

Cyberbullying e Estratégias de Coping em Adolescentes do Sul do Brasil

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Resumo

Cyberbullying é definido como um fenômeno que envolve comportamentos agressivos, intencionais e repetitivos, realizados através de meios eletrônicos, ao longo de um determinado período, e perpetrados por um indivíduo ou grupo contra uma vítima que apresenta dificuldade em se defender. Já estratégias de *coping* são um conjunto de esforços cognitivos e comportamentais mutáveis, utilizados para lidar com exigências internas ou externas, avaliadas pelo indivíduo como excessivas aos seus recursos. O presente trabalho teve por objetivo investigar a prevalência de *cyberbullying* em adolescentes de duas cidades do Rio Grande do Sul (Brasil), bem como sua relação com as estratégias de *coping*. Participaram do estudo 273 adolescentes ($M = 14.91$ anos; $DP = 1.45$), habitantes da capital e de uma cidade do interior do Estado. Estes foram convidados a responder a um questionário de dados sociodemográficos, bem como às escalas *Revised Cyberbullying Inventory* e ao Inventário de Estratégias de *Coping* de Folkman e Lazarus. Os resultados indicaram que 58 % dos adolescentes se enquadravam em alguma categoria de agressão. Além disso, as médias das estratégias de *coping* de autocontrole, suporte social e fuga-esquiva foram significativamente maiores para as vítimas que para os não envolvidos. Por sua vez, a estratégia de confronto foi maior para as vítimas-agressores que para os não envolvidos. Discutem-se a grande incidência de *cyberbullying* na amostra pesquisada e a prevalência de estratégias de *coping* mencionadas.

Palavras-chave: Adolescência, *cyberbullying*, estratégias de *coping*, psicologia escolar.

Cyberbullying y estrategias de afrontamiento en adolescentes del sur de Brasil

Resumen

El *cyberbullying* es definido como un fenómeno que involucra comportamientos agresivos, intencionales y repetitivos perpetrados por un individuo o un grupo a través de medios electrónicos durante un periodo determinado contra una víctima que presenta dificultades para defenderse. Por otra parte, las estrategias de afrontamiento (*coping*) son un conjunto de esfuerzos cognitivos y comportamentales cambiantes, utilizados para lidiar con exigencias internas o externas evaluadas como que exceden o desbordan sus recursos personales. El presente trabajo tuvo por objetivo investigar la prevalencia del *cyberbullying* en adolescentes de dos ciudades de Rio Grande do Sul (Brasil), así como su relación con las estrategias de afrontamiento. En total, participaron 273 adolescentes ($M = 14.91$ años; $DE = 1.45$), habitantes de la capital y de una ciudad del interior del Estado, que respondieron una encuesta de datos sociodemográficos, la escala *Revised Cyberbullying Inventory* y el Inventário de Estratégias de *Coping* de Folkman y Lazarus. Los resultados indicaron que el 58 % de los adolescentes se encuadraba en alguna categoría de agresión; y que los promedios de las estrategias afrontamiento de autocontrol, soporte social y escape-huida resultaron ser significativamente mayores para las víctimas que para los no involucrados. Asimismo, la estrategia de confrontación fue más utilizada por las víctimas-agresores que por los no involucrados. Al final se discute sobre la gran incidencia del *cyberbullying* en la muestra investigada, así como la utilización de las estrategias de afrontamiento mencionadas.

Palabras clave: Psicología escolar, *cyberbullying*, adolescencia, estrategias de *coping*.

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Cyberbullying and coping strategies in adolescents from Southern Brazil

Abstract

Cyberbullying is defined as a phenomenon that involves aggressive, intentional and repetitive behaviors, carried out through electronic means, during a given time, and perpetrated by an individual or group against a defenseless victim. Coping strategies are a range of changeable cognitive and behavioral efforts used to cope with internal and external demands appraised by the individual as excessive to their resources. This paper aims to investigate the prevalence of cyberbullying among adolescents of two cities in Rio Grande do Sul (Brazil), and its relationship with coping strategies. 273 adolescent boys and girls ($M = 14.91$ years; $SD = 1.45$), living in the State capital and in a countryside town took part in this study. Participants were asked to respond to a socio-demographic questionnaire, as well as to the Revised Cyberbullying Inventory and the Coping Strategies Inventory by Folkman and Lazarus. Results indicated that 58 % of the adolescents were included in at least one category of aggression. In addition, the statistical means for self-control, social support and avoidance coping strategies were significantly higher for the victims compared to the not-involved youth. On the other hand, victims-aggressors scored higher on the confrontation strategies than the not involved ones. The great incidence of cyberbullying is discussed, as well as the prevalence of the abovementioned coping strategies.

Key words: School psychology, cyber-bullying, adolescence, coping strategies.

INTRODUCTION

With the dissemination of Information and Communications Technologies (ICTs) and social media, the use of these resources has significantly increased among adolescents in the past few years. (Ševčíková, Šmahel, & Otavová, 2012). In Brazil, in a research carried by The United Nations Children's Fund (UNICEF, 2013) with adolescents from 12 to 17 years of age, 64% reported they were online daily, and communicating with friends was the main purpose. The Internet and other technological resources have become an integral part of these young people's lives. However, even though these technologies offer several benefits, they can also be a means of electronic aggression, mainly cyberbullying. (Palfrey & Gasser, 2011).

