



Predicting the Likelihood and Outcomes of Continuous Victimisation in the Transition to Adulthood

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Abstract

Bullying can occur at all ages and has been associated with several negative impacts on the psychological and emotional well-being of victims. While the transition to adulthood may be an opportunity for victims to escape bullying, prior research has suggested some continuity of victimisation experiences into adulthood. However, research on victimisation among young adults remains scarce and no prior study has examined this issue in the Irish context. Binary logistic regression was used to examine the likelihood of victimisation at age 20 based on the respondent's prior victimisation history and other risk factors, using data from 4693 respondents in the Growing Up in Ireland National Longitudinal Study at age 9, 13, 17 and 20. Moreover, the risk of depression and levels of global self-esteem at age 20 were examined in terms of (long-term) victimisation experiences. Respondents who were previously victimised in adolescence and respondents who were chronically victimised in childhood and adolescence were approximately 3.5 and 4 times more likely to be victimised at age 20 respectively than respondents who were never victimised. The negative outcomes of victimisation regarding the risk of depression and lower levels of self-esteem were more severe for respondents who experienced more persistent prior victimisation. In conclusion, more persistent long-term victimisation experiences are associated with more severe negative outcomes and an increased risk of continued victimisation throughout the transition to adulthood compared to less persistent or no prior victimisation. Therefore, supporting affected individuals to escape victimisation as early as possible is crucial.

Keywords Bullying · Continuous victimisation · Growing Up in Ireland · Longitudinal study · Transition to adulthood · Regression analysis

Introduction

An inclusive definition published by the UNESCO Chair on Bullying and Cyberbullying (2024) proposes that ‘school bullying is a damaging social process that is characterised by an imbalance of power driven by social (societal) and institutional norms. It is often repeated and manifests as unwanted interpersonal behaviour among students or school personnel that causes physical, social, and emotional harm to the targeted individuals or groups, and the wider school community’ (p. 4). Notwithstanding bullying being a complex phenomenon embedded in social group contexts (Salmivalli, 2010), the present study focuses on individuals’ self-reported ‘victimisation’, which may have occurred

intentionally and repeatedly within a power imbalance or by single events of aggression, thereby applying the UNESCO Chair on Bullying and Cyberbullying (2024) definition in a broad understanding of victimisation.

Even though people of all ages can become victimised, research in this field has typically focused on bullying among school-aged children and adolescents (Cassidy et al., 2021). However, bullying and its negative outcomes do not cease after young people finish secondary school, and there has been less focus on bullying in emerging adulthood (Cassidy et al., 2021; Leadbeater et al., 2014). While there is a growing amount of literature on workplace bullying among adults (e.g. Nielsen & Einarsen, 2018), victimisation in the transition from adolescence to early adulthood and the role of prior victimisation experiences demand further research. This is especially relevant, as the transition to adulthood marks an important period in the lives and pathways of young people (Arnett, 2000; O’Mahony et al., 2021).

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This study aims to explore the impact of prior (long-term) victimisation experiences in childhood and adolescence on the risk for continued victimisation in early adulthood and examines negative psychological outcomes of continuous victimisation by performing a secondary analysis of data from the Growing Up in Ireland National Longitudinal Study of Children.

In the present study, childhood is considered to range from ages 2 to 10 and adolescence from ages 11 to 18, as adapted from the definitions in the APA Dictionary of Psychology (American Psychological Association, 2018, April 19a; 2023, November 15a). Further, ‘young adulthood’, ‘early adulthood’, ‘emerging adulthood’ and the ‘transition to adulthood’ are used interchangeably and refer to the age from 19–25 years in the present study, as adapted from the American Psychological Association (2018, April 19b; 2023, November 15b).

Victimisation in Early Adulthood

Most literature on bullying among young adults was centred on university students (e.g. Cassidy et al., 2021; Cowie & Myers, 2016a, 2016b; Lund & Ross, 2017). While this body of literature may not exclusively comprise young adults but also older or younger university students, most university students typically are in their early adulthood. Bullying in early adulthood can be of many different types, for example spreading rumours, humiliating or threatening a person, social exclusion or electronic bullying such as sending harassing messages or posting information online (Cowie & Myers, 2016b). However, compared to bullying in school settings, victimisation in early adulthood, at universities or at workplaces, is more difficult to define (Pörhölä et al., 2020; Rayner & Hoel, 1997). While victimisation may be of more physical forms in younger age, adolescents and young adults typically experience more indirect, relational forms of victimisation (Leadbeater et al., 2014; Zych & Farrington, 2021). For example, these subtler forms may be belittling the victim’s opinion or withholding of information at workplaces (Rayner & Hoel, 1997) or unjustified criticism related to college work (Pörhölä et al., 2020). Although bullying and cyberbullying in adulthood can also be perpetrated by partners, friends or strangers, the majority of victimisation has been reported in work settings in a study by Kowalski et al. (2018). Prior research pointed out the potential impact of group contexts in bullying processes and the role of bystanders (Salmivalli, 2010), which in early adulthood—in contrast to bullying in school settings—could be a group context in higher education, in workplaces, or other post-school settings.

Previous studies from different countries showed victimisation rates between 1% and more than 30% among university students (Cassidy et al., 2021), averaging between 20–25% for noncyberbullying victimisation and 10–15% for cyberbullying victimisation (Lund & Ross, 2017). With regards to victimisation in the workplace, the prevalence rates of different studies vary in a similar manner between 3.5% and up to almost 30% (Coyne & Ng, 2021). While the variation in victimisation rates across studies may be subject to different methodologies, countries or time (Cassidy et al., 2021; Coyne & Ng, 2021), they highlight the presence of victimisation among (young) adults.

