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Title:
Risk Recognition and Risk Perception
In Female Victims of
Intimate Partner Violence

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I dedicate my dissertation work to my wonderful parents for always believing in me. Their hard work and love have shaped me into the person I am today.

To my husband who provides me with unconditional support and love.

To my sisters for always being there for me.

To my nephew, Luigi,

I never thought I could find someone that would make my life so happy.
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Abstract

Intimate partner violence (IPV), which includes any form of physical, psychological, or sexual violence, is a well-known problem with great consequences. Beyond the risk factors known in the literature, a number of studies focused on situational risk recognition (e.g. a violent behaviour in intimate relationship), on risk perception for future victimization and on factors that may impair these abilities. In terms of primary prevention, this thesis aimed to investigate the recognition of early signals of abuse in intimate relationships and its psycho-physiological correlates. Situational risk recognition has received considerable attention in the sexual assault literature, but has yet to be studied in interpersonal violence literature. So, in the first study of this thesis, situational risk recognition was examined in relation to the psychological and physical victimization in a representative sample of Italian female students. A total of 232 female students read a series of written scenarios depicting mostly psychologically aggressive encounters between heterosexual dating partners and made repeated judgments about the interactions. So, the first objective of this study was to determine retrospectively whether female victims of psychological and physical forms of intimate partner violence (IPV) displayed deficits in situational risk recognition compared to those who did not have. Results suggested that the history of psychological forms of IPV was associated with a deficient risk recognition ability, such that victims of psychological IPV were less likely to recognize the violent behaviours involved in the scenario vignette compared to no victims. The second objective of this study was to determine which factors, within an ecological approach to the study of IPV, may predict deficits in situational risk recognition in violent dating encounters. Results from this study suggested that the previous violence (physical and psychological) in intimate relationships, the supportive attitudes toward IPV and stereotypical beliefs about domestic violence predicted deficits in risk recognition. The second study mainly aimed to examine the physiological correlates of situational risk recognition in dating violent situations in young women. Victims and non-victims of psychological abuse read to a hypothetical date interaction and were asked to indicate their judgments about the interactions. Subjective and objective (physiological) measures of responding as well as a measure of risk recognition in reaction to the interactions were analyzed in a sample of 30 participants to evaluate both between and within-subjects’ differences. Results showed that, relative to non-victims, victims of psychological abuse displayed significant differences in objective
measures of physiological reactivity that is victims displayed a decreased heart rate activity to a portion of the hypothetical interaction. This was the first attempt to study the relationship between the recognition of the risk in intimate partner violence and the physiological responses. Overall, the results indicated that altered physiological responding to relevant threat cues, as for non-victims, may be related to individuals’ ability to identify and react to threatening situations of psychological violence. In terms of secondary prevention of Intimate Partner violence, widely studied by psychologist and social workers are risk perceptions of recurrence of women battered. These perceptions represent components of most theories of health behaviour, but the relationship between these perceptions and protective behaviour over time such as leaving the abusive partner is unclear. In addition, limited research has investigated factors that are associated with perceived risk within an ecological approach. So, a longitudinal study on women battered was conducted (N=83) in order to understand firstly the factors that are associated with women battered’ risk perceptions and secondly which factors may be predictive of the stay/leave decision of the women after 12 months. Results indicated that among all factors considered at individual, interpersonal and system levels, depression, time of relationship and victim’s employment were greater predictors of a high risk perception more than previous history of abuse as well as of a formal and informal support. Further, high level of perceived personal risk predicted the women’s behaviour to leave their abusive partner after 12 months. Gratitude toward (ex) partner, instead, was found to be a risk factor toward stay/leave decision. Results are discussed as they may inform interventions preventing revictimization in IPV.
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Introduction

Through the feminist movement, in the 1970’s, increased awareness and recognition was brought to the issue of male violence against women (Mitchell & Anglin, 2009). Since that time on the terms “spousal abuse”, “wife battery” and other similar terms were used to describe this form of violence against women. The term “domestic violence” was then and still is, widely used to replace the previous terms. Two decades after this recognition, the Centers for Disease Control and Prevention suggested that the term “Intimate Partner Violence” (IPV) can be used to help to describe these situations more accurately (Saltzman, Fanslow, McMahon, & Shelley, 1999). Intimate partners, in fact, refer to romantic or sexual partners of the same or differing genders that may or may not be cohabitating with victim of violence (Baldry, 2016). In according to the United Nations Office on Drugs and Crime, every year, intimate partners or family members perpetrate nearly 64,000 intentional homicides and two thirds of victims are female, compared to 6% of intentional homicides of men (UNODC, 2013). Furthermore, in according to the World Health Organization (2016), one in three women worldwide experienced physical or sexual violence in their lifetime and the 30% of women who have been in an intimate relationship experienced physical or sexual violence from their intimate partner (WHO, 2016).