There is not a consensus in the literature yet as to the definition of cyberbullying (Dredge, Gleeson, & Garcia, 2014). However, one of the most accepted definitions is proposed by Slonje and Smith (2008), which derives from Olweus' idea of traditional bullying. According to them, cyberbullying may be defined as an intentional and repeated aggressive behavior, delivered through electronic means during a period of time, and perpetrated by an individual or a group of individuals towards a victim who has a hard time defending him or herself (Slonje & Smith, 2008). It is a process of interaction with an aggressive expression and systematic abuse of power through ICTs (Smith, Steffgen, & Sittichai, 2013).

Electronic aggression may take different forms, usually involving the use of computers, mobile phones and tablets with Internet access. These technologies are used to post, share or send messages, photographs, video or audio recordings with aggressive, sexual or embarrassing content, with the intent to offend, humiliate, embarrass, threaten or attack

the victim (Li, Smith, & Cross, 2012; Menesini & Spiel, 2012). These aggressions may be perpetrated by email, SMS, chat apps (such as *Whatsapp*), social network apps (e.g., *Facebook*, *Twitter*, *Snapchat*, *Instagram*), among others. However, in order for an online aggression to be considered as cyberbullying, there has to be an imbalance of power, as well as intentionality and repetition (Menesini et al., 2013).

Even if cyberbullying does present some similar characteristics to common bullying, Smith (2012) points out that there are some particularities in both phenomena. Unlike bullying, which is "face to face" contact, cyberbullying takes place indirectly, and in many cases, anonymously. Such particular characteristics make the defense of the victim even harder, because it is a much more complex situation for the victim to respond in an effective manner to these attacks when the identity of the perpetrator is unknown (Smith et al., 2013). Moreover, while bullying is constrained to the physical and temporal limits of the school, cyberbullying, on the other hand, may happen at any time, and is capable of reaching a much larger audience, since pictures and comments can be seen and shared indefinitely (Pham & Adesman, 2015). So it is not uncommon for the victims of cyberbullying to feel like there is nowhere they can be safe, because the attacks may appear at any moment on their mobile phones or on their computer screens (Li, et al., 2012; Smith, 2012;). It is for these reasons that cyberbullying can be considered as an even bigger threat to the psychosocial adjustment of the victims.

Regarding the prevalence of this phenomenon, in a Canadian study carried out by Li (2007), 25% of the respondents said they had been victims of cyberbullying, and on a survey conducted with adolescents in the United States, 16% of them reported having been victims of

cyberbullying (Schneider, O'Donnell, Stueve, & Coulter, 2012). Although Walrave and Heirman (2013) found higher rates, showing 34% of victims other surveys indicated lower levels, ranging from 5% to 12% (Beckman, Hagquist, & Hellström, 2013; Campbell, Spears, Slee, Butler, & Kift, 2012; Slonje & Smith, 2008; Smith, et al., 2008; Ybarra, Boyd, Korchmaros, & Oppenkeim, 2012).

On the other hand, although in a smaller scale than in developed countries, Latin American researchers have studied the subject too. A study conducted in Peru showed that 24.7% of the subjects reported having been victims of cyberbullying (Amemiya, et al. 2013), whereas a study in Chile reported that 11.4% had been victims (Varella, Pérez, Schwaderer, Astudillo, & Lecannelier, 2014). In Brazil, survey results showed that 67.3% of the subjects reported at least one episode of cyber aggression, while 63.8% reported at least one episode of cyber victimization over the past six months (Oliveira, 2016). In another study, Wendt (2012) found a 75.6% prevalence of cyber aggression and 72.7% of cyber victimization.

Based on the above findings, it can be highlighted that the roles of aggression are not necessarily fixed. That is to say, in addition to victims and attackers, there may also be victims-attackers, subjects who, besides being victims themselves, also perpetrate attacks, directed either to their own attackers or to other victims.

In relation to gender differences and age groups, there is still no consensus in the literature. However, some research indicates higher levels of cyber aggression and victimization in girls than in boys. (Beckman, et al., 2013; Smith et al., 2008). These data are similar to the ones pertaining to indirect common bullying behaviors (such as spreading mean rumors or gossip), which are more prevalent in girls than in boys (Smith, 2004). Also, several studies report that adolescents between 12 and 17 years of age are more engaged in cyberbullying than younger students (Slonje & Smith, 2008; Slonje, Smith, & Frisé, 2012).

Other research has found a positive correlation between cyberbullying and relevant psychosocial issues. This type of aggression has been associated with depression symptoms, social anxiety and low self-esteem (Baker & Tanrikulu, 2010; Patching & Hinduja, 2010; Jung et al., 2014; Nixon, 2014; Landoll, La Greca, Lai, Chan, & Herge, 2015). In addition to that, some studies indicate that there is a relationship between cyberbullying victimization and increased levels of distrust, anger, guilt and loneliness (Beran & Li, 2005; Brewer & Kerlake, 2015; Lonigro, et al., 2014). Academic trouble, suicidal ideas, and, in more extreme cases, suicide attempts have also been cited as characteristics of this phenomenon (Brown, Demaray, & Secord, 2014; Hinduja & Patchin, 2010; Van Geel, Vedder, & Tanilon, 2014). In

the same manner, there is an association between cyber victimization and externalizing problems such as behavioral disorders (Jung et al., 2014).

