable internal consistency, ranging from $\alpha = .73$ to .85.
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Procedure

This study was approved by the University of Roehampton’s research ethics board. All questionnaires were administered in class groups of between 12-27 participants, in a single 40-minute session. Each participant was assigned a code which, to ensure anonymity, was used for identification purposes. Participants completed all self-report measures first, followed by a sociometric peer nomination task. For this task a class roster with assigned codes was provided, and participants were asked to use these codes when making their nominations.

Results

22 participants were excluded from the analysis as either more than 5% of responses were missing or the same choice had been selected throughout the whole questionnaire. Where less than 5% of data was missing mean substitution was used.

The mean number of different victimizations reported in the past year was 4.58 (SD = 4.23), with a range of 0-19. 16% (n = 72) of the sample reported no past year victimizations. 49% (n = 220) were grouped as less victimized, reporting between 1-5 different victimizations. Of those who had been victimized (n = 382), 84% experienced at least one additional form of victimization. Poly-victims (≥6 victimizations) comprised 35% (n = 162) of the sample. There was no association between gender and victimization group, \( \chi^2(2, N = 454) = 2.17, p = .34 \). There was a significant difference in age between victimization groups, Welch \( F(2, 189.94) = 4.04, p = .02, \eta^2 = .02 \). Post-hoc analysis revealed that poly-victims (M = 16.34, SD = 1.55) were significantly younger than non-victims (M = 16.85, SD = 1.35).
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There were no significant age differences between non-victims and less victimized, or less victimized and poly-victims.

The mean number of JVQ modules poly-victims experienced was 3.87 (SD = 0.86). All poly-victims experienced victimizations across two or more modules, with 95% experiencing three or more, 67% experiencing four or more, and 25% experiencing victimizations across all five modules. The most frequent kind of victimization suffered by adolescents was peer and sibling victimization (69%), followed by conventional crime (57%) and witnessing violence and indirect victimization (48%). Electronic victimization was reported by 29% of the sample and maltreatment by caregivers by 22%.

Risk Factors as Predictors of Poly-victimization

A multinomial logistic regression was conducted to predict victimization group using variables of community, relationship and individual risk as predictors. All seven risk factors were entered as a group predicting the three victimization levels, using the poly-victim group as the reference category. A test of the final model against an intercept only model was significant, indicating that the predictors as a set reliably distinguished between non-victims, less victimized, and poly-victims, $\chi^2(14) = 232.93, p < .001$. As seen in Table 1, increases in community disorganization, family conflict, poor family management, withdrawn behavioral problems, and disruptive behavioral problems were associated with greater odds of being a poly-victim compared to a non-victim or less victimized. Low school commitment was associated with a greater risk of becoming a poly-victim compared to non-victim, but was not a significant predictor of less victimized vs. poly-victim group membership. Finally, as social preference score increased (i.e., greater peer preference), the odds of experiencing poly-victimization compared to no or less victimizations decreased. Effect sizes for significant predictors ranged from small to medium.
## Table 1

