



# Does Fear of Crime Moderate the Relationship Between Low Self-Control and Victimization? An Empirical Study

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## Abstract

Taking into consideration the framework of the general theory of crime, research has been exploring the role of low self-control in the explanation of both crime perpetration and personal victimization. Moreover, while several studies have been analysing the role of victimization experiences in the fear of crime, less is known about how an individuals' fear of crime influences the likelihood of being victimized. Therefore, using a sample of 243 individuals (55.6% women) from the University of Porto, through a self-reported survey, we tested (i) the effects of low self-control on victimization and (ii) the moderating role of fear of crime on the relationship between self-control and victimization. Results showed that low self-control was positively correlated with victimization. It was observed that fear of crime moderated the effect of low self-control on victimization, thus suggesting that the relationship between low self-control and victimization is not observed when fear of crime is high. Implications of the results are discussed.

**Keywords** General theory of crime · Low self-control · Victimization · Fear of crime · Gender

## Introduction

The scientific literature provides us with an extensive amount of data highlighting the influence of an individual's community context (e.g. environments that can place people at risk) and risky lifestyle choices (e.g. proneness to engage in situations in which offenders are nearby) on the understanding of different patterns in personal victimization (Gibson, 2012; Gibson et al., 2009; Sampson et al., 1997, 2005). However, contextual and situational factors

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do not cover all the possible explanations for why a person is victimized. In line this, previous studies have shown that some individual features, such as self-control, might play an important role in understanding victimization (Gibson, 2012; Higgins et al., 2009; Schreck, 1999).

This construct is the central concept of the general theory of crime (Gottfredson & Hirschi, 1990), one of the most tested theories in criminology (Pratt & Cullen, 2000). In fact, since its publication, a plethora of studies have highlighted the existence of an association between low self-control and the involvement in both delinquent and antisocial behaviours (Arneklev et al., 1993; Grasmick et al., 1993; Pratt & Cullen, 2000) and victimization experiences (Baron et al., 2007; Flexon et al., 2015; Kulig & Sullivan, 2017; Kulig et al., 2017; Pratt et al., 2014).

This theory revolves around a crucial element—self-control—an individual trait that is supposedly developed early in life, as a function of parental socialization and practices, and, once developed, is relatively stable throughout an individual's life (Gibson, 2012). Gottfredson and Hirschi's (1990) main argument is based on the conception of criminal propensity, and it is set upon the notion that in the absence of any support that regulates human beings, individuals chase their own personal interests. The authors conceptualize low self-control as the tendency of acting in the pursuit of self-gratifying immediate pleasure, not considering the long-term consequences of one's actions. Individuals with lower levels of self-control would be less likely to resist to the immediate and easy gratification that crime and other similar behaviours might provide. Also, individuals displaying lower levels of self-control tend to be more impulsive, insensible, self-centred and less able to endure in intellectual activities and to present lower levels of tolerance and a preference for physical and risky activities. On the contrary, those with higher levels of self-control are more likely to resist temptations and to be able to delay immediate gratification.

Although previous research focused, above of all, on the relationship between self-control and delinquency, some authors have been stating the existence of a link between this construct and victimization (Averdijk & Loeber, 2012; Fox et al., 2010; Holtfreter et al., 2008; Schreck, 1999). According to this perspective, individuals with low self-control lack future orientation and might not be motivated to be aware of the possibilities to prevent victimization experiences. Moreover, greater levels of impulsivity in individuals lead them to engage in actions that might offer immediate pleasure, enhancing their exposure to dangerous situations (Schreck, 1999).

At the same time, scientific research has been largely focusing on the several consequences resulting from victimization experiences, including fear of crime. Fear of crime is a multi-dimensional concept encompassing three main dimensions: emotional fear, risk perception of victimization and the behavioural component (Gabriel & Greve, 2003; Ferraro & Grange, 1987). Nevertheless, the literature on the effects of fear of crime on victimization is very scarce or almost inexistent. One can argue that individuals who report greater levels of fear might not expose themselves to dangerous situations, which could lead them to possible victimization experiences.

Based on this framework, the current study aims not only to explore the relationship between self-control and victimization, but also to analyse the role of fear of crime in the link between self-control and victimization.

## Self-Control and Victimization

Schreck (1999) was one of the pioneers in recognizing that self-control theory was not only suitable for explaining criminal behaviours, but also that it could provide a considerable contribute for the explanation of victimization events. In his work, the author

stated that the GTC is fitting with situational and contextual theories of victimization by highlighting the routine decisions and personal features that make people more susceptible of being victims of crime. The author (1999) showed that offenders and victims share elements related to criminal and non-criminal behaviours, such as lower levels of tolerance in situations where they are likely to feel frustrated or the sharing of similar settings. More specifically, Schreck (1999) argued that the same features found in individuals presenting lower levels of self-control (e.g. risk-taking, short-sightedness, insensitivity), which increased the predisposition for offending, also enhance the likelihood of victimization. For example, individuals with higher levels of impulsivity tend to engage in actions that might provide them with immediate pleasure, which, in turn, may enhance their exposure to perilous situations. Insensitive people might be more aggressive and self-catered increasing the possibility of having fewer friends disposed to act as guardians in dangerous circumstances. Also, the propensity to engage in risky behaviours might enhance the probability of involvement in hazardous or violent events (Bossler & Holt, 2010; Schreck, 1999).

Sharing this perspective, other authors proposed that low self-control appears to be the most salient individual risk factor for distinguishing both victimization and delinquency trajectories, in what is also regarded as victim-offender overlap (Boutwell et al., 2013; Fox et al., 2010; Holtfreter et al., 2008; Jennings et al., 2010; Pratt & Cullen, 2000). For example, Pratt (2016) refers that individuals with low self-control behave distinctly when compared to individuals with higher levels of self-control, with such differences being simultaneously associated with dissimilar probabilities of victimization.