The effects of cyberbullying victimization are varied and multi factored, and are not only determined by the occurrence of the phenomenon itself (Kowalski, Limber, & Agatston, 2012). In a research by Cassidy and Taylor (2005), for instance, adolescents who had been victims of traditional bullying showed increased psychological distress when using ineffective coping strategies, such as a low rate of problem resolution. Thus, it can be inferred that the use of these strategies (when dealing with excessively demanding situations) by victims of cyberbullying can also play a fundamental role in attenuating or aggravating the negative effects of the aggression.

Coping strategies and cyberbullying

The Transactional Model of Stress and Coping (TMSC), as defined by Lazarus and Folkman (1984), defines stress as specific demands, internal or external, perceived by the individual as mentally demanding or excessive in relation to their resources, and resulting from the interaction between the subject and their environment. In order to deal with these demands, the person develops coping strategies, which are a set of changing cognitive and behavioral efforts, specific to a given context. So, the perception of a situation as stressful and the subsequent use of coping strategies depend on the combination of environmental aspects and individual characteristics (Lazarus & Folkman, 1984).

According to TMSC, the coping process starts with a cognitive evaluation of the environment, assessing whether some situation or fact presents a threat to the individual's well-being. This is the primary assessment. On the second assessment, the individual analyzes what can be done to overcome the stressors and/or to prevent damage (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). From these assessments and the available individual resources the coping strategies will be chosen and executed (Raskauskas & Huynh, 2015). This coping process is continuously mediated by cognitive reevaluations, arising from the changes in the relationship between the individual and the environment (Lazarus & Folkman, 1984).

Coping strategies can be divided into two main groups, according to their functions: emotion-focused coping and problem-focused coping. The strategies focused on emotion aim to regulate emotions brought about by the stressful situation, and are usually carried out when there is a perception that nothing can be done to change

the unfavorable environmental conditions (Lazarus & Folkman, 1984). Some of these coping strategies are cognitive processes aimed at the lowering of emotional stress, such as a positive reevaluation of the situation or the avoidance of thinking about the episode. Emotion-focused coping also involves behaviors that aim to lower the emotional response to the stressor, such as the use of drugs, for example (Aldwin, 2010).

On the other hand, problem-focused strategies are those which try to manage or solve the problem, and are mostly carried out when there is the perception that the situation can be changed (Lazarus & Folkman, 1984). These strategies are both a means to directly change the environmental pressures and to make internal changes, such as developing new abilities and aspirations.

During adolescence, coping strategies are different from those used by younger children, due to the increase of the individual's metacognitive abilities (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Through the development of metacognition, the adolescent can begin to ponder which are the social and emotional consequences of a particular strategy, and then decide which the best one is, among several alternatives. (Skinner & Zimmer-Gembeck, 2011). Thus, it is expected that there will be more diverse and flexible coping mechanisms available in this age group – such as reaching out for social support outside the family, and also other more sophisticated ways of problem solving. However, despite this circumstance, adolescents can also develop some maladaptive coping strategies, such as avoidance, rumination, and the abuse of alcohol and other drugs (Aldwin, 2010).

Taking into consideration the several possible consequences of cyberbullying victimization, it can be said that this is a potentially stressful event, and it represents a threat to the adolescent's well-being. Coping strategies focused on the problem, such as informing parents, school principals or other authority figures are described in the literature as capable of diminishing the impact of victimization (Machmutow, Perren, Sticca, & Alsaker, 2012). However, some researchers state that adolescents, in many cases, avoid reporting the aggressions to adults, for they fear to be blamed and punished (such as the suspension of internet access) and also because they fear their parents are going to underestimate the problem (Kowalski et al., 2012; Slonje & Smith, 2008). Among other strategies focused on the problem that may be used are those that involve technical solutions, such as deleting a personal profile in a social network site, remaining offline for a period of time, blocking a

contact, etc (Jacobs, Dehue, Völlink, & Lechner, 2014; Palladino, Nocentini, & Menesini, 2012).

On the other hand, coping strategies that focus on emotions include taking revenge on the attacker, avoiding thinking about the attacks, deleting messages, and using alcohol or other drugs (Jacobs et al., 2014). However, these strategies have shown to be ineffective for the management of cyberbullying, and they have also been associated with depressive symptoms and other psychopathological conditions (Na, Dancy, & Park, 2015; Völlink, Bolman, Eppinhbroek, & Dehue, 2013). It is also relevant to identify which strategies have been used to manage cyberbullying. That is why the objective of this research is to identify associations among aggression, victimization, aggression-victimization and non-involvement in cyberbullying with the use of different coping strategies in Brazilian adolescents.

METHOD

Participants

273 students participated in this study ($M = 14.91$ years old, $SD = 1.45$). 48.7% of the sample were girls ($N = 133$) and 51.3% were boys ($N = 140$). They came from two cities, Porto Alegre and Taquari, State of Rio Grande do Sul, Brazil. Students within the age range of 13 to 18 years-old were specifically selected, bearing in mind the higher prevalence of individuals in this age group involved in cyberbullying (Slonje & Smith, 2008; Tokunaga, 2010).