**Multinomial Logistic Regression for Predicting Membership of Victimization Group by Risk Factors, With All Seven Risk Factors Entered as a Group**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>b (SE)</th>
<th>Wald</th>
<th>OR</th>
<th>95% CI for OR</th>
<th>Standardized OR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-victim vs. Poly-victim</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-10.29 (1.21)</td>
<td>72.05***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community disorganization</td>
<td>1.95 (0.43)</td>
<td>20.38***</td>
<td>7.02</td>
<td>[2.94, 15.89]</td>
<td>2.72</td>
</tr>
<tr>
<td>Low school commitment</td>
<td>0.60 (0.28)</td>
<td>4.74*</td>
<td>1.83</td>
<td>[1.02, 2.99]</td>
<td>1.53</td>
</tr>
<tr>
<td>Family conflict</td>
<td>0.95 (0.31)</td>
<td>9.22**</td>
<td>2.59</td>
<td>[1.43, 4.89]</td>
<td>2.03</td>
</tr>
<tr>
<td>Poor family management</td>
<td>1.82 (0.42)</td>
<td>18.56***</td>
<td>6.18</td>
<td>[2.84, 14.75]</td>
<td>2.76</td>
</tr>
<tr>
<td>Social preference</td>
<td>-0.33 (0.12)</td>
<td>7.97**</td>
<td>0.72</td>
<td>[0.56, 0.89]</td>
<td>0.58</td>
</tr>
<tr>
<td>Acting-out</td>
<td>4.29 (1.31)</td>
<td>10.79**</td>
<td>2.16</td>
<td>[1.21, 3.88]</td>
<td>1.92</td>
</tr>
<tr>
<td>Anxious</td>
<td>3.61 (1.33)</td>
<td>7.43**</td>
<td>2.51</td>
<td>[1.25, 5.02]</td>
<td>1.74</td>
</tr>
<tr>
<td><strong>Less victimized vs. Poly-victim</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>-7.24 (0.91)</td>
<td>63.98***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community disorganization</td>
<td>1.22 (0.27)</td>
<td>19.93***</td>
<td>3.39</td>
<td>[1.97, 5.72]</td>
<td>1.87</td>
</tr>
<tr>
<td>Low school commitment</td>
<td>-0.30 (0.20)</td>
<td>2.22</td>
<td>1.35</td>
<td>[0.88, 1.89]</td>
<td>1.23</td>
</tr>
<tr>
<td>Family conflict</td>
<td>-0.39 (0.19)</td>
<td>4.26*</td>
<td>1.49</td>
<td>[1.03, 2.16]</td>
<td>1.34</td>
</tr>
<tr>
<td>Poor family management</td>
<td>-1.08 (0.28)</td>
<td>14.59***</td>
<td>2.81</td>
<td>[1.73, 4.97]</td>
<td>1.78</td>
</tr>
<tr>
<td>Social preference</td>
<td>0.21 (0.08)</td>
<td>6.82**</td>
<td>0.81</td>
<td>[0.69, 0.94]</td>
<td>0.71</td>
</tr>
<tr>
<td>Acting-out</td>
<td>-3.08 (0.85)</td>
<td>13.08***</td>
<td>1.61</td>
<td>[1.14, 2.27]</td>
<td>1.60</td>
</tr>
<tr>
<td>Anxious</td>
<td>-3.90 (0.86)</td>
<td>20.41***</td>
<td>2.74</td>
<td>[1.76, 4.26]</td>
<td>1.82</td>
</tr>
</tbody>
</table>

*Note.* OR = odds ratio; CI = confidence interval. \( R^2 = .40\) (Cox & Snell), .46 (Nagelkerke). Model \(\chi^2(14) = 232.93, p < .001\).

*\(p < .05\), **\(p < .01\), ***\(p < .001\).
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Coping Strategies as Moderators of the Relationship between Poly-victimization and Emotional Well-being

A one-way ANOVA showed an overall significant difference in life satisfaction, Welch $F(2, 204.20) = 50.78, p < .001, \eta^2 = .17$; negative affect, $F(2, 451) = 45.74, p < .001, \eta^2 = .17$, and positive affect, $F(2, 451) = 13.19, p < .001, \eta^2 = .05$, between victimization groups. Post-hoc comparisons using the Games-Howell test revealed poly-victimized adolescents reported significantly lower life satisfaction ($M = 2.63, SD = 0.58$) compared to less victimized ($M = 3.05, SD = 0.53$), and non-victim groups ($M = 3.32, SD = 0.46$). Hochberg test showed poly-victims further reported significantly greater negative affect ($M = 2.54, SD = 0.82$), compared to less victimized ($M = 1.91, SD = 0.68$) and non-victimized adolescents ($M = 1.60, SD = 0.58$), and significantly lower positive affect ($M = 3.25, SD = 0.88$) compared to less victimized ($M = 3.65, SD = 0.86$) and non-victimized adolescents ($M = 3.75, SD = 0.78$).