Moreover, lower levels of self-control are correlated not only to victimization, but also to the likelihood of being repeatedly victimized (Fox, et al., 2010; Higgins et al., 2009; Piquero et al., 2005; Schreck et al., 2006; Tillyer et al., 2011; Ward et al., 2015; Wilcox et al., 2009). For example, Jennings et al. (2010) found that higher levels of impulsivity were positively correlated with an increased probability of victimization. In the same sense, Piquero et al. (2005) found that low self-control predicted both violent victimization and offending. Also, Higgins et al. (2009) revealed that individuals who were on a trajectory of low self-control were more likely to be victimized than those on a high self-control trajectory. Furthermore, Schreck et al. (2006) found that individuals with lower levels of self-control tended to persist in a pathway that increased their risk of victimization. Wittebrood and Nieuwbeerta (2000) refer to this as a state dependence of victimization, where individuals that are victims of crime tend to persist and continue to be victims in the future. While this persistence may be given by situational and contextual factors, the GTC (Gottfredson & Hirschi, 1990) allows a further comprehension of this experienced outcome. The explanation is based on these individuals having lower levels of self-control, which increases their individual risk of victimization, especially among individuals that also offend (Schreck, 1999). Thus, individuals with low self-control lack future orientation and would not be motivated to obtain knowledge about the possibilities to prevent victimization experiences (see Schreck, 1999; Averdijk & Loeber, 2012). Moreover, they would struggle to change their activities regarding an eventual victimization risk, persisting in the same facilitated, provoked behaviours that could precipitate victimization (Schreck, 1999; Schreck et al., 2006).

In summary, previous research highlighted the relevance of low self-control for the explanation of victimization, even after controlling for other factors, such as personal criminal involvement, delinquent peer association, social control or routine activities (Agnew et al., 2011; Schreck et al., 2006).

## Fear of Crime and Victimization

Fear of crime in a broader sense is constituted by three main dimensions: emotional fear, risk perception of victimization and adopted behaviours for security reasons (e.g. Gabriel & Greve, 2003). The emotional component of fear of crime is generally defined as the emotional reaction to crime or symbols associated with it (Ferraro & Grange, 1987; Warr, 2000), different from the risk perception of victimization which corresponds to an evaluation of the personal threat, or the likelihood of victimization (Ferraro, 1995). Fear of crime is not a perception of the environment, but rather an emotional reaction to the perceived environment (Warr, 2000), involving multiple emotions towards the possibility of victimization (Jackson & Gouseti, 2012). On the other hand, the cognitive dimension constitutes an assessment of personal threat or the estimation of the rate of victimization in regard to the person making a judgment. Although fear of crime and perceived risk might be positively correlated (e.g. Mesch, 2000; Rountree & Land, 1996; see also Krulichová, 2019 concerning the relationship between fear of crime and perceived risk at a country-level), they are explained by different predictors (e.g. Guedes et al., 2018; Rountree & Land, 1996). Finally, the behavioural dimension manifests in what people do or intend to do (Gabriel & Greve, 2003) as a response to fear (e.g. avoiding certain places or individuals, installing alarms or fortify their homes against possible invasion, owning a gun).

Regarding the relationship between fear of crime and victimization, and although previous studies have revealed mixed results (Guedes et al., 2018; Hale, 1996; Skogan, 1986; Tseloni & Zarafonitou, 2008), most of this research is based on the victimization thesis that postulates the existence of a positive relationship between previous victimizations experiences and higher levels of fear of crime. For example, Amerio and Roccato (2007) found a positive relationship between victimization and perceived risk. Nevertheless, even though a previous victimization might increase the adoption of security behaviours (such as avoidance or protection), these findings do not necessarily mean that these experiences make individuals more fearful (e.g. Baker et al., 1983) due to several reasons, such as mitigations of emotions caused by the victimization event, memory decline or the fact that individuals take precautions after the experience (Tseloni & Zarafonitou, 2008).

The literature addressing the effects of fear of crime on the likelihood of victimization is not so profuse. In fact, one can argue that individuals who report higher levels of fear might not expose themselves to risky situations (adopting avoidance behaviours, such as avoiding some places or some people), which could lead them to less exposure to possible victimization experiences and contexts. In this domain, the study conducted by Chen and Daigle (2021) explored if fear conditioning was relevant to an effective response to a sexual threat. Using physiological measures, they recorded skin conductance during a fear-conditioning task comparing victims and nonvictims of sexual victimization. The authors observed that the group of victims had weaker fear conditioning response compared to nonvictims. These findings were consistent with the ones of Wilson et al. (1999) who found that women who reported repeated experiences of sexual victimization experiences had longer latencies in labelling situations as dangerous than those who were victimized only once or not at all.

## Low Self-Control, Fear of Crime and Victimization

In addition to the lack of studies analysing the possible effects of fear of crime on victimization, the empirical studies that explore the relationship between self-control and fear of crime, and a possible interaction between these variables, are also scarce.

Regarding this, it can be argued that individuals with low self-control might present lower levels of fear in dangerous situations and, consequently, they are more prone to be exposed to risky situations, increasing the likelihood of being victimized. In fact, taken into consideration the previously reviewed literature, those who present lower levels of self-control will be less likely to judge the situations as risky, increasing the likelihood of being part of dangerous situations that can increase the chances of victimization (Schreck et al., 2006).

Nevertheless, it can also be suggested that the levels of fear of crime might interact with self-control levels, which can have a differential effect on victimization.

The recent work by Schreck and Berg (2020), Schreck (2021) and Berg and Schreck (2022) might shed some light in the understanding of these relationships. They start to point out that there is a link between fearing an expected negative event and the adoption of protective behaviours. If people realize that victimization is a possibility, they will try to manage their risk. At the same time, individuals with low self-control generally make choices that favour immediate and tangible gratifying action, ignoring long-term consequences. That is, not only low self-control makes the likelihood of victimization appear less certain than it actually is, but also 'people with low self-control feel safer because they overestimate their ability to manage a potential offender in the immediate situation people with low self-control feel safer because they overestimate their ability to manage a potential offender in the immediate situation (...). As a result, precautionary behaviour seems harder, more tedious and pointless' (Schreck & Berg, 2020, p. 25). Thus, one might conclude that even if someone with low self-control feels fear, they might behave in a way that potentially worsens victimization risk. Accordingly, Melde (2009) asserted that since both offending and victimization are related to lower levels of fear and risk perceptions, perhaps low self-control is the common denominator of these relationships: 'current results may help to explain the finding by Schreck et al. (2006) that those with low self-control are less likely to alter their behaviour after suffering victimization than persons with higher self-control; (...) increased involvement in a delinquent lifestyle does not lead to a greater perceptions of victimization risk. In fact, involvement in such a lifestyle actually leads to lower fear of victimization' (Melde, 2009, p. 802).