However, not all young adults face the same risk for victimisation. Previous studies have shown that university students who are part of a minority group, e.g. in terms of their sexual orientation or ethnicity, have a higher risk of becoming victims of bullying (Cassidy et al., 2021; Myers & Cowie, 2016). Furthermore, having a disability was found to be associated with a higher risk for victimisation among young adults (Cassidy et al., 2021; Myers & Cowie, 2016). Weight-related victimisation has been widely documented among children and adolescents (e.g. Thompson et al., 2020); however, no study was found that investigated this association among young adults. Mental health issues and certain personality traits have been associated with victimisation among adults, however, these may not only be pre-dating risk factors but also emerging outcomes of victimisation (Cassidy et al., 2021; Coyne & Ng, 2021; Nielsen & Einarsen, 2018). Further risk factors that are not listed here may exist, as the body of literature on bullying among university students and young adults is relatively small and continues to explore more factors (Cassidy et al., 2021).

Continued Victimisation in the Transition to Adulthood

The prevalence of bullying tends to level off from childhood to adolescence and early adulthood; however, there is some inconsistent evidence on the linearity of this trend and the type of bullying investigated (Zych & Farrington, 2021).

The research by Smith et al. (2003) was the first to scientifically address the research question whether there is ‘a relationship between being bullied at school and being bullied in the workplace’ (p. 178). With a study sample of 5288 adults in workplaces in England, Wales and Scotland, their results indicated that people who retrospectively reported that they had been victimised in school showed a higher risk for victimisation at work (Smith et al., 2003). The authors conclude that this suggests a continuity of

victimisation due to individual factors; however, many of those who were victimised at school did not become victims of bullying at work, and contextual factors would have to be considered as well (Smith et al., 2003). Furthermore, Smith et al. (2003) point out the need for further studies to explore a wider range of variables with regards to this association, preferably with a longitudinal study design, as their findings relied on a retrospective account of victimisation at school.

Thus far, research on the link between victimisation in adolescence and adulthood remains scarce (e.g. Beran et al., 2012; Brendgen & Poulin, 2018; Felix et al., 2019), especially with regards to longitudinal research. Different studies in North America found that a history of victimisation in adolescence was associated with a higher risk for victimisation in college or workplaces as a young adult (Adams & Lawrence, 2011; Bauman & Newman, 2013; Beran et al., 2012; Brendgen & Poulin, 2018; Cassidy et al., 2021; Felix et al., 2019; Zalaquett & Chatters, 2014). However, as Felix et al. (2019) conclude from their retrospective study similarly to Smith et al. (2003), many students did not get re-victimised but transitioned to low involvement in victimisation and aggression at college. The longitudinal study by Brendgen and Poulin (2018) showed a statistically significant direct effect of victimisation in school on victimisation at the workplace at age 22, as well as an indirect effect from victimisation in school on victimisation at the workplace via increased depressive symptoms at ages 19 to 20 as a partial mediator. The authors emphasise the need of early prevention programmes in school ‘before victims become caught in a spiral of chronic abuse’ (Brendgen & Poulin, 2018, p. 36). While these studies from North America unanimously indicate a link between prior victimisation experiences in adolescence with a higher risk for victimisation in (young) adulthood, further research is needed to explore the nature and strength of this association in more detail and in consideration of further variables and contexts.

Pörhölä (2016) discusses two theories regarding why the role of victims may remain stable from school to university: the peer community integration theory and the positioning theory. According to the peer community integration theory (Pörhölä, 2009), supportive relationships like friendships for example help individuals to successfully integrate into their peer community, while enemy relationships ‘[push] individuals away from the centre of the peer community’ (Pörhölä, 2016, p. 39). As Pörhölä (2016) further argues, if someone was not successful at integrating into their peer community in childhood or adolescence due to being bullied,

they might see new peer communities in adulthood as a threat, struggle to build new rewarding relationships, and as a result may remain stable in their peer group position as someone who is victimised. The positioning theory (Harré & Moghaddam, 2003; Harré & van Langenhove, 1999) could be applied to explain continued victimisation into adulthood through the bullied person’s self-positioning as an outsider in new group settings, as they might ‘expect and accept’ this position due to their prior victimisation experiences (Pörhölä, 2016, p. 43).

Outcomes of Victimisation

Outcomes of victimisation among school-aged children and adolescents have received major attention in previous research. In a meta-analysis by Moore et al. (2017), a strong and likely causal link has been found between victimisation and mental health problems such as depression, anxiety and suicide ideations, with more frequent victimisation being associated with a higher risk of depression and more suicide ideation. The underlying mechanisms of the association between victimisation and adverse mental health outcomes, however, are complex and may be influenced both by the environment and individual dispositions (Moore et al., 2017; Nielsen & Einarsen, 2018). Victimisation has further been associated with a range of other outcomes, for example substance use and other adverse health problems (Moore et al., 2017). In the Irish context, a meta-analysis by Foody et al. (2017) found that the school-aged population reported a negative impact on self-esteem, life satisfaction, psychological well-being and mental health such as higher levels of depression and anxiety.

Similarly, victimisation among adults in higher education or workplaces has been associated with a range of different negative outcomes. Particular attention has been given to the negative impacts of victimisation on psychological health (Coyne & Ng, 2021). Previous meta-reviews on workplace bullying have shown that victimisation among adults is associated with depression, anxiety and post-traumatic stress symptoms across different countries and cultures (Coyne & Ng, 2021; Nielsen & Einarsen, 2018). Mental health problems in turn have been found to predict later victimisation in workplaces (Nielsen & Einarsen, 2018). Furthermore, victimisation in the workplace has been linked to lower self-esteem (Coyne & Ng, 2021; Samnani & Singh, 2012). Likewise, victimised university students may experience negative impacts on their self-esteem and emotional and mental well-being (Beran et al., 2012; Cowie & Myers, 2016b; Ho & Gu, 2023). In a sample of

Vietnamese college students, Ho and Gu (2023) found that self-esteem partially mediated the association between cybervictimisation and depression. Moreover, a higher intensity of victimisation in terms of frequency (e.g. daily, almost all the time) has been shown to be associated with more severe negative health and well-being outcomes (Leadbeater et al., 2014; Nielsen & Einarsen, 2018).