The Intimate Partner Violence (IPV) has evolved in a short time from being considered a problem of private nature, to getting an important position at community policies (Rodríguez-Franco et al., 2012) and prior research on IPV has most often focused both on the onset and persistence of this major public health problem (Giordano, Johnson, Manning, Longmore, & Minter, 2015). The emphasis on initial causes and the recurrent nature of IPV is intuitive as this form of violence incurs heavy emotional and physical costs to victims (Bonomi et al., 2006; Coker et al., 2002), repeat victimization is common (Halpern, Spriggs, Martin, & Kupper, 2009), and criminal justice and other intervention efforts have not proven uniformly successful (Capaldi & Langhinrichsen-Rohling, 2012; Maxwell, Garner, & Fagan, 2001). Violence in all forms poses a concern because of associations with multiple adverse effects, including injuries, mortality, and economic costs (WHO, 2002, 2014) as well as psychosocial problems as chronic pain, depression, and post-traumatic stress disorder (Campbell, 2002). In addition to that, the stress of living with the constant threat of violence can lead to psycho-physiological disease (Cohen, Janicki-Deverts, & Miller, 2007; Watkins et al., 2014). Women experiencing IPV often face a
decision about whether to stay or leave their relationships and there can be many costs to both choices, thus making this decision confusing, difficult, and potentially dangerous (Choice & Lamke, 1997). Whereas some women are able to extricate themselves from abusive relationships, others are never able to leave, or they find themselves returning to their partners after multiple attempts to end their relationships (e.g., Herbert, Silver, & Ellard, 1991). As a result, it is important to fully understand the factors that affect the stay/leave decisions of women in IPV relationships, so that professionals who work with these women can better help them with these choices. Evidence and past research on IPV have indicated that dating couples are more likely to become violent with one another as opposed to married couples (Narbors & Jasinski, 2009). More specifically, college students are at a heightened level of experiencing IPV (Narbors & Jasinski, 2009). Scholars underline how in the age group 18-24 years are frequent assaults, date back to the point where the first experiences of violence in 47% of women who have experienced IPV (Black et al., 2011). Besides this, the violent relationships at a young age may predict forms of violence in adult relationships (Exner-Cortens, Eckenrode, Bunge, & Rothman, 2017; Shorey, Cornelius, & Bell, 2008). The amount of research devoted to this subject has increased during the past decade but the violent acts carried out in dating relationships between youths remain relatively unexplored (Rodríguez-Franco et al., 2012). In order to know what works to reduce violence in terms of primary and secondary prevention, it is necessary to test theory with evidence (Walby et al., 2017). What is now needed is a more complete understanding of factors that, on one side, shape perception of risk in women battered and how this factor is likely to influence (both positively and negatively) women’s risk reduction and self-protection in terms of secondary prevention and on the other, in terms of primary prevention, on situational risk recognition in young women. Knowledge can help health educators, counselling staff and other professionals who work with the young and battered women to improve what is lacking in current interventions aimed at IPV awareness and prevention. This dissertation, through an integrated approach, seeks to improve the measurement and explanation of violence as a contribution towards “zero violence” (Walby et al., 2017, p.1).
Chapter 1: Theoretical framework

1.1 Violence Against Women (VAW)

Violence against women is a major social and public health problem that affects populations around the world regardless of their culture, religion, and other demographic characteristics (Jahromi, Jamali, Koshkaki, & Javadpour, 2016). The Declaration on the Elimination of Violence against Women (1993) from the United Nations defines violence against women as: ‘Any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life’. The Council of Europe Convention (2011) defined violence against women (VAW) as ‘a violation of human rights and a form of discrimination against women and shall mean all acts of gender-based violence that result in, or are likely to result in, physical, sexual, psychological or economic harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life’. It encompasses, but is not limited to: ‘physical, sexual and psychological violence occurring in the family, including battering, sexual abuse of female children in the household, dowry-related violence, marital rape, female genital mutilation and other traditional practices harmful to women, non-spousal violence and violence related to exploitation; physical, sexual and psychological violence occurring within the general community, including rape, sexual abuse, sexual harassment and intimidation at work, in educational institutions and elsewhere; trafficking in women and forced prostitution; and physical, sexual and psychological violence perpetrated or condoned by the State, wherever it occurs’ (General Assembly, United Nations, 1993). The numbers are stark. Globally, one in three women worldwide experienced physical or sexual violence in their lifetime; 30% of women who have been in an intimate relationship experience physical or sexual violence from their intimate partner (WHO, 2016). Each year, homicide takes the lives of 475,000 people; 38% of murders of women are by an intimate partner or ex-partner. A quarter of all children experience physical violence, and 20% of girls and 7% of boys are affected by sexual abuse (WHO, 2016).

Violence against girls includes all forms of violence such as female genital mutilation, early and forced marriage, and intimate partner violence. In according to the report (WHO, 2016) women and girls who experience physical and sexual violence have an increased chance of developing physical, mental health and sexual/reproductive problems including...
depression, alcohol/drug abuse, suicide, post-traumatic stress, broken bones, nervous system disorders, sexual dysfunction, sexually transmitted infections (including HIV/AIDS), gynaecological disorders (including vaginal fistula leading to incontinence), unwanted pregnancy, complications during pregnancy/childbirth and infertility (WHO, 2016). The personal and societal costs of VAW are staggering. These costs include the resources required to provide care and support to the victimized women and children, bring the perpetrators of violence to justice, the loss of employment/productivity of both victims and perpetrators, and the costs associated with the pain, suffering and personal losses of the victims. Victimized women also report reduced economic opportunities and girls who have been victimized are at greater risk of not completing their education (WHO, 2016). The mere exposure to chronic violence in the home can put children at risk for a lifetime pattern of violent interpersonal relationships (WHO, 2016). Nevertheless, there is no doubt the costs are extremely high. As with violence against women more generally, there is a substantial societal cost associated with IPV.

1.2 Intimate Partner Violence

Intimate Partner Violence (IPV) can be defined as a sub-type of VAW. “Intimate partner violence includes physical violence, sexual violence, threats of physical or sexual violence, stalking and psychological aggression (including coercive tactics) by a current or former intimate partner” (Diaz & Hayes, 2012, p. 42).

In accordance with the definitions provided by Capaldi, Knoble, Shortt, and Kim (2012), physical violence involves: ‘forceful physical contact that may vary from light pushes and slaps to severe beatings and lethal violence’ (p. 232); sexual abuse includes forms of coercive and physical behaviours ‘varying from trying to persuade someone to perform a sexual act against their will, ignoring “no” responses, to physically forced sex acts’ (Capaldi et al., 2012, p. 232; Teten, Hall, & Capaldi, 2009; Tjaden & Thoennes, 2000). The term psychological aggression (or emotional abuse), instead, refers ‘to acting in an offensive or degrading manner toward another, usually verbally, and may include threats, ridicule, withholding affection, and restrictions (e.g., social isolation, financial control)’ (Capaldi et al., 2012, p. 232). Some types of psychological abuse are very common (Shorttt et al., 2011) and tend to be associated with physical abuse (Capaldi et al., 2012). IPV can occur in all relationship types regardless of marital status (dating, marriage or common law). The violence may represent an isolated incident, but typically it occurs within a larger context of habitual
abuse (Baldry, 2016). At its most severe, IPV can include death of the victim (Baldry & Roia, 2011). The latest ISTAT report presented in Italy (2015) (referring to the year 2014) showed that in Italy, 6,788,000 women aged between 16 to 70 years had suffered physical or sexual violence by their current or ex partner over their life (31.5%); further, women aged between 16 to 34 years had suffered physical violence by their partner the same age group in the 57.5% of the cases (for each 100 women) (istat.it). Ever since violence among intimates became a focus of national concern, there has been speculation about and research into the causal factors of this type of violence. In a recent review, Ali and Naylor (2013), resumed all theories adopted over the years to why violence between intimates occurs. These theories have ranged from frameworks can be categorized under various perspectives, among which feminist, social learning and ecological accounts (for review see Ali & Naylor, 2013).