The size of the sample was defined with the aid of *G*Power* software, considering a margin of error β of 80% and a .05 significance level. These calculations indicated the need for a sample of at least 150 subjects in order to allow carrying out the intended statistical analysis. Students who reported extreme difficulties in understanding the research instruments were excluded from the sample (self-reported difficulties or troubles reported by the teacher who witnessed the application of the instruments).

Instruments

Socio-demographic data inventory. It is an instrument developed exclusively for this study, with questions about age, gender, school and school grade.

Revised Cyberbullying Inventory – RCBI. (Topcu & Erdur-Baker, 2010). Involvement in cyberbullying was assessed by RCBI. The instrument consists of 14 items which assesses the frequency with which the respondent

has performed or suffered some form of online aggression in the past six months (e. g., threats in websites, social networks or apps – chat rooms, SMS, Facebook, Twitter, Skype, Instagram, Whatsapp, Snapchat, etc.). The questions must be answered in a four point scale, ranging from “never” to “more than three times”. Each item must be graded twice, considering the frequency of episodes of cyber attacks (“I did this”) and of cyber victimization (“It happened to me”). The process of validation of this instrument took place in a Turkish population, aged from 13 to 21 years, with Cronbach alphas of .82 in the sub-scale of cyber aggression and .75 in the scale of cyber victimization (Topcu & Erdur-Baker, 2010). For this study, a version by Wendt (2012) adapted to Brazilian adolescents and to the current technological reality was used, with Cronbach alphas of .75 in the scales of cyber aggression and .76 in the scales of cyber victimization.

Coping Strategies Inventory by Folkman and Lazarus. Coping strategies were assessed by the instrument designed by Savóia, Santana, and Mejias (1996), which consists of an adaptation for the Portuguese language of *Ways of Coping Questionnaire* (Folkman & Lazarus, 1988). This is a self-report instrument, which intends to evaluate the strategies used by the subject to deal with difficult and stress-causing situations. The inventory consists of 66 items, divided into eight sub-scales: confrontation (e.g., “I showed the people who cause the problem how much anger I was feeling”), distancing (e.g., “I tried to forget the unpleasant episode”), self-control (e.g., “I tried to keep my feelings to myself”), social support (e.g., “I talked to someone about my feelings”), responsibility acceptance (e.g., “I criticized myself, I scolded myself”), escape-avoidance (e.g., “I avoided people in general”), problem resolution (e.g., “I made a plan and followed it”) and positive reevaluation (e. g., “I came out of it better than I expected”). Each item must be classified by the subject in a 4 point Likert scale, ranging from “I have not used this strategy” to “I used it with great frequency”.

Although Cronbach alphas have not been tested, in the adapted scale of *Ways of Coping Questionnaire* into Portuguese by Savóia, et al. (1996), confirmatory factorial analysis indicated that a large part of the items were grouped around the eight factors in a similar manner to the original study (Folkman & Lazarus, 1988), presenting positive correlations among factors, from moderate to high. However, these data must be carefully read, because of the small size of the sample, which prevented the extraction of validity evidence. For this reason, the present study has used the Portuguese version developed by Savóia et

al. (1996), but the scores were calculated based on the factorial analysis from the original instrument.

Procedure

The Questionnaires were administered in groups, during class, for approximately one hour. Every aspect of the demanded bioethics standards was followed. Students were informed about anonymity of their answers and of the voluntary character of their participation. Parents or legal guardians signed the Free Consent Term and the participants signed the Adolescent Agreement Term, assuring their agreement in being part of the study. In every round of the test application there was at least one researcher present to explain the research objectives as well as to offer explanations to any questions the students might have had.

Before beginning the test, the researcher would define cyberbullying and would explain how the questionnaires should be answered. RCBI was handed in before the Coping Strategies Inventory, which helped the adolescents to identify situations of online victimization. Those who had been victims of cyber attacks in the six months prior to the questionnaire were asked to fill out the coping evaluation scale with that situation in mind. On the other hand, students who had not been victims of cyber attacks were told to answer the questions bearing in mind other stressful situation they had been through.

Data Analysis

Involvement in cyberbullying was assessed by the students’ answers to RCBI. Students who indicated having perpetrated or suffered any kind of cyber aggression listed in the inventory, with a minimum frequency of “two or three times” or “more than three times” in the six months before the study were the ones considered to be involved in the phenomenon. Participants who only declared that “It happened to me” were classified as victims. On the other hand, students who only answered that “I did it” were categorized as attackers or perpetrators. Victim-agressors were the students who answered “it happened to me” and “I did it” in any kind of cyber aggression described. Students who reported having suffered “only once” or “never” any kind of online aggression were considered as not-involved in cyberbullying.

Data were analyzed by means of the statistical software SPSS 20. Descriptive analyses were carried out (aiming at investigating the frequencies throughout the different groups above described), chi-squared (to evaluate the prevalence of cyberbullying in any gender), variance analysis (to compare coping means among different groups) and logistic regression

Table 1.
Characteristics on gender by groups

	Non-involved N (%)	Attackers N (%)	Victims N (%)	Victims-attackers N (%)
Female	47 (17.2)	17 (6.2)	21 (7.7)	48 (17.6)
Male	68 (24.9)	11 (4.0)	13 (4.8)	48 (17.6)
Total	115 (42.0)	28 (10.3)	34 (12.5)	96 (35.2)

(to investigate the chance of an individual belonging to one group or another considering the coping strategies used).