In this context, Higgins et al. (2008) examined the link between self-control, perceived risk and fear of online victimization among Facebook users. The authors departed from the Hirschi's reconceptualization (2004) that individuals are able to predict the consequences of their actions and to consider the full range of potential costs (inhibitions) of a particular act. Therefore, in the context of their study, it would be expected that subjects, while identifying the 'bad things' occurring on Facebook, could perceive higher risk of posting personal information on social networks and, consequently, experience more fear of victimization. Results showed that college students that identify more 'bad things' (reflecting self-control) perceived higher risk of victimization and that perceived risk mediated the link between self-control and fear of online victimization. In spite of these important results, the conceptualization of self-control used by authors was different from the one that will be used in the current study.

Important to this debate is also the study undertaken by Williams (2010) which addressed whether self-control could affect fear of crime and if fear influenced the nature of a person's subsequent victimization. Concretely, the author hypothesized that individuals with low self-control would be less likely to experience fear and less likely to have heightened risk appraisal. Moreover, those with self-control, low fear of crime and low (or high) risk appraisal would have higher chances of being victimized. The author used data

from the *Rural Substance Abuse and Violence Project*, which was constituted by a sample of middle school students (7th and 8th grades). According to what was expected, Williams (2010) found that those with higher levels of self-control experienced less victimization. Nevertheless, individuals who were low in self-control were more likely to report higher levels of fear of crime and risk appraisal. Moreover, higher levels of fear and risk appraisal were related to heightened victimization.

## The Role of Gender

Additionally, the influence of gender on the relationship between low self-control, fear of crime and victimization can also be interesting to understand the link between these variables. In fact, a large body of studies found evidence for gender differences in both delinquency and victimization patterns, suggesting the existence of a gender gap in both outcomes (Flexon et al., 2016; Pratt & Cullen, 2000; Pratt et al., 2014). Previous research indicates that women commit fewer crimes and are less likely to be victimized when compared to men. In this regard, the GTC predicts that the gender gap might be explained by differences in self-control between men and women. These differences are due to gendered socialization practices, that is, parents are more likely to acknowledge and punish antisocial behaviour in girls, which explains the higher levels of women's self-control. Several studies confirm this idea (e.g. Özbay, 2008; Vazsonyi & Crosswhite, 2004). For example, Chapple et al. (2010) found that girls showed higher levels of self-control, when compared to boys, and that higher levels of maternal monitoring towards girls might explain this difference.

Following this, it is reasonable to expect that gender differences in self-control also influence victimization (Schreck, 1999; Turanovic et al., 2015; Ward et al., 2015). Nevertheless, empirical evidence regarding this relationship is relatively scarce and mixed. Ward et al. (2015) found that both gender and self-control showed the expected direct effects on violent victimization. Specifically, it was found that low self-control was associated with higher risk for violent victimization and that women in general were more protected from violent victimization, compared to men. Moreover, they found that self-control interacted with gender to predict violent victimization. Particularly, changes in self-control had higher impact on violent victimization experiences for women. Therefore, the authors argued the need to consider gender-specific strategies when trying to reduce victimization. In a study examining the gender differences in victimization-offending overlap, Flexon et al. (2016) found that, although self-control predicted both outcomes in both genders, this variable accounted, in a minor extent, to explain female models. In contrast, Turanovic et al. (2015) indicate that violent victimization in males and females is due to general processes and not to gendered pathways. Albeit this literature, the majority of the studies do not examine the role gender plays on the relationship between self-control and victimization.

Regarding the relationship between fear of crime and gender, previous research is more robust, suggesting that one of the best predictors of fear of crime is gender. In fact, with some exceptions, women generally report higher levels of fear, perceive more risk and adopt more behaviours for security reasons (e.g. Gilchrist et al., 1998; Liska et al., 1988; Madriz, 1997). Nevertheless, those who report lower levels of fear of crime are the most likely to be victimized (men), which has been referred as the gender-victimization paradox (e.g. May et al., 2010; Warr, 1984). There have been many attempts to explain this apparent inconsistency, revolving around four relevant aspects: (i) the failure of official data to capture the full extent of female victimization (e.g. lack of reporting domestic violence); (ii) the fact that women's fear of crime might be higher than their likelihood

of victimization due to their fear of sexual abuse (the ‘shadow of sexual assault thesis’; Ferraro, 1995; Warr, 1984); (iii) women worry more frequently than males about specific crimes (personal crime, but not property crime), explained by differential risk perception. In fact, women have less sense of control than men, and both judge the consequences and the likelihood of victimization higher for themselves and for their social group comparing to males (Jackson, 2009); (iv) instead of focusing on women to understand the fear-victimization paradox, researchers have been arguing the existence of a less willingness in men to report fear of crime due to self-presentation biases and social desirability issues (e.g. Sutton & Farrall, 2005; Sutton et al., 2010).

## The Current Study

In the current study, we argue for the relevance of exploring the relationship between self-control and victimization (as conceptualized by Gottfredson and Hirschi in 1990). Moreover, and to the best of our knowledge, this study constitutes the first analysis of the role of fear of crime in the relationship between self-control and victimization. Therefore, we hypothesized that the levels of fear of crime interact with self-control to increase or decrease the chances of victimization. Concretely, we intend to test how lower or higher levels of fear of crime affect the relationship between low self-control and victimization in the following ways: (a) those low in self-control and higher in levels of fear of crime present lower chances of victimization; (b) those low in self-control and low in levels of fear of crime present higher chances of being victimization. Additionally, the current study aims at understanding the role of gender in the relationship between self-control and victimization, as well as if the moderation by fear of crime is gender specific. In doing so, this article expects to contribute for a deeper comprehension of the individual’s features that might increase one’s proneness of being a victim of crime.