1.2.1 The feminist perspective

Feminism can be defined as an ideology (Seiter, 1986; Offen, 1988). The feminist movement, initiated in the early 1970s, has produced one of the predominant theoretical models to explain the Intimate Partner Violence (IPV). Initially, it was known as the “Women’s Liberation Movement” (Walker, 2006). The feminist perspective was not only important for raising the world’s attention on this issue but also for establishing women’s shelters, initiating various batterer intervention and advocacy programs, and changes in the legal and criminal justice system to make VAW a criminal offense (Ali & Naylor, 2013; McPhail, Busch, Kulkarni, & Rice, 2007). Feminists prefer to use terms like ‘wife assault’, ‘wife battering’ and ‘battered women’ rather than ‘family violence’, ‘marital violence’ and ‘spouse abuse’ (Davis & Hagen, 1992; Yick, 2001).

They claim that Violence Against Women (VAW) is a male coercive act towards women and its various types include female infanticide, female genital mutilation, sexual abuse of women, rape and marital rape (Yick, 2001). They maintain that IPV is not a private or family matter but a social problem that has to be addressed by social change (Gondolf & Fisher, 1988). They consider VAW to be a product of gender power disparity in society (Dobash & Dobash, 1979; Schecter, 1982), determined by the patriarchal structure of most societies that subjugates women to remain in a submissive state through the use of physical, psychological, sexual, and economic abuse as control tactics and permits coercive practices such as prostitution and forced sex (Ali & Naylor, 2013). Feminists believe that
violence in intimate relations is always perpetuated by men in order to control their female partners, and research findings of symmetry in the perpetuation of violence by men and women are mistaken. They believe that women's use of violence is almost always an act of self-defense (Barnett, Lee, & Thelen, 1997; Cascardi & Vivian, 1995; Saunders, 1986). Feminist theorists, from this perspective, have offered various explanations for IPV including the cycle of violence, learned helplessness; the battered women syndrome, the power and control wheel, and patriarchy, which are considered below (see Ali & Naylor, 2013, for review).

**Cycle of violence**

The cycle of violence (Figure 1) was developed by Dr. Lenore Walker (1979) with the aim of explaining why battered women remain in abusive relationships. The cycle of violence consists of three phases: tension building, abuse or explosion, and remorseful/honeymoon phase. In the first phase, tension-building phase, the abuser starts getting frustrated, tension builds over common domestic issues like children, money or jobs and verbal abuse begins. The abuser takes it out on his wife/partner. The victim tries to control the situation by pleasing the abuser, giving in or avoiding the abuse. None of these will stop the violence. Eventually, the tension reaches a boiling point and physical abuse begins (second phase). The violence may last from seconds to days. The abuser now feels relieved, may start resenting his violent attitude towards his wife, and may start apologizing (third phase). The couple then enjoys a honeymoon period when the abused person thinks the abuser will change and will never become violent again (Figure 1). He will genuinely attempt to convince the partner that the abuse will not happen again. Constant exposure to a cycle of violence results in the development of a feeling of helplessness, diminished decision making ability and development of fear (Walker, 1979). The victim starts blaming herself and tries to avoid the situations that could precipitate violence. The non-supporters argue that, if violence was a result of tension and frustration, why does the abuser only vents his frustration on his wife and not on his work colleagues or other people? This theory, therefore, did not maintain its popularity for long, as women's experiences were not consistent with the theory.
Another theory that has been used to explain IPV is been the theory of learned helplessness. The phenomenon of learned helplessness, conceptually related to the earlier notion of "hopelessness" advanced by Mowrer (1960), was first studied systematically by Seligman and Maier (1967). Seligman and his colleagues conducted a series of controlled experiments placing dogs in two types of cages. In the first cage, an electric shock was given in conjunction with a conditioned stimulus (a bell). The second cage, instead, had an area where no shock could be administered. Dogs in the first cage learned to accept the shock and gave up trying to escape, whereas, dogs in the second cage learned to run to the shockproof place. When the researchers then placed the dogs from the first cage to the second cage, they found that animals from the shocking cage did not react or look for an escape route. In describing the phenomenon, the investigators used the term "learned
"helplessness" to refer to the learning or perception of independence between one's behaviour and the presentation and/or withdrawal of aversive events (Overmier & Seligman, 1967; Seligman & Maier, 1967; Dweck, 1975). Researchers have tried to use the theory to explain the behaviour of abused women (e.g., Walker, 1979). Walker (1979) applied this theory to study the behaviour of battered women. She concluded that repeated abuse result in minimizing the abused woman's motivation to respond and enforces passiveness (Walker, 1979) suggested that IPV negatively affects a woman's cognitive ability to perceive success, and it enforces the belief that her action cannot generate a positive outcome (Walker, 1979). Consequently, she never tries to leave the abusive relationship. The social-learning psychology theory of learned helplessness helps people understand how someone can learn to believe that their actions will not have a predictable effect so they no longer believe that leaving will stop the violence and protect them. On the other hand, opponents assert that this theory fails to consider other factors contributing to a woman’s decision to stay/leave an abusive relationship; for example, social, economic, and cultural reasons, a fear of retaliation, a fear of rejection by the family, community and society (Naved, Azim, Bhuiya, & Persson, 2006). Moreover, it does not take into account a woman’s efforts to end violence and to protect herself and her children. It is also suggested that such women leave the relationship and then return, thereby reacting to abuse and communicating their dissatisfaction with the relationship. Furthermore, factors that are considered (e.g., low self-esteem, withdrawal and perceived loss of control) of a learned helpless behaviour could actually be the effects of abuse (Ali & Nylor, 2013).