RESULTS

Table 1 presents the incidence in the groups of attackers, victims, victims-attackers and non-involved, categorized by gender. More than half of the participants (58 %) were involved in cyberbullying, 12.5 % reported being victims, 10.3% indicated they were attackers, and 35.2% that were victims-attackers. Girls showed more involvement than boys, and this difference was statistically significant [$\chi^2(1) = 4.90, p < .05$]. Chi-square tests indicated the absence of significant differences when examining among the different kinds of involvement in the issue by gender of the participant [$\chi^2(3) = 6.83, p < .78$].

Mean scores for the eight kinds of coping strategies obtained by each group of participants are described in Table 2. ANOVAs indicated significant differences for

confrontation strategies, self-control, social support and escape-avoidance. *Post hoc* analyses, using Bonferroni correction, pointed to a mean score for the confrontation coping strategy to be higher in victims-attackers than in non-involved participants. Victims reported they used self-control, social support and escape-avoidance strategies more than no participants, and these differences were significant

Logistic Regression was used to investigate the association between having been a victim of cyberbullying and the use of determined coping strategy. In this analysis we only used coping strategies which presented, from ANOVAs, significant differences ($p \leq .05$) among the groups. Table 3 shows the results of the multivariate analysis, and victimization is the dependent variable, and the kinds of coping strategies were the predictive variables. A significant association between victimization and the escape-avoidance strategy was found. Adolescents who used this coping strategy were 17% more likely to be cyber victims than people who used different strategies.

Table 2.
Means, Standard Deviation and Differences between groups

	Non-involved ¹ M(SD)	Victims ² M(SD)	Attackers ³ M(SD)	Victims-attackers ⁴ M(SD)	F	Post-Hoc
Confrontation	.54 (.46)	.81 (.54)	.69 (.63)	.82 (.65)	4.38**	4 > 1
Distancing	.74 (.59)	.82 (.53)	.86 (.66)	.94 (.72)	1.73	
Self-control	.77 (.68)	1.14 (.73)	.79 (.61)	.93 (.67)	2.78**	2 > 1
Social Support	.65 (.61)	1.00 (.56)	.66 (.48)	.93 (.70)	4.79**	2 > 1
Responsibility Acceptance	.67 (.70)	.96 (.73)	.64 (.55)	.83 (.67)	2.21	
Escape- Avoidance	.48 (.50)	.87 (.69)	.71 (.71)	.76 (.58)	5.74**	2 > 1
Problem Resolution	.70 (.61)	1.00 (.68)	.65 (.58)	.87 (.69)	2.21	
Positive reevaluation	.82 (.70)	1.08 (.60)	.87 (.73)	.92 (.70)	1.59	

Note. * $p \leq .05$ ** $p \leq .01$

¹, ², ³ and ⁴ are the groups compared in the post hoc analysis. Each number represents a group.

Table 3.
Logistic regression analysis explaining variations in cyber victimization based on coping strategies

	B	S.E.	Wald	Exp (B)
Confrontation	.05	.07	.49	1.05
Self-control	.08	.05	2.63	.93
Social support	.08	.06	1.83	1.08
Escape-avoidance	.16**	.05	9.58	1.17

Note. $R^2 = .13$ (Cox and Snell), $.17$ (Nagelkerke). $X^2(4) = 26.29$, $*p \leq .05$, $**p \leq .01$

DISCUSSION

The percentage of participants involved in cyberbullying (58 %) was superior to what had been previously indicated by studies of reference to this theme, which had shown a prevalence of 20 % and 40 % (Beran & Li, 2005; Smith, et al. 2008; Tokunaga, 2010). However, more recent research has shown an increase in the occurrence of the phenomenon as well (Völlink, et al., 2013; Calvete, Orue, & Gámez-Guadix, 2015). These differences might be explained by the increasing prevalence of technology among adolescents, which makes them more vulnerable to this type of aggression. Another fact to be taken into consideration is the evolution in the research field of cyberbullying in the past decade, which, in turn, has allowed the development of better instruments to measure the phenomenon.

Concerning the different rates of involvement in cyberbullying by boys and girls, more girls have reported being victims and attackers than boys, but the number of victims-attackers was the same in both genders. However, these differences were not statistically significant. On the other hand, when comparing the rate of involvement in general (with no difference in the role played in cyber aggression events) and non-involvement, frequency among girls was significantly higher. These findings corroborate the tendency found by Li (2007) that girls tend to be more involved in cyberbullying – a form of aggression with no direct physical contact with the victim – while boys are more prone to traditional bullying, especially when involving physical aggression. These differences may be understood by taking into consideration normative social patterns, which designate role expectations based on gender (Beckman et al., 2013). That is to say that boys are socialized to respond to provocation in an aggressive manner and girls are expected to respond in a more subtle or indirect manner (Björkqvist, 1994).

As to the relationship between the types of role in cyberbullying and coping strategies, victims and victims-attackers have shown significant differences when compared to non-victims. Victims-attackers have shown they used more the confrontation strategy, when compared to non-involved participants. This strategy is related to emotional manifestation, expressions of anger towards the attacker and the desire of direct confrontation (Lazarus & Folkman, 1988). Thus, the fact that the more prevalent strategy among victims-attackers is confrontation might be a sign that aggression is the individual's response to a prior victimization experience. However, confrontation might also represent a risk of re-victimization, being associated, also, to the development of depression symptoms (Machmutow, et al., 2012).