## Data and Methods

### Participants and Procedures

Research data was obtained by convenience through a self-report survey administered to undergraduate students at the University of Porto. Surveys were administered in person, both in classrooms and other public areas of the University, between April and June 2019. All the participants who were requested to respond to the questionnaire agreed to answer it. Following the Dean’s authorization, and after obtaining the informed consent of all participants, a paper-and-pencil survey was administered. Students filled the survey and insert it inside an envelope, which was then sealed in order to guarantee anonymity and confidentiality. In total, 243 students completed the survey (55.7% were female). Concerning gender, this sample is representative of the University of Porto since; in 2019, 55% of the students were female and 45% were male. Participants’ demographic characteristics can be found in Table 1.

The average age was 20.69 years ( $SD=3.07$ ), and no significant differences were found between men and women ( $p=0.391$ ). Although a small part of the sample had already completed a degree ( $n=47$ ), the vast majority was attending to a degree at the University of Porto ( $n=186$ ).

## Measures

### Victimization

The dependent variable, lifetime variety of victimization, was measured through the total sum of eight previous lifetime victimizations, including assault, attempted assault, violent robbery, non-violent robbery, burglary, attempted burglary, theft of vehicle and theft of any object inside the vehicle. Each participant was asked ‘Have you ever been a victim of the following crimes?’. An index of victimization was computed resulting in a summed number ranging between 0 and 8, with greater levels representing higher levels of victimization.

### Self-Control

Low self-control was measured through Grasmick et al. (1993) *Low Self-Control Scale*. This is a 24-item measure, composed by 4 items for each dimension (impulsivity, risk-seeking, preference for simple and physical tasks, self-centrism and temperament). Participants answered this scale using a 4-point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree). Higher levels of this index represent a higher tendency to low self-control. Multiple studies have been using the Grasmick et al. (1993) *Low Self-Control Scale*, showing higher levels of overall internal consistency. For instance, Delisi et al. (2003) found that the Cronbach’s alpha for the total scale was strong ( $\alpha=0.91$ ). Piquero and Tibbetts (1996) employed the same scale on a sample of 642 adolescents and young adults attending university and found high reliability of self-control ( $\alpha=0.84$ ). Finally, Gibson et al. (2010) studying the gender roles in self-control measures observed that the overall internal consistency of low self-control for women was  $\alpha=0.85$  and for men  $\alpha=0.84$ . In the current study, the internal consistency of the scale was relatively high (Cronbach’s  $\alpha=0.80$ ).

### Fear of Crime

Six items were used to operationalize fear of crime stemming from the question ‘How safe do you feel walking alone in your neighbourhood area after dark?’. The answers varied between 1 (very secure) and 5 (very insecure). This question, adapted from Guedes et al. (2018), was asked in relation to the safety in their neighbourhood, in their homes and in the city of Porto, both after dark and during the day. In their study, the internal consistency of the scale was high ( $\alpha=0.86$ ). In the current research, the internal consistency of the scale was  $\alpha=0.77$ .

**Table 1** Means, standard deviations and frequencies of the participants’ sociodemographic variables

	Total sample	Men	Women
Age ( $X \pm SD$ )	20.69 $\pm$ 3.07	20.45 $\pm$ 1.90	20.78 $\pm$ 3.56
Education levels ( $n$ )			
Degree completed	47	19	28
Attending a degree	186	84	102



## Sociodemographic

Gender, age and education level were measured in order to characterize the sample. Furthermore, gender (1 = female; 2 = male) was used as a covariant variable to understand its influence on the dependent variable, victimization.

## Data Analysis

The statistical analyses were performed using IBM SPSS v. 26. Firstly, descriptive statistics were employed to characterize the sample. Then, Pearson's correlation was used to analyse the correlation between self-control, its six dimensions and the total sum of victimization. Differences between genders for these correlations were obtained by splitting the sample using gender as the criterion. OLS regression analysis was conducted to identify significant associations between independent variables and the dependent variable (victimization). One model with two steps was performed. On the first step, sociodemographic variables (i.e. sex and age), fear of crime and low self-control were included as independent variables. Later, the interaction term (fear of crime  $\times$  low self-control) was added to the model. PROCESS macro for SPSS (Hayes, 2017) was used to perform moderation analysis. Compared to other approaches (e.g. SEM), PROCESS allows the estimation of independent parameters and statistical tests are based on bootstrapping methods (Hayes, 2017). Our aim was to examine if fear of crime moderates the relationship between self-control and victimization, controlling for gender.

## Results

### Sample Descriptive Statistics for Self-Control, Victimization and Fear of Crime, Both for the Total Sample and by Gender

Table 2 presents the descriptive statistics of the main study variables: victimization, self-control and fear of crime, for the total sample and for females and males, separately. Male participants present higher mean levels of victimization ( $M=1.20$ ,  $SD=1.23$ ) comparing to women ( $M=0.68$ ,  $SD=0.84$ ,  $p=0.001$ ). Concerning low self-control, although higher mean levels of low self-control are observed for men than compared with women, these differences are not statistically significant ( $p=0.060$ ). Lastly, it is observed that women report higher levels of fear of crime ( $M=2.17$ ,  $SD=0.48$ ) compared to men ( $M=1.79$ ,  $SD=0.50$ ), and that this difference is statistically significant ( $p=0.001$ ).