**Battered women syndrome**

As Ali and Naylor explain (2013), Leonore Walker (1979) used the theories of the cycle of violence and learned helplessness to explain the concept of “Battered Women Syndrome”, similar to the condition called PTSD- Post Traumatic Stress Disorder (Walker, 2006). Battered Woman Syndrome can best be conceptualized as a combination of posttraumatic stress symptomatology, including re-experiencing a traumatic event (i.e., battering episode), numbing of responsiveness, and hyper arousal, in addition to a variable combination of several other factors. These additional factors include, but are not limited to, disrupted interpersonal relationships, difficulties with body image, somatic concerns, as well as sexual and intimacy problems. Over the past few years, an attempt has been made to clearly define the hypothesized constituents of “Battered Woman Syndrome” for
A woman could be classified as battered if she has suffered at least two cycles of violence. This classification has been used in some court cases to defend women who have killed their abusive husbands after spending a lot of time in abusive relationship (Scholz, 2000).

**Power and control**

Another perspective, based on the feminist paradigm, concerns the issue of power and control. The two perspectives that believe power imbalance as a cause of relationship imbalance, in particular, are the feminist perspective and resource theory. Feminists believe that violence against women, and IPV specifically, result from men’s aim to obtain and retain power over women (Pence & Paymar, 1986, 1990, 1993; Dobash & Dobash, 1979; Yllo & Straus, 1990). The resource perspective instead maintains “that the relative resources of husbands and wives rather than social roles or expectations determine the balance of power in marriage and influence the risk of partner violence” (Gage & Hutchinson, 2006, p. 13). Based on the feminist ideology and resulting from discussions with battered women, researchers presented the model called ‘the power and control wheel’ (Pence & Paymar, 1986, 1990, 1993) (Figure 2). The Power and Control Wheel, also known as the Duluth Model is widely used throughout the world to help identify characteristics intimate partner violence. This model has been used in all 50 states in the US and 17 countries (Gondolf, 2010). The model has been adapted to fit other populations that suffer from abuse or unfair treatment as well. Historically IPV was considered a ‘personal problem’ where the focus was placed on fixing the relationship; in the Power and Control model the goal is to stop the violence rather than fix the relationship (Pence, 1989). Perpetrators use power to gain control over their victims through the use of threats of violence or actual acts of violence. The power and control wheel was developed in the early 1980’s in Duluth, MN by Domestic Abuse Intervention Project staff and is used to help illustrate abuse to perpetrators, victims, and the public. This model helps to show how batterers in abusive relationships gain power and control over their victims. The model was created to help bring communities together to better understand violent relationships and find a solution to end them. The model uses the visual of a wheel where each spoke represents a shape of power and this diagram is used to point out a model of the pattern of abuse and violence between individuals. Pence (1989), one of the developers of the Duluth Model, stated that her program “assumes battering is not an individual pathology or mental illness but rather
just one part of a system of abusive and violent behaviours to control the victim for the purposes of the abuser" (Pence, 1989, p. 30). Scholars believed that the intimate partner uses violence as a means of controlling their partner. The model assumes that no tactic or behaviour is an isolated incident; rather it is a part of the major motive to keep the women under control and exert male power. The model maintains that the responsibility for abuse and control lies with the abuser not the abused. The overall aim of the intervention should be victim’s safety and the abusers should be held accountable for their act and appropriately dealt with by the law and judicial system. Another wheel to offer and explain how non violent attitudes can be promoted is also developed and used in barterers' interventions programs. Various studies have supported the relationship between a need for power in power-motivated men and violence in intimate relationships (Dutton & Strachan, 1987; Mason & Blankenship, 1987). In Dutton and Strachan’ research (1987), they compared the assaultive men to marital conflicted (but no assaultive) and satisfactorily married controls through the use of Thematic Apperception Test stories scored for the need for power. The results revealed that wife assaulters may use violence when they lack verbal means of having impact but they do not differ from marital conflicted no assaultive males. Both groups manifest strong needs for power and control, which may contribute to marital conflict, but the assaultive group fails to hold its own in this conflict and may resort to violence as a final means of exerting control. Studies also suggest a link between male dominance and IPV (Sugihara & Warner, 2002). An inverse relationship between husband’s lack of resources, such as socioeconomic status, occupational status, income or even educational level, has also been suggested (Hotaling & Sugarman, 1986).
Patriarchy

According to feminists, patriarchy relates to the perpetuation and acceptance of the abuse of women (Yllo & Straus, 1990). Patriarchy is “an ‘umbrella’ term for describing men’s systemic dominance of women” (Pease, 2000, p. 20). It is characterized by a value and belief system that justifies male dominance in the both public and private spheres of life. Therefore, in patriarchal societies, the husband is considered to be the head of the family who should be consulted on all important decisions in the family. According to this, the use of violence is an acceptable way of maintaining and exhibiting male dominance (Sugarman & Frankel, 1996). As Ali and Nylor (2013) underlined, believers in patriarchal ideology tend to view wife beating not only as acceptable but also as beneficial and consider women responsible for the violence against them (Glick, Sakalli-Ugurlu, Ferreira, & de Souza, 2002; Dobash & Dobash, 1979; Haj-Yahia & Schiff, 2007).
1.2.2. Sociological perspectives