To test the hypothesis that coping strategies can moderate the relationship between poly-victimization and indicators of emotional well-being, moderation analyses (Hayes, 2013) were conducted on participants in the poly-victim group only (see Table 2).
### Table 2

**Linear Model of Predictors of Life Satisfaction and Positive Affect for Poly-victimized adolescents**

<table>
<thead>
<tr>
<th>Variable</th>
<th>$b$</th>
<th>$SE\ b$</th>
<th>$\beta$</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.63</td>
<td>0.04</td>
<td>0.01</td>
<td>61.06***</td>
</tr>
<tr>
<td>[2.54, 2.71]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-solving (centred)</td>
<td>0.19</td>
<td>0.06</td>
<td>0.24</td>
<td>3.19***</td>
</tr>
<tr>
<td>[0.07, 0.32]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victimization total (centred)</td>
<td>-0.04</td>
<td>0.01</td>
<td>-0.21</td>
<td>-2.81**</td>
</tr>
<tr>
<td>[-0.07, -0.01]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-solving × victimization</td>
<td>0.06</td>
<td>0.02</td>
<td>0.24</td>
<td>3.00***</td>
</tr>
<tr>
<td>[0.02, 0.10]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Positive affect</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>3.25</td>
<td>0.06</td>
<td>0.01</td>
<td>50.81***</td>
</tr>
<tr>
<td>[3.12, 3.37]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-solving (centred)</td>
<td>0.44</td>
<td>0.09</td>
<td>0.36</td>
<td>4.80***</td>
</tr>
<tr>
<td>[0.24, 0.65]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Victimization total (centred)</td>
<td>-0.03</td>
<td>0.02</td>
<td>-0.12</td>
<td>-1.63</td>
</tr>
<tr>
<td>[-0.07, 0.01]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem-solving × victimization</td>
<td>0.09</td>
<td>0.03</td>
<td>0.23</td>
<td>2.99***</td>
</tr>
<tr>
<td>[0.03, 0.14]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* CI = confidence interval. Life satisfaction, $R^2 = .12$. Positive affect, $R^2 = .15$.

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

The interaction effect between problem-solving coping and victimization, for life satisfaction was significant, indicating a moderation effect, $b = 0.06$, 95% CI [0.02, 0.10], $t(158) = 3.00, p = .003$. To probe the problem-solving × victimization total interaction, simple slopes were estimated for poly-victims who reported using low (−1 SD below the mean), mean, and high (+1 SD above the mean) levels of problem-solving (Aiken & West, 1991). As depicted in Figure 1, for those who reported low levels, $b = -0.08$, 95% CI [-0.12, -0.04], $t(158) = -4.00, p < .001$, and mean levels of problem-solving coping, $b = -0.04$, 95% CI [-
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0.07, -0.01], t(158) = -2.80, p = .005 there was a significant negative relationship between poly-victimization and life satisfaction. For high use of problem-solving coping, the relationship between poly-victimization and life satisfaction was non-significant. This suggests that with greater use of problem-solving coping strategies poly-victimization has less of a negative impact upon self-reported life satisfaction.

Figure 1. Simple slopes equation of the regression of poly-victimization on life satisfaction at three levels of problem-solving coping use.

The interaction between victimization and problem-solving for positive affect was significant, indicating a moderation effect, $b = 0.09, 95\% \text{ CI} [0.03, 0.14], t(158) = 2.99, p = .003$. As shown in Figure 2, for poly-victims who report a low use of problem-solving coping there was a significant negative relationship between victimization total and positive affect, $b = -0.10, 95\% \text{ CI} [-0.16, -0.04], t(158) = -3.21, p = .001$. For poly-victims reporting average and high levels of problem-solving coping, the relationship between victimization and positive affect was non-significant. This indicates as use of problem-solving coping
increases, the relationship between increased victimization and lower positive affect becomes weaker, and eventually non-significant.

![Figure 2](image.png)

*Figure 2.* Simple slopes equation of the regression of poly-victimization on positive affect at three levels of problem-solving coping use.

The interaction between victimization and problem-solving for negative affect was non-significant, indicating no moderation effect. The interaction between poly-victimization and social support-seeking, along with avoidant coping styles (internalizing, externalizing, and distraction) on all indicators of emotional well-being (life satisfaction, positive affect, and negative affect) were non-significant, indicating no moderating effect of these coping styles on the relationship between poly-victimization and emotional well-being.

**Discussion**

This study extends prior research by assessing the prevalence and predictors of poly-victimization among adolescents in Poland. Our findings indicate that victimization and poly-victimization are common and are consistent with prior research suggesting that risk factors
from different ecological levels of an adolescents’ environment effect poly-victimization vulnerability (Ellonen & Salmi, 2011; Lila et al., 2008; Nurius et al., 2009). We extend this literature by demonstrating teacher reported behavioral problems and peer rated social status are predictive of poly-victimization, and confirm the importance of family and community risks. We further found that problem-solving coping can buffer the negative impact poly-victimization has on life satisfaction and positive affect.