Further studies suggest that negative psychological outcomes in adulthood could be an outcome of previous victimisation in childhood or adolescence (e.g. Brendgen & Poulin, 2018; Copeland et al., 2013; Leadbeater et al., 2014; Norrington, 2021; Sigurdson et al., 2015; Takizawa et al., 2014; Wolke & Lereya, 2015). Victimisation in adolescence was associated with increased internalising problems such as depression and anxiety in the transition to adulthood (Brendgen & Poulin, 2018; Leadbeater et al., 2014). A longitudinal study by Norrington (2021) indicates that victimisation in adolescence was associated with higher psychological distress in emerging adulthood, and this relationship was partially mediated by adolescent self-concept. However, none of the reviewed studies examined the impact of prior victimisation experiences of different lengths or of chronic victimisation in childhood and adolescence on psychological outcomes in early adulthood.

The Present Study

The present study explores the impact of prior victimisation experiences during childhood and adolescence on the risk for victimisation in the transition to adulthood after secondary school, using data from the Growing Up in Ireland National Longitudinal Study. Following prior research on the continuity of victimisation, it will be expected that victimisation experiences in childhood and adolescence are associated with a higher risk for victimisation in early adulthood. Furthermore, the present study examines levels of depression and self-esteem as outcomes of victimisation, particularly in terms of prior and long-term victimisation experiences. It will be expected that long-term and chronic victimisation experiences are associated with a higher risk for depression and lower levels of self-esteem in early adulthood. The following research questions will be addressed:

1. How does prior victimisation during childhood and adolescence impact the likelihood for victimisation in young adulthood?
2. How does (long term) victimisation impact the likelihood for depression in young adulthood?

3. How does (long term) victimisation impact the self-esteem of young adults?

Methodology

The Growing Up in Ireland (GUI) National Longitudinal Study

GUI is a nationally representative longitudinal cohort study of children and young people in the Republic of Ireland, which informs on the lives and development of one cohort born in 1998 (cohort'98) and a second cohort born in 2008 (cohort'08) (McNamara et al., 2021). The present study conducts a secondary analysis of the longitudinal data from cohort'98 from the first wave of data collection in 2007/2008, when the study children were 9 years old, to wave 2 at 13 years, wave 3 at 17/18 years and wave 4 at 20 years in 2018/2019. At the outset of this fixed panel design the participants were sampled in a two-stage selection process of schools as the first unit and children within those schools as the second unit. From initially 8568 children recruited at wave 1, 4729 respondents participated in every wave of data collection.

Participants

The present study's sample (Table 1) consists of 4693 young adults in Ireland around the age of 20 (91.2% 20-year-olds, 0.9% 19-year-olds and 7.8% 21-year-olds and over), who participated in all four waves of data collection. Thirty-six participants with missing responses on certain variables were removed from the sample during the present study's data analysis. 48.3% ($n = 2269$) were male and 51.7% ($n = 2424$) were female participants. 71.7% ($n = 3365$) of the young adults were in further/higher education, 21.3% ($n = 1001$) were in work, 3.0% ($n = 142$) in training and 3.9% ($n = 185$) were unemployed or engaged in other activities. 89.0% ($n = 4175$) of respondents had two Irish parents/caregivers and 11.0% ($n = 518$) had one or both parents/caregivers with a different ethnic or cultural background. The family social class categories (Table 1) in GUI are derived from the caregivers' occupations and correspond with the seven social class categories used by the Irish Central Statistics Office (CSO) (McNamara et al., 2021).

Table 1 Sample description ($n = 4693$)

Variable	<i>n</i>	%
Gender		
Male	2269	48.3%
Female	2424	51.7%
Young adult's employment status		
In further/higher education	3365	71.7%
In work	1001	21.3%
In training	142	3.0%
Unemployed/other	185	3.9%
Ethnicity		
Irish	4175	89.0%
One or both caregivers not Irish	518	11.0%
Family social class		
Professional managers	813	17.3%
Managerial and technical	1826	38.9%
Non-manual	844	18.0%
Skilled manual	390	8.3%
Semi-skilled/unskilled	329	7.0%
All others gainfully occupied and unknown/ employment status unknown/validly no social class	491	10.5%

Measures

Victimisation at Age 20

Victimisation was measured in a multiple response question with the following items: 'physical bullying, verbal bullying (name-calling, slagging), electronic bullying (phone messaging, emails, Facebook etc.), had graffiti or notes about you pinned up, had personal possessions taken or damaged, exclusion (being left out), gossip/spreading rumours, threatened/forced to do things you didn't want to and other' (only 1.0% of the sample reported 'other' as the type of victimisation) (GUI, [n.d.a](#), p. 11). If the young adults reported that one or more of these things happened to them in the last 3 months, their response was coded as 'victimised' on a dichotomous variable.

Depression

The Centre for Epidemiological Studies' eight-item depression scale (CES-D 8) was used as a self-report measure for depression among the 20-year-old respondents. Participants were asked to respond to eight items how often they have felt certain depressive symptoms during the last

week on a scale from (0) 'less than 1 day' to (1) '1–2 days', (2) '3–4 days' and (3) '5–7 days'. The items included for example 'I felt sad' or 'my sleep was restless' (GUI, [n.d.a](#), p. 15). Participants with a composite score of 7 or higher were classified as 'depressed' on a dichotomous outcome variable.