**Table 2** Means and standard deviations of main study variables (victimization, self-control and fear of crime) both for total sample and gender comparison.  $p$ -values were obtained through  $t$ -tests

	Total sample ( $M \pm SD$ )	Men ( $M \pm SD$ )	Women ( $M \pm SD$ )	$p$
Victimization	.91 $\pm$ 1.06	1.20 $\pm$ 1.23	.68 $\pm$ .84	<b>.001</b>
Low Self-control	2.12 $\pm$ .32	2.16 $\pm$ .32	2.08 $\pm$ .33	.060
Fear of crime	2.00 $\pm$ .53	1.79 $\pm$ .50	2.17 $\pm$ .48	<b>.001</b>

The values in bold reached statistical significance

$M$ , mean;  $SD$ , standard deviation;  $p$ ,  $p$ -value

## Correlations Between Self-Control, Victimization and Fear of Crime

Table 3 reports the Pearson's correlations between studied variables (victimization, low self-control and fear of crime) for the total sample and in the subsample grouped according gender. Firstly, it is observed that victimization is positively correlated with low self-control ( $r=0.172$ ,  $p < 0.01$ ) in the whole sample. Therefore, individuals who report higher levels of low self-control present higher levels of victimization. Moreover, victimization is negatively correlated with fear of crime ( $r = -0.150$ ,  $p = 0.02$ ). This result suggests that individuals who report more fear of crime are less victimized. Finally, low self-control is not correlated with fear of crime ( $r=0.015$ ,  $p=0.81$ ). Concerning the male subsample, even though the tendency is a positive correlation between victimization and low self-control, the result is not statistically significant ( $r=0.150$ ,  $p=0.15$ ). Moreover, victimization is not correlated with fear of crime in male ( $r=0.110$ ,  $p=0.26$ ). Finally, a positive correlation between low self-control and fear of crime is observed ( $r=0.249$ ,  $p=0.01$ ). Therefore, men with higher levels of low self-control present higher levels of fear of crime. Regarding women, Table 3 shows an absence of correlation between the studied variables.

## Regression Analysis

OLS regression analysis was performed (Table 4). Age, sex, fear of crime and low self-control were entered on the first block and explained 8.6% of the variance of victimization ( $F(4.234)=5.51$ ,  $p < 0.001$ ). Only sex ( $\beta=0.20$ ,  $p=0.004$ ) and low self-control had a unique contribution ( $\beta=0.15$ ,  $p=0.018$ ). After the insertion of the interaction term (fear of crime  $\times$  low self-control), the model explained 10.4% of the total variance ( $F(5.233)=6.53$ ,  $p < 0.001$ ). The interaction term had a unique contribution ( $\beta = -1.49$ ,  $p=0.002$ ), as well as fear of crime ( $\beta=1.21$ ,  $p=0.004$ ). On this step, sex and low self-control remain significant predictors of victimization. It should be noted that, on the first step, fear of crime was not a significant predictor of victimization. However, like reported, on the second step, this variable demonstrated being a significant predictor of our dependent variable.

## The Moderated Effect of Fear of Crime in the Relation Between Low Self-Control and Victimization

In order to test if the levels of fear of crime change the magnitude or direction of the relation between low self-control and victimization, a moderation model was used (Table 5).

**Table 3** Pearson correlations between self-control, victimization and fear of crime

	Low self-control	Fear of crime
Total sample		
Victimization	.172**	-.150*
Low self-control	-	.015
Men		
Victimization	.150	-.110
Low self-control	-	.249**
Women		
Victimization	.161	-.027
Low self-control	-	-.092

\*\* $p < .01$ ; \* $p < .05$

**Table 4** Regression analysis with victimization as a predictor

Step	Predictors	<i>B</i>	<i>SE</i>	$\beta$	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> change	<i>F</i>	<i>p</i>
1					.086	.086	5.513	<.001
	Age	.022	.022	.065				
	Sex (1—female; 2—male)	.419	.44	<b>.197**</b>				
	Fear of crime	-.151	.136	-.075				
	Low self-control	.486	.205	<b>.150*</b>				
2					.104	.037	6.534	<.001
	Age	.026	.021	.075				
	Sex (1—female; 2—male)	.514	.144	<b>.242***</b>				
	Fear of crime	2.425	.834	<b>1.211**</b>				
	Low self-control	2.855	.783	<b>.879***</b>				
	Fear of crime $\times$ low self-control	-1.175	.376	<b>-1.488**</b>				

The values in bold reached statistical significance

\*Correlation is significant at the 0.05 level (2-tailed); \*\*correlation is significant at the 0.01 level (2-tailed); \*\*\*correlation is significant at the 0.001 level; *B*, unstandardized beta; *SE*, standard error;  $\beta$ , beta; *F*, *F*-change; *p*, *p*-value

Since gender has been observed by others and in the present study has been correlated to both victimization and fear of crime, being women less victimized and reporting higher levels of fear of crime than men, gender was introduced as a covariant variable. As presented in Table 4, the model was statistically significant ( $F(4,237) = 8.09$ ,  $p < 0.001$ ) and contributes in 12% of the total variance in victimization.

As expected, low self-control [ $b = 2.83$ ,  $t(4,237) = 3.64$ ,  $p < 0.001$ ] and levels of fear of crime [ $b = 2.37$ ,  $t(4,237) = 2.87$ ,  $p = 0.005$ ] positively predicted victimization. Also, gender demonstrated to have a significant effect on victimization [ $b = 0.50$ ,  $t(4,237) = 3.48$ ,  $p = 0.001$ ]. Moreover, the model shows that the interaction term (low self-control  $\times$  fear of

**Table 5** The moderated effect of fear of crime on the relation between low self-control and victimization

Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	LLCI	ULCI
Main effects						
Constant	-5.63	1.77	-3.18	.002	-9.12	-2.14
Low self-control	2.83	.78	3.64	<b>.000</b>	1.30	4.36
Fear of crime	2.37	.83	2.87	<b>.005</b>	.74	4.01
Interaction*	-1.16	.37	-3.11	<b>.002</b>	-1.90	-.42
Gender (1—female; 2—male)**	.50	.14	3.48	<b>.001</b>	.22	.78
<i>R</i>	.35					
<i>R</i> <sup>2</sup>	.12					
<i>p</i>	.000					
Conditional effects						
Low fear of crime	1.12	.28	3.96	<b>.000</b>	.56	1.68
Medium fear of crime	.51	.20	2.56	<b>.011</b>	.12	.90
High fear of crime	-.10	.27	-.37	.715	-.65	.44

Results in bold reached statistical significance

\*Low self-control  $\times$  fear of crime; \*\*covariant variable

crime) is statistically significant, thus indicating that fear of crime moderates the effect of low self-control on victimization [ $b = -1.16$ ,  $t(4.237) = -3.11$ ,  $p = 0.002$ ]. Thus, in order to better interpret the nature of the moderated relationship between low self-control and victimization, we tested for the relationship between low self-control and victimization at three levels of the moderator (fear of crime): low fear of crime (16th percentile), medium fear of crime (50th percentile) and high fear of crime (84th percentile). Table 5 and Fig. 1 show that the relationship between low self-control and victimization is not observed when fear of crime is high. However, a positive and significant relationship between low self-control and victimization for those with medium or low fear of crime was observed.