The sociological perspective of IPV focuses on the social context and situations in which men and women live and where violence takes place. For example, the social learning theory (Bandura, 1977) is based on the principle that violence in the relationship (both perpetration and acceptance of abuse) is a conditioned and learned behaviour (Ali & Gavino, 2008). According to Bandura (1977), men that perpetrate violence have seen their fathers being violent towards their mothers and women that accept violence have seen their mother being abused by their father. This suggests that families play a very important role in the use of violence, but also in the acceptance and approval of the use of violence in relationships (Gelles, 1972). This account has been supported by some research (Ernst, Weiss, & Enright-Smith, 2006; Rich, Gidycz, Warkentin, Loh, & Weiland, 2005). Social learning theory has been used to study the “intergenerational cycle of violence” that proposes that children who witness violence or who have been victims of violence themselves as children are at risk of becoming perpetrators of violence or victims of violence as adults (Black, Sussman, & Unger, 2010; Ehrensaft et al., 2003; Fehringer & Hindin, 2009; Gelles, 1972). Moreover, children who are exposed to the violent disciplinary styles parents in childhood learn to consider physical violence as an acceptable method to treat unacceptable behaviour (Gover, Kaukinen, & Fox, 2008; Simons, Lin, & Gordon, 1998; Fry, 1993). Like other perspectives, social learning theory has also been criticized. A major problem with such studies is the variation of the definition of terms, such as what constitutes witnessing violence as a child and how victimization and exposure to abuse in childhood are defined? Does this include minor forms of corporal punishment such as mild spanking or does it mean severe punishment? (Delsol & Margolin, 2004; Gershoff, 2002). The majority of these studies are based on participants’ retrospective accounts over many years and are probably subject to recall and response bias. In addition, the majority of the researchers have simply investigated the relationship between violence in the family of origin and violence in marital or intimate relationships later on in life (Delsol & Margolin, 2004; Hotaling & Sugarman, 1986). Besides, findings of studies conducted in this regard are inconsistent, as some researchers have identified victimization as the stronger predictor of marital violence than witnessing interpersonal violence (e.g., Mihalic & Elliott, 1997) and others suggest that witnessing interpersonal violence is the strongest predictor both perpetration and victimization (Aldarondo & Sugarman, 1996; Doumas, Margolin, & John, 1994; Kalmuss, 1984). There is a paucity of research investigating the role of these
variables in relation to the female perpetration of violence. It is also important to note that not all men who were abused as children or who witnessed interpersonal violence as children display violent or aggressive behaviour in their marital relationships; likewise, not all violent and aggressive men have a history of experiencing or witnessing abuse in childhood (Langhinrichsen-Rohling, Neidig, & Thorn, 1995).

1.2.3. Ecological framework theory
The ecological framework theory is one of the most widely used accounts of IPV (Bronfenbrenner, 1977, 1979, 1986). This theory offers a comprehensive view of the issue of IPV by looking at different factors at various levels. The model suggests that behaviour is shaped through interaction between individuals and their social surroundings and helps in understanding factors which influence the behaviour of individuals and which could increase the probability of perpetuating or accepting violence (Bronfenbrenner, 1977, 1979, 1986; Heise, 1998). According to Bronfenbrenner (1977, 1979, 1986), the framework consists in four levels: individual, relationships, community and societal. At the most immediate level, individuals have direct interactions with the micro system, described as “the complex of relations between the developing person and environment in an immediate setting containing that person (e.g., home, school, workplace, etc.)” (Bronfenbrenner, 1977, p. 514). The influences that those different environments have on the individual development constitute the mesosystem, that “comprises the interrelations among major settings containing the developing person at a particular point in his or her life...In sum, stated succinctly, a mesosystem is a system of microsystems” (Bronfenbrenner, 1977, p. 515). At a higher level, there is the exosystem, which can be considered as “an extension of the mesosystem embracing other specific social structures, both formal and informal, that do not themselves contain the developing person but impinge upon or encompass the immediate settings in which that person is found, and thereby influence, delimit, or even determine what goes on there” (Bronfenbrenner, 1977, p. 515). Finally, Bronfenbrenner (1977, p. 515) describes it as the “overarching institutional patterns of the culture or subculture, such as the economic, social, educational, legal, and political systems, of which micro-, meso-, and exosystems are the concrete manifestations”. Heise (1998) proposed that the ecological model can be used at both the individual-level and macro-level to explain violence against women. The model suggests that, to deal with the issue of IPV, various factors at various levels need to be considered; is the interaction of
all these factors that needs to be understood for planning preventive strategies to combat the problem of IPV and VAW. In according to Heise (1998), it can include in the ontogenic level of analysis witnessing marital abuse as a child and the abuse during childhood and absent or rejecting father. At microsystem level, that includes situational factors that are “the interactions in which a person directly engages with others as well as to the subjective meanings assigned to those interactions” (Heise, 1998, p. 269). Heise (1998) considers: male dominance in the family, male control, conflicts and alcohol use. The Esosystem factors, instead, refer to the “social structures both formal and informal that do not themselves contain the developing person but impinge upon or encompass the immediate settings in which that person is found and thereby influence, delimit or determine what goes on there” (Bronfenbrenner, 1977, p. 515). So, in this level, Heise (1998) includes: isolation of the woman, low socio-economic status/unemployment and delinquent associations. Finally, the macrosystem level includes: honor, notion of masculinity, dominance, rigid gender roles and approval of physical punishment of women and/or children. In other words, the framework can be used to determine the risk factors for individuals experiencing or perpetrating violence against women and the framework also can be used to predict the rates of violence against women in specific communities (Figure 3).

Figure 3. Factors related to violence against women at different levels.
Taken from Heise (1998), p. 265.
1.3 Dating violence

“Dating violence or relationship violence is a form of Intimate Partner Violence (IPV) that occurs among adolescents and young adults and can include physical violence, sexual violence, threats of violence, and psychological or emotional violence” (Peterson et al., 2016, p. 2) toward dating non cohabitant partner (Niolon et al., 2015; Saltzman, Fanslow, McMahon, & Shelley, 2002).