The psychometric properties for the scale were assessed by the GUI study team (McNamara et al., [2021](#)), and the internal reliability for the 20-year-old sample was high (Cronbach's $\alpha = 0.885$).

Self-esteem

Global self-esteem at the age of 20 was measured with a reduced six-item version of Rosenberg's (1965) self-esteem scale. The participants were asked to express how much they agree with each item on a 4-point Likert scale ranging from (0) 'strongly disagree' to (1) 'disagree', (2) 'agree' and (3) 'strongly agree'. A higher composite score indicates higher levels of global self-esteem. The items included three positive statements, for example 'On the whole, I am satisfied with myself' and three negatively worded items, for example 'At times, I think I am no good at all' (GUI, [n.d.a](#), p. 12).

The GUI study team assessed the psychometric information for the Rosenberg (1965) self-esteem scale and the suitability for the use with young adults (McNamara et al., [2021](#)). The internal reliability with the study sample at age 20 was high (Cronbach's $\alpha = 0.854$).

History of Victimisation

The longitudinal assessment of whether and how long the respondents had been victimised in the past was computed using the self-reported information from all four waves of data collection. The computed variable had five different categories: (1) 'victimised before 14 years of age' when the respondent reported victimisation at wave 1 or wave 2, (2) 'victimised after 14 years of age' when the respondent reported victimisation at wave 3 or 4, (3) 'chronically victimised' when the respondent reported victimisation at wave 1 or 2 and wave 3 or 4, (4) 'victimised at all four waves' with those respondents victimised most persistently at every point of data collection and (5) 'never victimised'.

Another version of this longitudinal victimisation variable was computed without the information from wave 4 to be used as a predictor variable for victimisation at wave 4. In this variable, categories (2) and (3) omit the information from wave 4, and category (4) does not apply.

Control Variables

Based on prior research outlined above regarding victimisation in early adulthood, the following variables have been found to be potential risk factors for victimisation and were therefore used as control variables.

Sexual Orientation

Due to some small group sizes and for confidentiality reasons, the reported sexual orientation of the young adults was recoded into three categories: (1) heterosexual, (2) gay/lesbian/bisexual and (3) questioning/don't know/prefer not to say/asexual.

Body Mass Index (BMI)

Based on the young adults' height and weight, the participants were classified into four groups using the adult IOTF guidelines (McNamara et al., 2021; World Obesity Federation, n.d.): (1) normal weight, (2) underweight, (3) overweight and (4) obese.

Long-lasting Condition or Difficulty

A dichotomous variable captured whether the 20-year-olds self-reported to have one or more long-lasting conditions or difficulties from the following list of items: 'blindness or a serious vision impairment; deafness or a serious hearing impairment; a difficulty with basic physical activities such as walking, climbing stairs, reaching, lifting or carrying; an intellectual disability; a difficulty with learning, remembering or concentrating; a difficulty with pain or breathing or any other chronic illness or condition' (GUI, n.d.b, p. 7). Psychological or emotional conditions were excluded from this predictor variable because these could be an outcome of victimisation, as shown in the literature review.

Sociodemographic Information

The young adult's gender (male/female), ethnicity (Irish/other cultural or ethnic background), family social class and employment status (in further/higher education, in work, in training, unemployed/engaged in other activities) were used as further control variables.

Analysis

The analysis was conducted using IBM SPSS Statistics 27. To predict victimisation at 20 years of age, a hierarchical binary logistic regression model was used controlling for gender, ethnicity, family social class and the young adult's

employment status. The first model included sexual orientation, BMI and the presence of a long-lasting condition or difficulty as predictor variables of victimisation. In the second model, the history of victimisation was entered as a predictor to assess the isolated impact of this variable while controlling for the other potential risk factors of victimisation and the sociodemographic information.

To explore the psychological outcomes of the 20-year-olds in terms of their history of victimisation, two further models were conducted to predict depression and self-esteem respectively. A binary logistic regression model was used to examine the likelihood for depression above the critical composite score in terms of the respondent's history of victimisation, while controlling for gender, ethnicity, family social class and the young adult's employment status. To predict global self-esteem scores at age 20 in terms of the respondent's history of victimisation with the same sociodemographic control variables, first a factorial analysis of variance (ANOVA) was performed. As the factorial ANOVA showed unequal error variances of the dependent variable across groups, the generalized linear models (GENLIN) procedure in SPSS was used as a robust alternative (IBM, 2020, April 16). Pairwise contrasts were selected to examine mean differences for the statistically significant factors with Bonferroni correction to adjust for multiple comparisons.

The assumptions for all relevant statistical procedures were tested and no violations were found for the reported analysis.

Weights

Due to differential inter-wave attrition from one wave of data collection to another, weights were used for all statistical analysis except for the sample description and the prevalence rates of victimisation and depression. The GUI study team constructed weights to account for the higher attrition among participants from more disadvantaged backgrounds using a software called 'GROSS', which results in weighted samples that differ from the nationally representative target population on the selected characteristics by no more than 1.0%, as compared to population figures from the Irish census (McNamara et al., 2021).

Results

Victimisation in Young Adulthood

Prevalence Rate

One thousand four hundred seventy-one (1445 weighted) respondents (31.3%; 30.9% weighted) reported to have been victimised around the age of 20. In previous waves,

the self-reported victimisation rate was 38.6% ($n = 3172$) at 9 years, 8.8% ($n = 652$) at 13 years and 37.3% ($n = 2317$) at 17/18 years.