Given that gender demonstrated to have a significant effect on victimization, and to better disentangle the role that this variable plays in this moderation, two different models were performed, one for each subsample of men and women (Figs. 2 and 3).

The results demonstrated that, regarding women, the moderation model is not significant (Table 6 and Fig. 3).

Moreover, the results also show that neither the independent nor the moderator variables (low self-control and fear of crime) had a direct effect on victimization.

Different results were found concerning the male subsample. As presented in Table 7, the model is statistically significant ( $F(3.102) = 3.72$ ,  $p = 0.014$ ) and contributes in 9% for the total variance in victimization. Low self-control [ $b = 3.71$ ,  $t(3.102) = 2.92$ ,  $p = 0.004$ ] and levels of fear of crime [ $b = 3.52$ ,  $t(3.102) = 2.20$ ,  $p = 0.030$ ] positively predict victimization. Moreover, the model shows that the interaction term (low self-control  $\times$  fear of crime) is statistically significant, thus indicating that fear of crime moderates the effect of low self-control on victimization [ $b = -1.70$ ,  $t(3.102) = -2.46$ ,  $p = 0.016$ ].

Additionally, the relationship between low self-control and victimization at three levels of the moderator (fear of crime) was tested: low fear of crime (16th percentile), medium fear of crime (50th percentile) and high fear of crime (84th percentile). Similar results were observed (Table 7 and Fig. 2). In fact, results suggest that the relationship between low self-control and

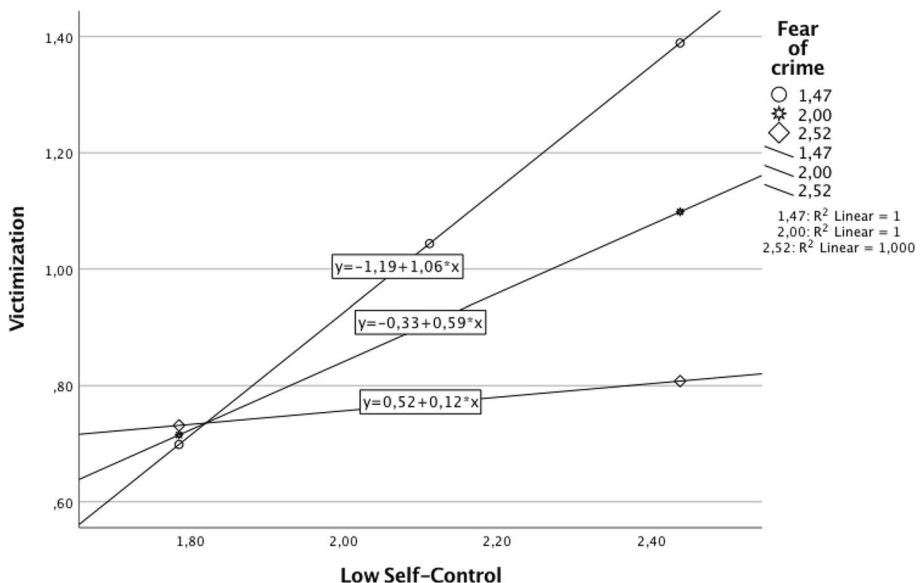


Fig. 1 Fear of crime as a moderator of the relationship between low self-control and victimization

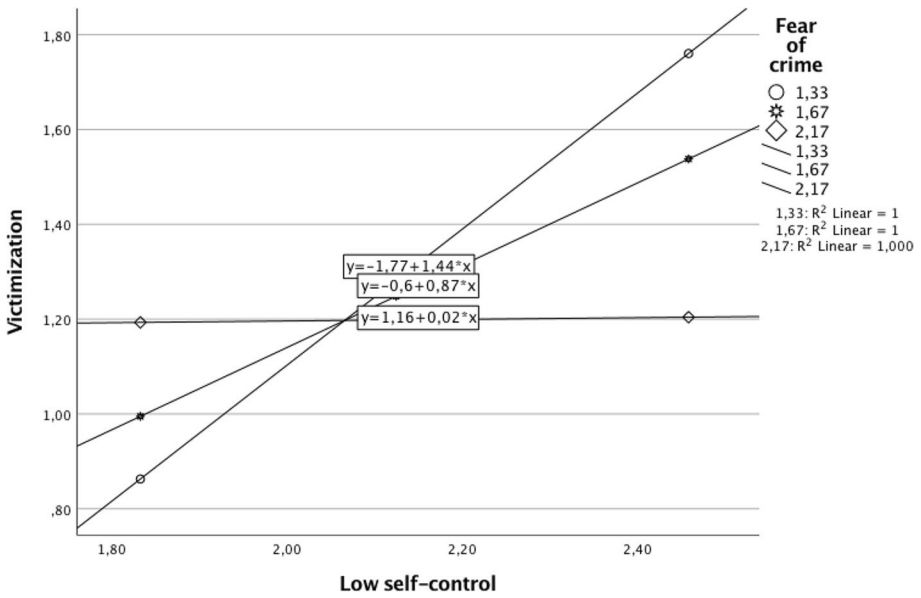


Fig. 2 Fear of crime as a moderator of the relationship between low self-control and victimization considering the male subsample