Victims have indicated a more prevalent use of two strategies focused on emotions – self-control and escape-avoidance – when compared to non-victims. In self-control strategy the mean scores for victims were almost double the score of non-involved participants. This difference indicates that the victims have a tendency to inhibit their emotional expressions and spontaneous behavior (Lazarus & Folkman, 1988). In addition, considering that cyberbullying often involves ways of humiliating and criticizing, it is understandable that the victim might develop a stronger socio-emotional control as a way to prevent new attacks. This result is consistent with data found in the literature which relate cyberbullying victimization to internalization, which in turn may cause depression symptoms, social anxiety, low self-esteem, etc. (Cross, Lester, & Barnes, 2015; Hinduja & Patchin, 2010).

On the other hand, victims also present higher scores in social support in comparison to non-victims. This is a positive finding, considering that social support is seen as an effective strategy to deal with cyberbullying and to reduce the probability of developing psychopathological symptoms (Hinduja & Patchin, 2009; Nixon, 2014; Raskauskas & Huynh, 2015; Völlink et al., 2013). However, in order for social support to be a positive form of coping, the adolescents must have people they can count on, who are capable of offering practical and emotional help (Palladino et al., 2012).

For the escape-avoidance strategy, victims showed a higher rate than non-involved individuals. This form of coping refers to the avoidance of thoughts or situations related to cyberbullying, many times through behaviors such as oversleeping or overeating, using drugs or avoiding the company of other people. In addition to that, this strategy may also involve unrealistic assessments of the situation, such as hoping the aggressions

would just stop (Lazarus & Folkman, 1988). The use of this kind of strategy is associated, in several studies, to depressive symptoms, anxiety and low self-esteem and to the maintenance of the victim status (Machmutow et al., 2012; Völlink et al., 2013). It must also be taken into consideration that, in logistic regression, escape-avoidance was the only coping variable which could predict cyberbullying victimization. Thus, it is vital to develop intervention actions which seek to widen the repertoire of coping strategies in adolescents, and to seek the improvement of those related to a greater well being and the promotion of mental health.

Some limitations of the present research must be taken into consideration. Initially, the generalization of the results must be cautiously done, for this is not a representative sample of adolescents, having being comprised only of students in schools in two cities in the State of Rio Grande do Sul, Brazil. Another factor that must be considered is some of the limitations of Folkman and Lazarus' Coping Strategies Inventory. This instrument was chosen because of the vast literature on the stress and coping model proposed by Lazarus e Folkman (1984) and also because it had previously been adapted to Brazilian Portuguese. However, the process of validation by Savóia et al., (1996) presented some limitations, such as a low number of participants, below the necessary figure (Pacico & Hutz, 2015). For this reason, factor analysis is questionable, so, in the present study, we have chosen to evaluate scores according to the original version of the scale (Folkman & Lazarus, 1988). New studies will be necessary to evaluate the evidences of validity of this instrument. In addition to that, studies must also be carried out seeking to develop an instrument to evaluate coping strategies specifically in cyberbullying situations.

This investigation aimed at analyzing data about cyberbullying in adolescents, as well as the relationship between forms of involvement in the phenomenon and coping strategies. The study might contribute to the advancement on the knowledge about the theme, for there are still too few studies being carried out in Brazil about cyberbullying and coping strategies. In addition to that, it may help to develop interventions to aid the adolescents in responding effectively to cyberbullying, helping them to seek out social support, to develop problem-solving strategies, and to decrease the use of avoidance or confrontation to deal with aggression.

It is important to stress the importance of carrying out new studies to identify the prevalence of cyberbullying in different regions of Brazil, in order to build a more trustworthy portrait of the phenomenon in the country. It is also important to conduct research to investigate

specific coping strategies relating to cyberbullying in Brazil, as well as their consequences. In addition to that, it is also vital to develop experimental initiatives to evaluate programs of handling and preventing cyberbullying, with the focus on psycho-pedagogy and the development of more effective coping strategies to deal with cyber aggression.

REFERENCES

- Aldwin, C. (2010). Stress and coping across the lifespan. En S. Folkman (Eds.), *The Oxford handbook of stress, health, and coping* (pp. 15-34). New York: Oxford University Press.
- Amemiya, I., Oliveros, M., Condorimay, Y., Oliveros, R., Barrientos, A., & Rivas, B. E. (2013). Ciberbullying en colegios privados y estatales de primaria en dos distritos de Lima Metropolitana. *Anales de la Facultad de Medicina*, 74(2), 91-96.
- Baker, Ö. E., & Tanrıku, İ. (2010). Psychological consequences of cyber bullying experiences among Turkish secondary school children. *Procedia - Social and Behavioral Sciences*, 2(2), 2771-2776.
- Beckman, L., Hagquist, C., & Hellström, L. (2013). Discrepant gender patterns for cyberbullying and traditional bullying: An analysis of Swedish adolescent data. *Computers in Human Behavior*, 29, 1896-1903.
- Beran, T., & Li, Q. (2005). Cyber-harassment: A study of a new method for an old behavior. *Journal of Educational Computing Research*, 32(3), 265-277.
- Björkqvist, K. (1994). Sex differences in physical, verbal, and indirect aggression: A review of recent research. *SexRoles*, 30(3), 177-188.
- Brewer, G., & Kerlake, J. (2015). Cyberbullying, self-esteem, empathy and loneliness. *Computers in human behavior*, 48, 255-260.
- Brown, C. F., Demaray, & Secord, S. M. (2014). Cyber victimization in middle school and relations to social emotional outcomes. *Computers in Human Behavior*, 35, 12-21.
- Calvete, E., Orue, I., & Gámez-Guadix, M. (2015). Cyberbullying Victimization and Depression in Adolescents: The Mediating Role of Body Image and Cognitive Schemas in a One-year Prospective Study. *European Journal on Criminal Policy and Research*, 22(2), 271-284.
- Campbell, M. A., Spears, B, Slee, P., Butler, D. A., & Kift, S. M. (2012). Victims' perceptions of traditional and cyberbullying, and the psychosocial correlates of their victimisation. *Emotional and Behavioural Difficulties*, 17(3-4), 389-401.
- Cassidy, T., & Taylor, L. (2005). Coping and Psychological distress as a function of the bully-victim dichotomy in older children. *Social Psychology of Education*, 8(3), 249-262.

- Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: problems, progress, and potential in theory and research. *Psychological Bulletin*, *127*(1), 87-127.
- Cross, D. S., Lester, L. J., & Barnes, A. (2015). A longitudinal study of the social and emotional predictors and consequences of cyber and traditional bullying victimisation. *International Journal of Public Health*, *60*(2), 207-217.
- Dredge, R., Gleeson, J., & Garcia, X. P. (2014). Cyberbullying in social media networking sites: An adolescent victim's perspective. *Computers in human behavior*, *36*, 13-20.
- Folkman, S., & Lazarus, R. S. (1988). *Ways of coping questionnaire: Manual, Instrument, Scoring Guide*. Redwood city, CA: Mind Garden.
- Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. J. (1986). Dynamics of a stressful encounter: cognitive appraisal, coping, and encounter outcomes. *Journal of Personality and Social Psychology*, *50*(5), 992-1003.
- Fundo das Nações Unidas para a Infância – UNICEF (2013). *O uso da internet por adolescentes*. Recuperado de http://www.unicef.org/brazil/pt/br_uso_internet_adolescentes.pdf.
- Hinduja, S., & Patchin, J. W. (2009). *Bullying beyond the schoolyard: Preventing and responding to cyberbullying*. Corwin Press: Thousand Oaks, CA.
- Hinduja, S., & Patchin, J. W. (2010). Cyberbullying and self-esteem. *Journal of School Health*, *80*(12), 614-621.
- Jacobs, N. C. L., Dehue, F., Völlink, T., & Lechner, (2014). Determinants of adolescents' ineffective and improved coping with cyberbullying: A Delphi study. *Journal of Adolescence*, *37*, 373-385.
- Jung, Y. E., Leventhal, B., Kim, Y. S., Park, T. W., Lee, S. H., Lee, M., & Park, J. I. (2014). Cyberbullying, problematic internet use, and psychopathologic symptoms among Korean youth. *Yonsei Medical Journal*, *55*(3), 826-830.
- Kowalski, R. M., Limber, S. P., & Agatston, P. W. (2012). *Cyberbullying in the digital age*. West Sussex: Wiley-Blackwell.
- Landoll, R. R., La Greca, A. M., Lai, B. S., Chan, S. F., & Herge, W. M. (2015). Cyber victimization by peers: Prospective associations with adolescent social anxiety and depressive symptoms. *Journal of Adolescence*, *42*, 77-86.
- Lazarus, R. S., & Folkman (1984). *Stress, appraisal, and coping*. Nova York: Springer Publishing Company.
- Li, Q. (2007). New bottle, but old wine: A reasearch of cyberbullying in schools. *Computers in human behavior*, *23*, 1777-1791.
- Li, Q., Smith, P. K., & Cross, D. (2012). Research into cyberbullying. Li, Q., Cross, D., & Smith, P. K. (Eds.). In *Cyberbullying in the global playground: Research from international perspectives*. West Sussex: Blackwell Publishing.
- Lonigro, A., Schneider, B. H., Laghi, F., Baiocco, R., Pallini, S., & Brunner, T. (2014). Is cyberbullying related to trait or state of anger? *Child Psychiatry & Human Development*, Publicação online antecipada.
- Machmutow, K., Perren, S., Sticca, F., & Alsaker, F. D. (2012). Peer victimisation and depressive symptoms: Can specific coping strategies buffer the negative impact of cybervictimisation? *Emotional and Behavioral Difficulties*, *17*(3), 403-420.
- Menesini E., & Spiel, C. (2012). Cyberbullying: Development, consequences, risks and protective factors. *European Journal of Developmental Psychology*, *9*(2), 163-167.
- Menesini, E., Nocentini, A., Palladino, B. E., Scheithauer, H., Schultze-Krumbholz, A., Frisén, A., ... Blaya, C. (2013). Definitions of cyberbullying. In Smith, P. K., & Steffgen, G. (Eds). *Cyberbullying through the new media: Findings from an international network*. London: Psychology Press.
- Na, H., Dancy, B., & Park, C. (2015). College Student Engaging in Cyberbullying Victimization: Cognitive Appraisals, Coping Strategies, and Psychological Adjustments. *Archives of Psychiatric Nursing*, *29*, 155-161.
- Nixon, C. L. (2014). Current perspectives: The impact of cyberbullying on adolescents health. *Adolescent Health, Medicine and Therapeutics*, *5*, 143-158.
- Oliveira, J. C. C. (2016). *Cyberbullying entre adolescentes usuários de internet: um estudo de levantamento online*. Dissertação de mestrado, Universidade Federal de Juiz de Fora, Juiz de Fora.
- Pacico, J. L., & Hutz, C. (2015) Validade. *Psicometria*. En C. Hutz, D. Bandeira, C. Trentini (Orgs.) [e-PUB]. Porto Alegre: Artmed.
- Palfrey, J., & Gasser, U. (2011). *Nascidos na era digital: Entendendo a primeira geração de nativos digitais*. Porto Alegre: Artmed.
- Palladino, B. E., Nocentini, A., & Menesini, E. (2012). Online and offline peer led models against bullying and cyberbullying. *Psicothema*, *24*, 634-639.
- Patchin, J. W., & Hinduja, S. (2010). Cyberbullying and self-esteem. *Journal of school mental health*, *80*(12), 614-621.
- Pham, T., & Adesman, A. (2015). Teen victimization: Prevalence and consequences of traditional and cyberbullying. *Current opinion in pediatrics*, *27*(6), 748-756.
- Raskauskas, J., & Huynh, A. (2015). The Process of Coping with Cyberbullying: A Systematic Review. *Aggression and Violent Behavior*, *23*, 118-125.
- Savóia, M. G., Santana, P. R., & Mejias, N. P. (1996). Adaptação do inventário de estratégias de coping de Folkman