Bivariate Analysis

Crosstabulation chi-square tests were conducted for victimisation at 20 years of age with each predictor variable. The strongest effect was found for the statistically significant bivariate association between victimisation at age 20 and a history of victimisation during childhood and adolescence with Cramer's $V = 0.272$ [$\chi^2(3) = 331.302$, $p < 0.001$] (Table 2). 26.1% ($n = 292$) of the respondents who were victimised before 14 years of age reported victimisation at age 20, which is statistically significantly more often than those who were never victimised (19.0%, $n = 318$). Of the respondents who were victimised after 14 years of age, 44.7% ($n = 337$) reported victimisation at age 20, which is statistically significantly more often than those who were victimised before 14 years of age and never victimised. The highest percentage of victimisation was among those who were chronically victimised before and after 14 years of age with 48.9% ($n = 460$) reporting victimisation at age 20, which is statistically significantly more often than those who were victimised before 14 years of age and never victimised.

Multivariate Analysis

Both models of the hierarchical binary logistic regression predicting the likelihood of victimisation at age 20 showed statistically significant results and fit the data well [model 1: $\chi^2(16) = 79.022$, $p < 0.001$, Hosmer and Lemeshow test $p = 0.503$; model 2: $\chi^2(19) = 382.652$, $p < 0.001$, Hosmer and Lemeshow test $p = 0.620$]. The first model with the

predictor variables gender, ethnicity, family social class, the young adult's employment status, sexual orientation, BMI and long-lasting condition or difficulty explained 2.5% (Nagelkerke R^2) of the variance in whether the respondents were victimised at 20 years of age. Introducing the history of victimisation as a predictor to the second model increased the explained variance to 11.9% (Nagelkerke R^2). In the second, final model the respondent's ethnicity, employment status, sexual orientation and history of victimisation were statistically significant predictors of victimisation among young adults (Table 3). Having a history of victimisation was the strongest predictor in terms of an increased likelihood of victimisation at age 20. Respondents who were victimised before 14 years of age were 50.7% more likely to be victimised at age 20 than respondents who were never victimised [OR (95% CI): 1.507 (1.251–1.815), $p < 0.001$]. Those who were victimised more recently after 14 years of age were approximately 3.5 times more likely to report victimisation at age 20 than those who were never victimised [OR (95% CI): 3.528 (2.905–4.285), $p < 0.001$]. Lastly, respondents who were chronically victimised before and after 14 years of age had the highest likelihood for victimisation at age 20 by being approximately 4 times more likely to be victimised as a young adult than those who were never victimised [OR (95% CI): 4.025 (3.346–4.843), $p < 0.001$].

The Association of (Long-term) Victimization and Depression

One thousand two hundred twenty-four (1251 weighted) 20-year-olds (26.3%; 27.1% weighted) had depressive symptoms above the threshold for a clinically significant level of psychological distress on the CES-D 8 scale and were classified as 'depressed'.

Table 2 Crosstabulation of victimisation at age 20 by history of victimisation

Victimisation at age 20		Victimised before 14 years of age	Victimised after 14 years of age	Chronically victimised	Never victimised	Total
No	<i>n</i>	826 _a	417 _b	480 _b	1359 _c	3082
	%	73.9%	55.3%	51.1%	81.0%	68.7%
Yes	<i>n</i>	292 _a	337 _b	460 _b	318 _c	1407
	%	26.1%	44.7%	48.9%	19.0%	31.3%
Total	<i>n</i>	1118	754	940	1677	4489

Note: Each subscript letter denotes a subset of history of victimisation categories whose column proportions do not differ significantly from each other at the 0.05 level

Table 3 Final binary logistic regression model of victimisation at age 20

Predictor	Odds Ratio	95% CI
Gender (male)	1.089	0.949–1.249
Ethnicity (one or both caregivers not Irish)	0.723**	0.575–0.908
Family social class		
Professional managers (Ref.)		
Managerial and technical	1.081	0.845–1.383
Non-manual	1.082	0.830–1.411
Skilled manual	1.090	0.815–1.459
Semi-skilled/unskilled	1.034	0.769–1.391
All others gainfully occupied and unknown/ unknown/validly no social class	1.165	0.880–1.543
Young adult's employment status		
In further/higher education (Ref.)		
In work	1.051	0.899–1.229
In training	0.725	0.496–1.060
Unemployed/other	1.510**	1.128–2.022
Sexual orientation		
Heterosexual (Ref.)		
Gay/lesbian/bisexual	1.779***	1.433–2.210
Questioning/don't know/prefer not to say/asexual	1.584**	1.136–2.210
BMI		
Normal weight (Ref.)		
Underweight	1.363	0.988–1.881
Overweight	1.035	0.878–1.219
Obese	0.906	0.731–1.123
Long-lasting condition or difficulty (yes)	0.921	0.770–1.102
History of victimisation		
Never victimised (Ref.)		
Victimised before 14 years of age	1.507***	1.251–1.815
Victimised after 14 years of age	3.528***	2.905–4.285
Chronically victimised	4.025***	3.346–4.843

Note: Final model $\chi^2 (19) = 382.652$, $p < 0.001$. $R^2 = 0.085$ (Cox and Snell), 0.119 (Nagelkerke)

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

The binary logistic regression model predicting the likelihood of depression at age 20 based on the respondent's history of victimisation and controlling for gender, ethnicity, family social class and the young adult's employment status showed statistically significant results and fit the data well [$\chi^2 (14) = 376.689$, $p < 0.001$; Hosmer and Lemeshow test $p = 0.124$]. It explained 11.7% (Nagelkerke R^2) of the variance in whether respondents were depressed as young adults.