With regard to prevalence, 84% reported experiencing at least one type of victimization over the previous year and 35% had experienced a high level of different victimizations, and were classed as poly-victims. Although comparisons between victimization rates in this study and those from different countries are limited by methodological differences (e.g., types of victimizations measured, threshold of poly-victimization, sample age range), the frequency of victimizations is consistent with past studies which have found rates ranging from 62% (Romano et al., 2011) to 88% (Soler, Paretilla, Kirchner, & Forns, 2012).

The proportion of poly-victimized adolescents in our sample, however, appears to be higher than reported in prior research from the U.S. and Western Europe, where past-year poly-victimization has ranged from 9% (Cyr et al., 2013) to 22% (Finkelhor et al., 2007a). However, a study investigating poly-victimization in an Eastern European culture also found elevated rates of poly-victimization (Bogolyubova et al., 2015). Some possible reasons for the higher frequency of poly-victimization found in Eastern Europe could be connected to the period of economic and political instability which followed the collapse of the Soviet Union. During this period many social problems went unrecognised or underestimated (Sajkowska, 2010), and as such Eastern European countries may have less national programs in place to address childhood victimizations (Craig et al., 2009), resulting in a higher prevalence. In addition, compared to other Eastern European countries Polish adults were more likely to
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endorse the use of capital punishment (Sajkowska, 2010) and Polish children had a higher
level of aggression acceptance, compared to U.S. and Finnish samples (Österman et al.,
1994). These past findings suggest it may be more acceptable to use violence and aggression
in the Polish culture.

At the individual level, being rated by teachers as disruptive or withdrawn was
predictive of poly-victimization. These findings are consistent with prior poly-victimization
research showing that emotional problems are a pathway to poly-victimization (Finkelhor et
al., 2009), and with the peer victimization literature, which has found that victims typically
fall into one of two categories: passive or aggressive (Olweus, 1978; Schwartz, Dodge, &
Coie, 1993). The current study has extended these findings by showing that passive and
aggressive traits are related to victimizations across multiple domains, not only peer
incidences. The revised lifestyle-routine activities framework would theorize that these traits
are congruent with the desires of perpetrators and increase risk by compromising a victims
capacity to deter victimization (Finkelhor & Asdigian, 1996).

Poor family management and family conflict were found to be predictive of poly-
victimization, concurring with previous research showing that problematic family
environments create victimization risk (Lila et al., 2008; Romano et al., 2011). Adolescents
from poorly managed families are likely to experience inadequate supervision, creating the
environmental conditions that place a child in contact with more dangerous situations and
individuals (Finkelhor & Asdigian, 1996). Consistent with findings from the peer
victimization literature (Hodges, Malone, & Perry, 1997; Saarento, Kärnä, Hodges, &
Salmivalli, 2013), it was also found that peer social status was also predictive of poly-
victimization. This extends previous findings by demonstrating that peer rejection can signal
broader victim vulnerability and act as a risk factor across multiple contexts, not only from
peers. Characteristics that make adolescents vulnerable to peer rejection likely also increase
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their target congruence and attract a broad range of perpetrators (Finkelhor & Asdigian, 1996).

Our findings also demonstrated that residing in a disorganized community and lacking commitment to school were predictive of poly-victimization, reinforcing prior findings (Lauritsen, 2003; Nurius et al., 2009; Turner et al., 2013). Finkelhor et al. (2009) describes how dangerous communities can be a pathway to poly-victimization by exposing adolescents to dangerous contexts and perpetrators in the community itself, and in the home and school. Moreover, lacking commitment to school can lead to adolescents spending more time away from safe environments and engaging with delinquent peers (Herrenkohl et al., 2003), thereby creating the environmental conditions that can increase victimization vulnerability (Finkelhor & Asdigian, 1996).

Findings concerning coping styles as moderators of emotional well-being offer only partial support for our hypotheses. In line with previous research (Hampel et al., 2008), problem-solving coping was shown to have protective effects against reductions in life satisfaction and positive affect for poly-victimized youth. This may be because actively trying to resolve conflicts can lead to a greater feeling of control and autonomy over victimization experiences (Dempsey et al., 2000) and provides support for the stress and coping theory (Lazarus & Folkman, 1984).