The Violence Against Women Act (VAWA) defines dating violence “as violence committed by a person who is or has been in a social relationship of a romantic or intimate nature with the victim” (www.ncjrs.gov). Over the years, many researchers, in an effort to define the construct parsimoniously, adopted the following definition of dating violence proposed by Sugarman and Hotaling (1989): ‘the use or threat of physical force or restraint carried out with the intent of causing pain or injury to another’ (p. 5) within the dating relationship (Shorey et al., 2008). Although there are advantages in focusing on overt physical aggression, this narrow focus neglects other types of coercive or aggressive behaviour often displayed in dating relationships and that may be functionally similar to physical violence. Until recently, very little work had been conducted with regard to other forms of dating aggression, most notably, verbal or emotional abuse and sexual violence (Cornelius & Resseguie, 2007; Hanley & O’Neill, 1997). Although the definition of Sugarman and Hotaling (1989) is still prominent in the literature, more contemporary definitions have begun to include physical, sexual, and psychological forms of violence. Lavoie, Robitalle and Hebert (2000) defined teen dating violence as “…any behaviour that is prejudicial to the partner’s development or health by compromising his or her physical, psychological, or sexual integrity” (p. 8). The lack of consensus of an operational definition of dating violence is a difficult issue, complicating the investigation of courtship battering. Dating violence is a vague term that can include threatening communication, verbal abuse, or physical aggression. Due to such ambiguity, prevalence rates widely fluctuate, depending on the definitional criteria adopted for particular research (Lewis & Fremouw, 2001). Additionally, others have examined the concept of relationship violence as including any behaviour that is intended to “…control or dominate another person physically, sexually, or psychologically, causing some level of harm” (Wekerle & Wolfe, 1999, p. 436). Implicit in these more inclusive definitions of relationship aggression is an understanding of what is meant by both psychological and sexual abuse. In general, verbal, emotional, or psychological abuse involves the use of verbal or nonverbal acts intended to intimidate or
hurt the other partner, or the use of threats functioning to coerce the victimized individual (Hanley & O’Neill, 1997; Murphy & Cascardi, 1999). In contrast to physically violent behaviours in which the intent is to cause bodily harm, emotional abuse threatens victimized individuals’ personal integrity, self-worth, and often evokes fear and increased dependency on perpetrating partners (Hanley & O’Neill, 1997). Sexual aggression, instead, can be conceptualized as intimidation or coercion to engage in sexual intercourse or other sexual acts or to participate in those activities more frequently than the victim desires (Cornelius & Resseguie, 2007). When emotional or physically violent behaviours occur within the courtship relationship, it is probable that there is at least some degree of sexual coercion occurring, which can function to increase power differentials within the relationship (Cornelius & Resseguie, 2007). Several studies have suggested that the different forms of violence are interrelated, and that verbal aggression often precedes physical aggression (Stets & Henderson, 1991). In fact, Stets (1990) found that while verbal aggression occurred in the absence of physical violence in 50% of dating couples, physical aggression occurred without verbal aggression in only .2–.4% of dyads. This suggests that in most physically violent couples, verbal or emotional aggression is also occurring. In addition, emotional abuse may have unique, and perhaps more psychologically detrimental, effects on the victim. Follingstad, Rutledge, Berg, Hause and Polek (1990), demonstrated that over 70% of formerly victimized women reported that emotional abuse was more damaging than the physical abuse. Neglecting these forms of partner violence limits the conceptualization of dating violence and may hinder the development of effective interventions for preventing or managing courtship problems. It results in an alarming problem among college students around the world and leads in numerous negative physical and mental health outcomes with potential long-lasting implications for victims and perpetrators (Campbell, 2002; Coker et al., 2002; Exner-Cortens, Eckenrode, & Rothman, 2013). Unfortunately, current epidemiological reports suggest that this form of violence is on the rise (Luthra & Gidycz, 2006). The scholars suggest that 10% to 50% of college students have experienced violence in a dating relationship (Kaukinen, Gover, & Hartman, 2012; Mulford & Giordano, 2008). In fact, some evidence suggests that dating couples are more likely to experience violence in their relationships than married couples (Erez, 1986; Sugarman & Hotaling, 1989). More than two thirds of U.S. women and more than half of men who ever experienced rape, physical violence, and/or stalking by an intimate partner first experienced some form of IPV as adolescents or young adults before
age 25 (Black et al., 2011). Due to the high prevalence and detrimental health consequences, effective dating violence prevention strategies are urgently needed (Mortier et al., 2017). Overall, there is limited research on prevention and intervention strategies to address the issue of dating violence in college populations (DeGue et al., 2014; Shorey et al., 2012). As part of the International Dating Violence Study, Murray Straus (2004) gathered data from 31 universities in 16 countries. He found that between 17% and 45% of undergraduate college students perpetrated physical assault towards a dating partner. Research on dating violence, however, presents mixed findings regarding the initiation and receipt of courtship violence. There is some evidence to suggest that rates of violence are similar across both genders (Riggs et al., 1990). In 1981, Makepeace published the first report on dating violence revealing that one in five college couples are involved in violent relationships. In his study, Makepeace (1981) reported higher victimization rates for females and higher perpetration rates for males; females were more likely to report victimization experiences and males were more likely to report experiences as aggressors. White and Koss (1991), in a representative sample of men and women, found that 37% of males inflicted violence, while 39% reported suffering violence from their partner. Also, 35% of the females perpetrated violence against their partners and 32% sustained violence in dating relationships (Lewis & Fremouw, 