While controlling for the predictors gender, ethnicity, family social class and the young adult's employment status in the model, having a history of victimisation and long-term

victimisation in particular had a statistically significant impact on the likelihood for depression in young adulthood (Table 4). Respondents who were only victimised before 14 years of age were not statistically significantly more likely to be depressed than those who were never victimised ($p = 0.783$). Respondents who were victimised after 14 years of age however were more than twice as likely to be depressed as young adults than those who were never victimised [OR (95% CI): 2.309 (1.903–2.800), $p < 0.001$]. Those who were victimised chronically before and after 14 years of age were almost three times more likely to be depressed than those who were never victimised [OR (95% CI): 2.814

Table 4 Binary logistic regression model of depression at age 20

Predictor	Odds Ratio	95% CI
Gender (female)	1.665***	1.447–1.916
Ethnicity (one or both caregivers not Irish)	1.120	0.898–1.399
Family social class		
Professional managers (Ref.)		
Managerial and technical	0.607***	0.476–0.774
Non-manual	0.733*	0.566–0.951
Skilled manual	0.861	0.648–1.144
Semi-skilled/unskilled	0.862	0.647–1.148
All others gainfully occupied and unknown/employment status unknown/Validly no social class	0.666**	0.504–0.880
Young adult's employment status		
In further/higher education (Ref.)		
In work	1.111	0.946–1.305
In training	1.255	0.869–1.811
Unemployed/other	2.277***	1.707–3.038
History of victimisation		
Never victimised (Ref.)		
Victimised before 14 years of age	0.968	0.767–1.221
Victimised after 14 years of age	2.309***	1.903–2.800
Chronically victimised	2.814***	2.330–3.399
Victimised at all four waves	12.059***	7.313–19.883

Note: Model χ^2 (14) = 376.689, $p < 0.001$. $R^2 = 0.081$ (Cox and Snell), 0.117 (Nagelkerke)

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

(2.330–3.399), $p < 0.001$]. Lastly, those who were victimised most persistently at every wave of data collection were approximately 12 times more likely to be depressed at age 20 than those who were never victimised [OR (95% CI): 12.059 (7.313–19.883), $p < 0.001$].

The Association of (Long Term) Victimisation and Self-esteem

The young adults had a mean score of 11.66 (SD = 3.390) on the global self-esteem scale ranging from 0 to 18 (IQR 10–14).

A factorial ANOVA/generalized linear model (GENLIN) was used to predict the young adult's global self-esteem based on their history of victimisation while controlling for gender, ethnicity, family social class and the young adult's employment status (Table 5). The omnibus test comparing the fitted model against the intercept-only model was statistically significant [likelihood ratio χ^2 (14) = 339.453, $p < 0.001$] and the explained variance in global self-esteem from the factorial ANOVA was 7.8% (7.5% adjusted R^2).

There was a statistically significant main effect for the respondent's history of victimisation in the model predicting global self-esteem in young adulthood [Wald χ^2 (4) = 186.663, $p < 0.001$, factorial ANOVA partial $\eta^2 = 0.043$]. Bonferroni corrected pairwise comparisons using the robust estimated marginal means showed that respondents who were never victimised ($M = 12.03$, $SE = 0.138$) or victimised before 14 years of age ($M = 12.18$, $SE = 0.148$) had the highest global self-esteem, with no statistically significant differences between the two groups ($p = 1.000$). Compared to these two groups, respondents who were victimised after 14 years of age ($M = 10.81$, $SE = 0.144$, $p < 0.001$; $p < 0.001$) and respondents who were chronically victimised before and after 14 years of age ($M = 10.78$, $SE = 0.147$, $p < 0.001$; $p < 0.001$) had a statistically significant lower self-esteem at age 20. The lowest estimated marginal mean of global self-esteem was among those who were victimised most persistently at every wave of data collection ($M = 9.61$, $SE = 0.417$), which was statistically significantly lower than for any of the other groups (never victimised $p < 0.001$; victimised before 14 years of age $p < 0.001$; victimised after 14 years of age $p = 0.042$; chronically victimised $p = 0.049$).

Table 5 Generalized linear model of self-esteem at age 20

Predictor	<i>B</i>	<i>SE</i>	<i>p</i>
(Intercept)	11.297	0.308	< 0.001
Gender (male)	1.098	0.102	< 0.001
Ethnicity (Irish)	− 0.101	0.165	0.539
Family social class			
Professional managers	− 0.424	0.214	0.047 ^c
Managerial and technical	− 0.097	0.156	0.536
Non-manual	− 0.170	0.167	0.310
Skilled manual	− 0.362	0.192	0.060
Semi-skilled/unskilled	− 0.424	0.192	0.028 ^c
All others gainfully occupied and unknown/employment status unknown/ Validly no social class	0 ^a		
Young adult's employment status			
In further/higher education	0.841	0.254	0.001
In work	0.497	0.261	0.057
In training	0.601	0.345	0.082
Unemployed/other	0 ^a		
History of victimisation			
Victimised before 14 years of age	0.151	0.142	0.287
Victimised after 14 years of age	− 1.228	0.137	< 0.001
Chronically victimised	− 1.249	0.139	< 0.001
Victimised at all four waves	− 2.427	0.415	< 0.001
Never victimised	0 ^a		
(Scale)	10.518 ^b	0.230	

^aSet to zero because this parameter is redundant^bMaximum likelihood estimate^cNo statistically significant estimated marginal means differences with Bonferroni correction

Discussion

The present study explored the prevalence and risk factors of victimisation in the transition to adulthood and examined the impact of victimisation experiences on the risk for depression and lower levels of self-esteem among young adults in Ireland. A particular focus was given to prior and long-term victimisation experiences in both of these research aims. The major strength of the present study was the use of longitudinal cohort data measuring victimisation at different points in time and therefore avoiding possible biases of retrospective reports.