- e Lazarus para o português. *Psicologia USP*, 1(2), 183-201.
- Schneider, S. K., O'Donnell, L., Stueve, A., & Coulter, R. W. (2012). Cyberbullying, school bullying, and psychological distress: A regional census of high school students. *American Journal of Public Health*, 102(1), 171-177.
- Ševčíková, A., Šmahel, D., & Otavová, M. (2012). The perception of cyberbullying in adolescent victims. *Emotional and behavioural difficulties*, 17(3-4), 305-317.
- Skinner, E. A., & Zimmer-Gembeck, M. J. (2011). Perceived control and the development of coping. In S. Folkman (Ed.) & P. E. Nathan (Series Editor), *The Oxford handbook of health, stress and coping* (pp. 35-62). New York: Oxford University Press.
- Slonje, R., & Smith, P. K. (2008). Cyberbullying: Another main type of bullying? *Personal and social sciences*, 49, 147-154.
- Slonje, R., Smith, P. K., & Frisén, A. (2012). Process of cyberbullying, and feelings of remorse by bullies: A pilot study. *European Journal of Developmental Psychology*, 2(2), 244-259.
- Smith, P. K. (2004). Bullying: Recent developments. *Child and adolescent mental health*, 9(3), 98-103.
- Smith, P. K. (2012). Cyberbullying: Challenges and opportunities for a research program – A response to Olweus. *European Journal of Developmental Psychology*, 9(5), 553-558.
- Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008). Cyberbullying: Its nature and impact in secondary school pupils. *Child psychology and Psychiatry*, 49(4), 376-385.
- Smith, P. K., Steffgen, G., & Sittichai, R. (2013). The nature of cyberbullying, and the international network. In Smith, P. K. & Steffgen, G. (Eds). *Cyberbullying through the new media: Findings from an international network*. London: Psychology Press.
- Smith, P.K. (2004). Bullying: Recent developments. *Child and adolescent mental health*, 9(3), 98-103.
- Tokunaga, R. S. (2010). Following you home from school: A critical review and synthesis of research on cyberbullying victimization. *Computers in human behavior*, 26, 277-287.
- Topcu, Ç., & Erdur-Baker, Ö (2010). The Revised Cyber Bullying Inventory (RCBI): validity and reliability studies. *Procedia Social and Behavioral Sciences*, 5, 660-664.
- Van Geel, M., Vedder, P., & Tanilon, J. (2014). Relationship between peer victimization, cyberbullying and suicide in children and adolescents. *JAMA Pediatrics*, 168(5), 435-442.
- Varella, J., Pérez, J. C., Schwaderer, H., Astudillo, J., & Le-cannelier, F. (2014). Caracterización de cyberbullying en el gran Santiago de Chile, en el año 2010. *Revista Cuadrimestral da Associação Brasileira de Psicologia Escolar e Educacional*, 18(2), 347-354.
- Völlink, T., Bolman C., Eppingbroek, A., & Dehue, F. (2013). Emotion-focused coping worsens depressive feelings and health complaints in cyber-bullied children. *Journal of Criminology*, Article ID 416976, 10 pages.
- Walrave, M., & Heirman, W. (2013). Adolescents, online marketing and privacy: predicting adolescents' willingness to disclose personal information for marketing purposes. *Children and society*, 27, 434-447.
- Wendt, G. W. (2012). *Cyberbullying em adolescentes brasileiros*. (Dissertação de mestrado), Universidade do Vale do Rio dos Sinos, São Leopoldo.
- Ybarra, M., Boyd, D., Korchmaros, J., & Oppenkeim, J. K. (2012). Defining and measuring cyberbullying within the larger context of bullying victimization. *Journal of Adolescent Health*, 51(1), 53-58.