2001). In contrast to these data, there exists wide evidence that females initiate more violence than males (Lewis & Fremouw, 2001; Lane & Gwartney-Gibbs, 1985; Marshall & Rose, 1987). For example, Magdol and colleagues (1997) found perpetration rates to be 21% for males and 37% for females. Similarly, Foshee (1996) reported that about 28% of females initiated violence at least once, compared to only 15% of males in the sample. Overall, females perpetrate more verbal abuse and less severe physical violence, whereas males perpetrate more severe physical dating violence (Tyler et al., 2011). Although similar proportions of males and females report dating victimization (O’Keefe, 2005), females experience more severe and frequent physical injury from dating violence than males (Arriaga & Foshee 2004; Archer, 2000). Reports based on national surveys indicate that the rate of physical IPV toward a partner in the prior year for United States couples ranges from 17% to 39% (Elliott, Huizinga, & Morse, 1985; Schafer, Caetano, & Clark, 1998), with rates from a meta-analysis being relatively similar for men and women within studies, although usually slightly higher for women (Capaldi et al., 2012; Archer, 2000). In a systematic review, Joly and Connolly (2016) reported the prevalence of dating violence among female adolescents underlying
that the estimate is about 15% to 20% for victimization and 20% to 30% for perpetration (Fernández-Fuertes & Fuertes, 2010; Wolfe, Scott, Wekerle, & Pittman, 2001). They add that, beyond the percentages, dating violence victimization and perpetration are qualitatively distinct experiences. Moreover, they reported the results of a brief survey about the high-risk literature revealing prevalence rates of dating violence among high-risk young women that is from 12% to 68% for victimization and 34% to 67% for perpetration (Joly and Connolly, 2016; Wekerle et al., 2001). According to a review by Vezina and Herbert (2007), women who stay in a romantic relationship where they are victimized are more likely to report feeling stronger love for their partner, having more traditional attitudes about gender roles, and more justification for their partners’ violence compared to women who leave violent relationships. Additionally, women likely perpetrate violence against their partners in self-defence, and respond to their partner’s violence with more violence. In addition, empirical research indicates that young women are more commonly involved in physical dating violence than sexual dating violence (Hickman, Jaycox, & Aronoff, 2004). Joly and Connolly (2016) in their review, calculated the global prevalence rates using the proportions described as containing “at least” physical dating violence including a total of 18 articles for victimization and 6 articles for perpetration. Calculation of the global effect size for victimization, p (proportion) = 0.34 (CI = 0.24–0.45), indicated that 34% of high-risk young women have been victims of physical violence by a romantic partner. The global effect size for perpetration, p (proportion) = 0.45 (CI = 0.31–0.61), indicated that 45% of high-risk young women have perpetrated physical dating violence. The perpetration rates may be greater than the victimization rates for several reasons. Researchers in the discussion section say that probably the perpetration rate was calculated using only six studies, so they we had less confidence in the reliability of this rate, compared to the victimization rate which was calculated with three times more studies. Additionally, the victimization articles with smaller proportions had large sample sizes (i.e., 682 participants). In addition, both these effect sizes were not homogenous. There are several potential explanations for these provocative findings, such as selection bias and a failure to report aggression. Males hitting females is generally viewed as less acceptable than women initiating violence against men (Bookwala, Frieze, Smith, & Ryan, 1992). As a result, male perpetrators may intentionally not participate in dating violence research. A second possible explanation is that males may not correctly report or may minimize their aggressive behaviour. Also, social desirability potentially
confounds data because an individual responds in the socially desirable direction, regardless of the veracity of his or her report. Selection bias and social desirability have traditionally been considered relative to male reports of aggression (Lewis & Fremouw, 2001). These issues, depending on the function of the violence, may also be relevant for female perpetrators. If female violence is initiated to control or manipulate a partner, social desirability may also impact self-report. It is important to note, however, that violent acts initiated by males are generally more devastating and result in greater injuries to the victim (Arias & Johnson, 1989). A necessary caveat is that it would be inappropriate to consider expression and the impact of violence perpetrated by men and women synonymously (Bookwala et al., 1992) until further analysis of the functional relations of dating aggression have been provided. Clearly, the research finding examining dating aggression and gender are not definitive and would benefit from additional investigation. These conflicting data indicate that it is important to examine intimate partner violence across groups of victims only, perpetrators only, and victims and perpetrators (Linder, Crick, & Collins, 2002). While early studies of intimate violence investigated aspects of marital abuse, researchers began to examine the prevalence of dating violence beginning in the 1980s. As a result, a separate focus developed to determine whether violence among dating partners differed from marital violence (Follingstad, Bradley, Helff, & Laughlin, 2002). In 1987, Carlson identified some differences between marital abuse and dating violence in young couples as no children, little involvement with partner's family and lack of a legally binding relationship, underlining that dating violence should be studied separately from marital violence. DeMaris (1992) suggested also that domestic violence could have some different factors involved in its aetiology in comparison with dating violence. Although the factors might differ, there are some researchers (e.g. Laner & Thomphson, 1982; Roscoe & Kelsey, 1986) that identify commonalities as emotional vulnerability, high involvement, high commitment and emotional investment. Unfortunately, as with many new areas of research, much of the early investigation into dating violence was conducted without a clear conceptualization of this complex area and its connection with domestic violence (Follingstad et al., 2002).
1.4 Intimate Partner Violence: psychological and physical health