31.3% (30.9% weighted) of the respondents reported victimisation in the transition to adulthood at age 20. While this figure tends to be relatively high compared to victimisation rates in other countries presented in the literature review, this may also be due to methodological differences (e.g. how victimisation has been defined and measured) and a rather liberal cutoff point with regards to the frequency of victimisation experiences in the present study. Nevertheless, the finding that almost every third respondent reported

some form of victimisation at age 20 at least rarely or more often in the past three months highlights the importance of addressing victimisation among young adults. In contrast to this and the victimisation rates among 9-year-olds (38.6%) and 17/18-year-olds (37.3%), the victimisation rate at age 13 was remarkably low with only 8.8%. This could partly be due to measurement differences, as this was the only wave of data collection in which the respondents were asked about their victimisation experiences in the main questionnaire in an interview situation as opposed to a sensitive self-complete questionnaire. Therefore, the prevalence of victimisation among 13-year-olds might be underestimated, which would imply that some categories of the history of victimisation predictor variable used in the present study's analysis might be underestimated as well.

With regards to certain risk factors that are statistically significantly associated with victimisation among young adults in Ireland, the present study found that the respondent's history of victimisation had the strongest impact on the likelihood for victimisation in young adulthood. While controlling for other risk factors of victimisation in the model, those who were chronically victimised in childhood and adolescence were more likely to be victimised at age 20 than respondents with less persistent or no prior victimisation experiences.

The Continuity of Victimisation in the Transition to Adulthood

The results showed that almost half of the respondents (48.9%) who were chronically victimised before and after 14 years of age reported victimisation at age 20, which indicates a continuity of victimisation experiences throughout the transition to adulthood for this group. These respondents had an approximately 4 times higher likelihood for victimisation at age 20 than respondents who were never victimised. Similar results were found for respondents who were victimised only after 14 years of age, who had a 3.5 times increased likelihood for victimisation at age 20 compared to those who were never victimised. Since contextual factors typically change from secondary school to different settings in adulthood (i.e. further/higher education, work, training, unemployed/other), these findings suggest a certain impact of individual factors on the risk for continued victimisation (Smith et al., 2003). Another possible explanation might be that victimised adolescents and those who were chronically victimised struggle to integrate into new peer communities and continuously position themselves as outsiders in adulthood due to their prior victimisation experiences, as Pörhölä (2016) argued. However, for children and adolescents who were only victimised before 14 years of age, continued victimisation was less prevalent, as the majority

(73.9%) did not become re-victimised in early adulthood. Nevertheless, this group had a 50.7% increased likelihood for victimisation at age 20 compared to respondents who were never victimised. The conclusions of the studies by Smith et al. (2003) and Felix et al. (2019) that the majority of participants were not re-victimised in adulthood, despite some degree of continuity, was therefore mostly applicable to this last group. It was less applicable to respondents who were victimised after 14 years of age or chronically victimised, as nearly half of these respondents experienced continued victimisation into adulthood in the present study.

Overall, the findings of the present study resonate with earlier studies that indicated an association between prior victimisation experience in adolescence and victimisation in adulthood (Adams & Lawrence, 2011; Bauman & Newman, 2013; Beran et al., 2012; Brendgen & Poulin, 2018; Cassidy et al., 2021; Felix et al., 2019; Smith et al., 2003; Zalaquett & Chatters, 2014), and contributed to the current state of research by examining the impact of prior victimisation experiences of different durations.

Negative Outcomes of Long-Term Victimisation

While controlling for the young adult's gender, ethnicity, family social class and employment status, the respondent's history of victimisation had a statistically significant impact on the risk for depression and the level of global self-esteem in early adulthood. Respondents who were victimised after 14 years of age and those who were chronically victimised before and after 14 years of age were approximately two and three times respectively more likely to be depressed at age 20 than respondents who were never victimised. The most severe outcome was found for the small group of respondents who was victimised at every wave of data collection at ages 9, 13, 17/18 and 20, with a 12 times higher likelihood for depression in early adulthood than respondents who were never victimised. A similar pattern was observed with regards to the level of global self-esteem at age 20, with those respondents who were victimised most persistently having the lowest level of self-esteem. Being victimised only before 14 years of age appeared to have no impact on depression or self-esteem in adulthood. Overall, these findings resonate with previous research that indicated a link between victimisation and depression (e.g. Brendgen & Poulin, 2018; Coyne & Ng, 2021; Ho & Gu, 2023; Leadbeater et al., 2014; Nielsen & Einarsen, 2018) and victimisation and self-esteem (e.g. Coyne & Ng, 2021; Ho & Gu, 2023; Samnani & Singh, 2012) in (young) adulthood, and provided further insights on the severity of these outcomes in terms of long-term victimisation.

However, the relationship between victimisation, depression and self-esteem is complex. First, previous research

has shown that self-esteem and self-concept may be partial mediators in the relationship between victimisation and depression (Ho & Gu, 2023; Norrington, 2021). Second, depression may not only be an outcome, but also a risk factor for victimisation (Nielsen & Einarsen, 2018; Reijntjes et al., 2010). This suggests that respondents with depressive symptoms could face a higher risk for victimisation, which might result in a 'vicious circle' (e.g. Reijntjes et al., 2010), thus offering another possible explanation for continuous victimisation into early adulthood. Nielsen and Einarsen (2012) theorise that people with mental health problems might sooner interpret certain behaviour as victimisation or might trigger victimising behaviour in others by violating social expectations.