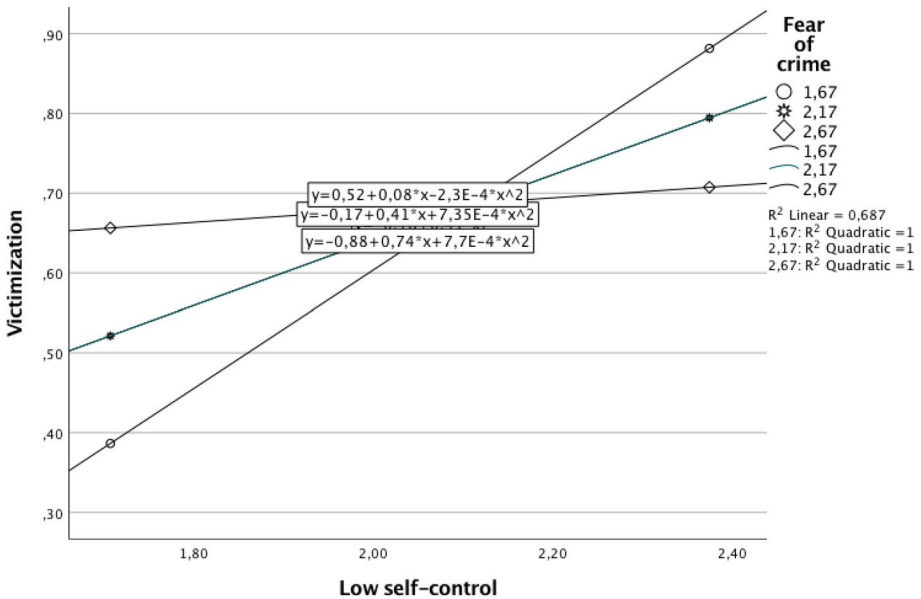


Fig. 3 Fear of crime as a moderator of the relationship between low self-control and victimization considering the female subsample

**Table 6** The moderated effect of fear of crime on the relation between low self-control and victimization considering the female subsample

Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	LLCI	ULCI
Main effects						
Constant	-3.22	2.31	-1.39	.166	-1.79	1.35
Low Self Control	1.85	1.06	1.74	.083	-.25	3.95
Fear of crime	1.41	1.04	1.35	.179	-.65	3.46
Interaction*	-.66	.48	-1.39	.168	-1.61	.28
<i>R</i>	.20					
<i>R</i> <sup>2</sup>	.04					
<i>p</i>	.142					

Note. \*Low Self Control X Fear of crime

**Table 7** The moderated effect of fear of crime on the relation between low self-control and victimization considering the male subsample

Predictors	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	LLCI	ULCI
Main effects						
Constant	-6.46	2.87	-2.25	.027	-12.16	-.76
Low self-control	3.71	1.27	2.92	<b>.004</b>	1.19	6.23
Fear of crime	3.52	1.60	2.20	<b>.030</b>	.34	6.69
Interaction*	-1.70	.69	-2.46	<b>.016</b>	-3.07	-.33
<i>R</i>	.35					
<i>R</i> <sup>2</sup>	.12					
<i>p</i>	.000					
Conditional effects						
Low fear of crime	1.43	.47	3.04	<b>.003</b>	.50	2.37
Medium fear of crime	.87	.38	2.31	<b>.023</b>	.12	1.62
High fear of crime	.02	.47	.04	.970	-.91	.95

Results in bolt reached statistical significance

Note. \*Low Self Control X Fear of crime

victimization is not observed when fear of crime is high. However, and in accordance with the results found for the whole sample, a positive and significant relation between low self-control and victimization for those with medium or low fear of crime was observed.

## Discussion

The current study had three main objectives: first, to explore the relationship between low self-control and victimization; second, to analyse the moderating role of fear of crime in the relationship between self-control and fear of crime; and third to understand the role of gender in the relationship between self-control and victimization. To achieve these goals, a survey was administered to a college sample ( $N=243$ ). Two main relevant findings are pointed out: (i) first, there is a positive relationship between low self-control and victimization; and (ii) second, fear of crime moderates the link between low self-control and victimization.

The scientific community has been suggesting that low self-control is associated not only with increased likelihood of offending, but also with higher levels of victimization (Schreck, 1999). Consistent with previous studies (e.g. Fox, et al., 2010; Higgins et al.,

2009; Schreck et al., 2006; Ward et al., 2015), the current results revealed a positive correlation between self-control and victimization. This result might be explained by the fact that individuals with lower levels of self-control tend to adopt short-term, risky, gratifying behaviours, without much consideration for the long-lasting consequences of their actions, which might enhance their difficulty in associating the undertaken activities with the risk of victimization (Schreck et al., 2006; Turanovic & Pratt, 2014). Moreover, people with lower levels of self-control are more disposed to involve themselves in thrill-seeking activities and to find those risky activities fun and exciting. Therefore, they will be more likely to self-select into those risky activities (Pratt, 2016). Accordingly, previous research highlighted that the propensity to engage in risky behaviours might increase the likelihood of involvement in hazardous or violent events (e.g. Billis, 2017; Bossler & Holt, 2010; Ren et al., 2017; Schreck, 1999).

Even though the relationship between self-control and victimization is well established, one might ask if fear of crime plays a role in the relationship between the referred variables. Previous research has been solely focusing on the unidirectional role of victimization on fear of crime, producing mixed results (e.g. Baker et al., 1983; Liska et al., 1988; Russo & Roccato, 2010; Smith & Hill, 1991; Tseloni & Zarafonitou, 2008); Quann & Hung, 2002; Guedes et al., 2018; Mesch, 2000). Most empirical research examines fear of crime as a dependent variable, rarely exploring how fear might play a role in deterring experiences of victimization.

In the present study, it was expected that individuals with higher levels of fear of crime would be less prone to expose themselves to risky situations, adopting more avoidance and protective behaviours. Therefore, they would be less likely to be victimized. In fact, our findings showed that fear of crime moderates the relationship between self-control and victimization, thus suggesting that the relationship between low self-control and victimization is not observed when fear of crime is high. However, the results also showed that there is a positive relationship between low self-control and victimization for those individuals with medium or low fear of crime levels. Therefore, our results might be integrated with the ideas already presented by Schreck and Berg (2020) and Schreck (2021) since individuals with low self-control consider immediately gratifying behaviour more attractive, and perhaps the possibility of victimization appears less certain than it actually is. Therefore, they will postpone defensive behaviour and overestimate their ability to deal with a potential offender in an immediate situation.