Contrary to our hypothesis, and findings from Guerra, Ocaranza, et al. (2016), social support-seeking failed to moderate the association between poly-victimization and emotional well-being. This is, however, consistent with some previous research which has indicated that the effects of social support-seeking can vary (Machmutow et al., 2012; Mendez et al., 2016; Na et al., 2015). One explanation may be that poly-victims are unable to utilise social support coping effectively. Our findings showed that poly-victimization was associated with
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community disorganization, characterized by low community support, family conflict and low peer preference. Therefore, it is likely that poly-victims have less available social support across multiple domains and consequently cannot make use of this coping strategy.

Additionally, the social support-seeking subscale used in the current study did not distinguish between emotional and instrumental support. Seeking support for instrumental reasons is thought to involve an attempt to resolve the problem, whereas emotional support can be viewed as an aspect of emotion focused coping (Carver, Scheier, & Weintraub, 1989). Past research has indicated that these two forms of social support can have differing effects on outcomes (Machmutow et al., 2012). Therefore if poly-victims are engaging in emotion focused, rather than instrumental, social support-seeking, then this may be classed as a form of avoidant coping, which could explain why no buffering effects were found for this strategy.

Whereas prior literature has suggested avoidant coping can exacerbate the effects of some individual victimization types (Scarpa et al., 2006; Völlink et al., 2013) and poly-victimization (Guerra, Pereda, et al., 2016), our findings revealed no effect of internalizing, externalizing or distraction coping on emotional well-being. Yet, although these strategies did not negatively impact emotional well-being, they were shown to be ineffective at helping. Furthermore, the unclear negative effects of these emotion-based strategies have been supported by some past research, for example Kochenderfer-Ladd and Skinner (2002) found that avoidant coping methods were not a unique predictor of maladjustment following peer victimization, but rather were associated with poor interpersonal adjustment.

Study Strengths and Limitations

The focus on Polish adolescents extends findings from U.S. and Western European samples and provides an understanding of victimization experiences during adolescence in a
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different culture. An additional strength is the inclusion of coping strategies as potential protective factors for emotional well-being among poly-victimized adolescents, enabling a greater understanding of how to foster resilience in victimized youth. Furthermore, our study included measures of peer nominations and teacher reports, thereby ensuring a more objective picture of adolescents’ characteristics. Finally, this study assessed a range of risk factors from different ecological levels, and multiple forms of victimizations. This can increase our understanding of a particularly vulnerable group of adolescents and reduces the risk of misattributing effects to a single form of victimization.

This study also has several limitations that should be taken into account when interpreting findings. As the study was cross-sectional the direction of causation among variables cannot be determined, and therefore investigated risk factors may be both precursors to, as well as outcomes of, poly-victimization. A further limitation is that we were unable to examine certain victimization types that have more typically been included in past poly-victimization research (e.g., sexual victimization) due to ethical concerns from participating schools. Consequently, we have not been able to examine complete victimization histories which presents some challenges when comparing our prevalence findings with prior research. Further limitations arise from the analyses. Some of the effect sizes produced were small, however findings are still valuable as they indicate a trend between variables. Finally, there is a risk of inflated type 1 error due to the quantity of moderation analyses conducted.

Conclusion and Implications

Using a sample of Polish adolescents, this study highlights how common multiple and poly-victimization experiences are and extends our knowledge on risk and resilience factors associated with poly-victimization by identifying a set of predictors from multiple ecological
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levels, and exploring the role of coping resources in mitigating the detrimental impact of victimization.

Findings imply that in order to more accurately identify adolescents at greatest risk there is a need to adopt an ecological perspective and consider factors related to the adolescent themselves, their relationships with family and peers, and school and community factors. Prevention programs should focus on targeting sub-groups who present the identified risk factors, with the hope of reaching vulnerable youth before the onset of poly-victimization. Screening for at-risks youths could be done in schools, through approaches such as teacher reports of behavior and school counsellors reports, from which support and referrals could be provided. Furthermore, findings imply that prevention programs need to not only target children, but also involve families, with the aim of developing improved family relations and practises. Finally, results indicate that training victims in the use of problem-focused coping styles could be beneficial at building resilience to poly-victimization; however more research is needed to determine the protective role of specific coping strategies in relation to different outcomes.
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