Furthermore, self-esteem has been shown to be reciprocally associated with social relationships (Harris & Orth, 2020). According to the theoretical considerations by Pörhölä (2016), friendships may be a supportive factor for escaping continued victimisation in the transition to adulthood by 'pull[ing] individuals towards the centre of the peer community' (p. 44) and positively affecting their self-positioning. Applied to the results of the present study, this might suggest that friendships could be an important factor with regards to the finding that respondents who were victimised most persistently had the lowest self-esteem and the highest risk for continued victimisation in adulthood.

Limitations

The present study has four main limitations. First, the measurement of victimisation relied on self-reported information, which may be subject to bias and respondents may have different interpretations of victimisation questionnaire items. Second, different types of victimisation and the frequency of victimisation were not examined due to methodological and confidentiality reasons. Respondents who experienced any type of victimisation in the past three months at least rarely were categorised as 'victimised', whereas a more frequent cutoff point, for example monthly or weekly victimisation, would have resulted in a lower victimisation rate. However, also single events of bullying (especially with regards to cyberbullying) can have a severe negative impact (Hellström et al., 2021), which should not be neglected by categorising only those respondents as 'victimised', who have reported bullying on at least a monthly, weekly or daily basis. Third, although the analysis controlled for the young adult's employment status (in further/higher education, work, training, unemployed/other), the data did not specify whether the victimisation occurred in this setting or elsewhere. Since the group setting may influence victimisation dynamics (Salmivalli, 2010), it would be important to understand in which context the continued victimisation in early adulthood occurred. It could be possible that a respondent was

being victimised by the same perpetrator(s) in childhood, adolescence and young adulthood in the same or in different group settings, but this could not be explored in further detail, because this information had not been specified in the data. Nevertheless, the results of the present study highlight the remarkable impact of prior victimisation experiences during childhood and adolescence as a predictor for continued victimisation in early adulthood while controlling for other risk factors for victimisation. Unfortunately, whether this is due to individual factors or contextual factors and the underlying complexities of bullying dynamics remain largely unknown in the present study. Fourth, the analysis did not control for depression and level of self-esteem in childhood and adolescence when examining these as outcomes of (long term) victimisation in adulthood. It therefore remains unclear, whether these psychological difficulties would have emerged earlier and continued into adulthood, and also the direction of the association between victimisation and psychological outcomes is not certain.

Directions for Future Research

As previous research indicated that victimisation of higher intensity is associated with more severe negative outcomes (Leadbeater et al., 2014; Nielsen & Einarsen, 2018; O'Moore & Kirkham, 2001), future research is needed to examine whether the associations found in the present study vary in terms of victimisation frequency (e.g. weekly or daily victimisation), as well as different types of victimisation (e.g. physical bullying or electronic bullying).

Furthermore, as discussed above, the relationships between victimisation, depression and self-esteem are complex and could provide deeper insights on continuous victimisation dynamics. Further analysis with the present study sample's longitudinal data as well as other datasets is needed to explore the directions and mechanisms of these relationships in more detail.

Lastly, qualitative research could provide a valuable addition in understanding the complexities of victimisation, especially with regards to long-term victimisation processes from the victimised person's perspective in view of Pörhölä's (2016) theoretical considerations that the peer community integration and self-positioning may explain continued victimisation.

Implications for Practice

The present study highlights the importance of addressing victimisation among young adults, as almost every third participant of the GUI cohort '98 reported victimisation experiences at age 20. Based on the findings of the present study, *supporting affected individuals to escape victimisation as early as possible is crucial*, as not only

are the outcomes of victimisation regarding depression and self-esteem more severe for young adults who experienced persistent long-term victimisation, but also the risk for continued victimisation into adulthood increases with a long-term victimisation history in childhood and adolescence. Additionally, the adverse mental health outcomes of long-term victimisation might in turn be associated with a higher risk for victimisation, which could potentially create a 'vicious circle' of continuous victimisation. Early and consecutive anti-bullying programmes in both primary and post-primary education are therefore an important measure not only for the immediate support of victims, but also for the prevention of continuous victimisation into adulthood and its severe negative outcomes. Anti-bullying programmes in schools could potentially raise lasting awareness of bullying dynamics into adulthood. Furthermore, following Pörhölä's (2016) theoretical considerations that victims may self-position themselves as outsiders and struggle to integrate into new peer communities in adulthood due to their prior victimisation experiences, the peer group could play an important part in supporting (long term) victims of bullying: fostering an open and respectful culture at universities, workplaces and other communities in adulthood could perhaps encourage prior victims to better integrate to these new settings despite their negative experiences in other groups.

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Eva Böhle: Study conception and design, analysis and interpretation of results, draft manuscript preparation, revisions.

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Data Availability The manuscript has associated data in a data repository: <https://www.growingup.gov.ie/information-for-researchers/#ir06>

Declarations

Ethics Approval Growing Up in Ireland (GUI) received ethical approval from a dedicated Research Ethics Committee set up by the Irish government Department of Children, Equality, Disability, Integration and Youth (DCEDIY). The GUI data is managed by the Irish Central Statistics Office (CSO) under the confidentiality requirements of the Statistics Act, 1993. For the present study, access to the GUI Research Microdata Files (RMF) has been granted under strict control by the CSO and in compliance with the RMF policies. Ethical approval for

the present study has been granted by the School of Social Work and Social Policy Research Ethics Committee at Trinity College Dublin.

Informed Consent Consent to participate and consent for publication was obtained from all participants by the GUI study team.

Competing Interests The author states that there is no conflict of interest.

Disclaimer Results in this report are based on analysis of data from Research Microdata Files (RMF) provided by the Central Statistics Office (CSO). Neither the CSO nor the DCEDIY take any responsibility for the views expressed or the outputs generated from these analyses.

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