Nevertheless, the current results show that the relationship between self-control and victimization happens when individuals report low or medium fear of crime, and not high. Hence, this relevant finding proposes that high fear of crime might function as a 'blocker' or a 'buffer effect' of the conditions that prone individuals to expose themselves to risky situations that could lead them to episodes of victimizations. Individuals who fear more might constrain their social behaviour to safe areas, avoiding unsafe areas of cities. Therefore, fear of crime might as well be treated as a 'healthy emotion, necessary mechanism of survival, of self-preservation, of avoiding risk and minimizing danger' (Fattah, 1993, p. 66), acting as a 'functional fear' (Jackson & Gray, 2010). Accordingly, Chen and Daigle (2021) suggested that higher fear conditioning facilitated avoidance of certain negative situations and reduced risk-taking behaviour. This is especially interesting in the context of the present study given that individuals with lower levels of self-control tend to adopt risky and short-term behaviours, being more disposed to involve themselves in thrill-seeking activities, which might increase their chances of being victimized (Pratt, 2016; Turanovic & Pratt, 2014). However, as our research showed, the link between self-control and victimization is moderated by fear of crime, meaning that individuals who fear more are perhaps

more able to take actions to avoid aversive events and the exposure to dangerous situations (Kim-Spoon et al., 2015; Liska & Warner, 1991). Melde et al. (2016) reached similar results. The authors found that youth who reported greater fear were less likely to later commit violence and suffer violent victimization. Moreover, they discovered that fear of crime diminished overall involvement in violent encounters.

Given our findings and those of the above-mentioned studies, the role of fear of crime in the likelihood of victimization is an important opportunity for future research. For instance, are individuals who report more fear more likely to detect more cues in the environment (i.e. have heightened levels of alert or awareness), that lead them to protect themselves in these circumstances? Do individuals who report more fear also have higher levels of perceived risk, such that they recognize certain situations or places as potentially dangerous for criminal victimization? Previous research showed that even though fear (emotional component) and perceived risk (cognitive component) are distinct (Ferraro & Grange, 1987; Rountree & Land, 1996), they tend to be correlated (e.g. Krulichová, 2019). Other argument might be that the influence of fear of crime determines the variations in an individual's lifestyle, which, in turn, might be related to the differential exposure to dangerous places and situations where there are high possibilities of victimization (Mesch, 2000). Therefore, individuals with greater levels of fear of crime might choose to constrain more their behaviours to their homes.

Finally, in the present study, gender had a significant effect on victimization. Concretely, we found that women were less victimized than men, even though they are more fearful than men. Furthermore, the effect of fear of crime as a moderator of the relationship between low self-control and victimization was only observed in the male subsample. Considering the results concerning the moderating role of fear of crime, one could argue that women, due to greater levels of fear of crime, naturally constrain more their behaviour to safe places, in safe times, and avoid risky situations. Additionally, it could be suggested that women are more attentive to danger cues comparing to men. Nevertheless, more research is needed to understand why this moderation is only observed in men.

Besides the contribution of the present findings, our study has some limitations. Firstly, our results derived from cross-sectional data. Thus, the findings reported here shall be considered correlational rather than causal. Secondly, the results were obtained through a non-probabilistic and convenience sample of university students, selected from a single college, in an urban setting. Therefore, the results may not be generalizable to students of other grades (such as high school) and perhaps the results would have been different within a different sample, involving other grades or even individuals who have diverse occupations. It is recommended to compare the present results with more diversified samples (such as young adults who are not students). Thirdly, the questionnaire was administered in person and our sample was relatively small ( $N=243$ ). Hence, cautions are needed when generalizing findings from this study and we highly recommend a larger and more representative sample to accomplish greater external validity. Fourthly, our study did not include measures of risky lifestyles, which could have been important to deeply understand the relationship between the variables addressed in the current research. In fact, future studies should incorporate these vital measures in order to shed light on those underlying mechanisms. For instance, people who are more afraid would reduce their involvement in dangerous activities that could increase their chances of victimization. Nevertheless, the present study, lacking those lifestyles measures, only partially confirmed this hypothesis. Finally, it is important to acknowledge that the current study operationalized the moderator variable, fear of crime, through a set of six items derived from the classic question 'How safe do you feel walking alone in your



residential area after dark?'. This measure has been the subject of debate in the last decades, leading to new proposals that argue for the need to explicitly use measures of intensity and frequency of worries about different criminal offenses (e.g. Farrall & Gadd, 2004; Gray et al., 2008). Therefore, it is strongly recommended that future studies exploring the role of fear of crime as a moderator of the relationship between low self-control and victimization incorporate new measures of fear of crime.

## Conclusions and Implications

In spite of these limitations, to the best of our knowledge, while the link between self-control and victimization is very well established (Higgins et al., 2009; Schreck et al., 2006; Ward et al., 2015), this is one of the first studies that empirically tested the moderating role of fear of crime in the relationship between self-control and victimization (the other exception is Williams, 2010). Our findings have important implications for reflecting on strategies of prevention and intervention efforts to reduce victimization. In fact, it helps to understand not only the risk factors associated with victimization (such as low self-control), but also the mechanisms through which they operate. Because low self-control was associated with higher levels of victimization in the present study, prevention efforts targeting youth with low self-control are relevant. Moreover, since fear of crime acts as a moderator of the relationship between low self-control and victimization (only in low and medium levels of fear of crime), it is important to understand how the levels of fear of crime are associated with risky lifetime activities which, in turn, are related with the likelihood of victimization. Even though fear of crime brings a set of negative consequences for individuals and communities (Hale, 1996), it can act as a motivating force that enables protection for most people. Since fear of crime is attached to a state of alert or awareness, it can help individuals to anticipate dangerous outcomes in certain situations.

In light of the present results, but also considering the methodological shortcomings, concluding remarks are still premature and replication is needed. Nevertheless, the present study sheds light on the relationship between low self-control and victimization, and provides new insights into the moderator role of fear of crime.

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**Data Availability** The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

## Declarations

**Conflict of Interest** The authors declare no competing interests.

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