Intimate Partner Violence (IPV) has many damaging effects (Watkins et al., 2014). Women who report physical intimate partner aggression victimization can suffer significant physical harm (Sheridan & Nash, 2007). Most studies indeed, initially, addressed the health effects of IPV measuring physical assault alone without considering the long term psychological effects. Coker, Smith, Bethea, King, and McKeown (2000), wrote the first report that screened for physical, psychological and sexual violence in a sample of 1152 women, underling that psychological IPV was as strongly related to the range of health outcomes as was physical IPV. Consistent with other studies (e.g., Drossman et al., 1990), their results indicated that women that experience IPV are more likely to report irritable bowel syndrome, chronic pain, migraine and other headaches. Also, IPV may affect other chronic health conditions indirectly through the long term psychological stress such as ulcers, spastic colon, diarrhoea, hypertension, back and limb problems, memory loss and dizziness, and gastrointestinal and stomach conditions (Campbell, 2002; Coker, Weston, Creson, Justice, & Blakeney, 2005; Ellsberg, Jansen, Heise, Watts, & Garcia-Moreno, 2008). In addition, intimate victimization can affect gynaecologic disorders, unwanted pregnancy, reproductive health, leading to miscarriages, premature labor, and HIV (Carbone-Lopez, Kruttschnitt, & Macmillan, 2006; Tufts, Clements, & Wessell, 2010). Wu, Huff, and Bhandari (2010) reviewed published and unpublished observational studies to examine patterns of physical injury associated with IPV among women presenting to emergency room departments; their results underline how the injuries to the head, neck, and face being most common (for review see Wu et al., 2010). IPV also includes psychological acts, which do not result in bodily harm but include behaviours that are intended to cause emotional harm or threat of harm (e.g., threats, insulting or degrading comments) directed toward an intimate partner (Lawrence, Yoon, Langer, & Ro, 2009; Murphy & Cascardi, 1999). In a sample of 98 young people aged 15-24 years (54% females) referred to a specialist public youth mental health service, Brown et al. (2009) examined the 12-month prevalence of physical dating violence inflicted by an intimate partner and its relationship with psychiatric disorders and psychosocial functioning. Dating violence was not significantly associated with substance abuse at time 1 or a current or past diagnosis of a mood, anxiety, or eating disorder. At 6-month follow-up, a significantly greater proportion of young people with a history of dating violence met the diagnostic criteria for substance dependence than those without a history of violence. Further, psychological IPV may have
unique effects on depression. In a study of newlyweds, psychological IPV predicted greater depression and anxiety even after controlling for physical IPV (Lawrence et al., 2009), suggesting the importance of examining psychological IPV in addition to physical IPV. In addition to the physical injuries directly caused by IPV, the stress of living with the constant threat of violence can lead to physical health problems (Cohen et al., 2007; Watkins et al., 2014). Furthermore, poor health habits, including increased substance use, sleep disruption, poor nutrition, less exercise, and poorer adherence to medication regimens, have all been linked to living under conditions of chronic stress (Cohen et al., 2007; Glaser & Kiecolt-Glaser, 2005). Stressful life events are also associated with increased symptoms of depression (McGonagle & Kessler, 1990). Adding to these consequences, there is the possibility that the repeated threat of IPV may engender learned helplessness and associated internal, stable, and global attributions (Peterson & Seligman, 1984), which may contribute to depression in women who experience IPV (Cascardi & O’Leary, 1992). Depression and Post Traumatic Stress Disorders (PTSD) were the most common forms of mental health problems associated with intimate partner victimization (Golding, 1999) and among depressed women, about 60% were found to have histories of abuse (Dienemann et al., 2000). In their review of the literature, Dillon, Hussain, Loxton, and Rahman (2013) reviewed 75 studies: 38 (50%) dealt exclusively with mental health issues, 24 studies (32%) reported on both mental and physical health outcomes, 9 studies (13%) reported on physical health outcomes only, and 4 studies (5%) reported exclusively on sleep problems. From the articles included within the review, 66 studies reported on aspects of mental health in relation to intimate partner violence. Depression was the most commonly researched aspect of mental health in relation to intimate partner violence, being reported on in 42 of the reviewed articles (Wong, Tiwari, Fong, Humphreys, & Bullock, 2011). In addition, certain types of abuse were more associated with particular outcomes than others; for example depression, PTSD, anxiety, nightmares, were found for victims of physical and sexual abuse (Matlow & DePrince, 2013; Bonomi et al., 2006; Campbell, 2002; Temple, Weston, Rodriguez, & Marshall, 2007). Also, the risks associated to IPV may be far greater for some women than others on the basis of racial, ethnic, and social backgrounds (Lacey, McPherson, Samuel, Powell Sears, & Head, 2013). In their study, Lacey, McPherson, Samuel, Powell Sears, and Head (2013) examined ethnic variation across various subgroups in the health outcomes of abused women. The results indicated that poor perceived general health was associated with psychological and any abuse for
Hispanic women but not for Black and White women and also that physical abuse was further associated with this outcome for Black women but not other women. In another recent review, Lagdon, Armour, and Stringer (2014) conducted a research on 11 electronic databases (2004-2014) and they identified fifty eight papers assessing different forms of IPV in an attempt to clarify if the type of IPV experienced was an important factor in mental health outcomes. They underline how it was difficult to separate psychological violence from other forms of violence as in many cases psychological violence occurs in the presence of other forms of violence (Sabina & Straus, 2008) and how this type of violence has a greater impact on victims’ mental health, for example maintaining an abusive relationship and/or a loss of identity and control by the women (Sackett & Saunders, 1999). This review also highlighted that IPV victimization can result in multiple psychiatric morbidities. Indeed, across studies, IPV was significantly related to depression, PTSD and anxiety and that depression tends to co-occur most often with PTSD (Contractor et al., 2014). Depression, PTSD, anxiety, and co-morbid disorders were also found to co-occur with indirect outcomes such as drug abuse, suicidal ideation (Devries et al., 2013), and sleep disturbance (Lagdon, Armour, & Stringer, 2014). Ferrari et al. (2016) indeed, found that the severity of psychological distress increase with the severity and extent of abuse. The study of Stöckl and Penhale (2014) represents the first research to investigate the prevalence of different forms of intimate partner violence among women aged 15-49 years, 50-65 years, and 66-86 years and to compare the health symptoms associated with those different forms of intimate partner violence across those different age groups, using nationally representative survey data. They found that the prevalence of physical and sexual violence decrease with women’s increased age, while others forms of violence remain invariant during the time and across all age groups. In addition, while women below the age of 65 years were more likely to report hematoma and blue spots as a result of physical and/or sexual violence, women above the age of 65 years were more likely to report broken bones or dislocated joints. Furthermore, women below the age of 50 years showed stronger associations with health symptoms than older women. Loxon, Dolja-Gore, Anderson, and Townsend (2017) instead, tried to determine the impact of intimate partner violence on women's mental and physical health over a 16 year period and across three generations. They used a broadly representative national sample of women comprised of three birth cohorts 1973-78, 1946-51 and 1921-26 for a total of 16.761 women. This was the first study to demonstrate that the association between intimate partner violence and
health outcomes persists over a 16 year period; women who had experienced IPV at baseline reported poorer mental and physical health throughout their lives. Other researchers have taken a different approach by comparing ongoing IPV with cessation of IPV in relation to health problems and depression. Some studies found that the cessation of IPV decreases the incidence of physical symptoms over time, whereas the continuation of IPV increases it (Gerber, Wittenberg, Ganz, Williams, & McCloskey 2008). Similarly the cessation of physical IPV the perceived social support contributed to recovery, whereas the continuation of the psychological IPV, cohabitation with the aggressor, the incidence of other victimisation experiences during adulthood, and negative perceptions of life events prevented recovery (Sanchez-Lorente, Blasco-Ros, & Martínez, 2012), as well as no marital intimate relationships that may have mental health benefits as well, including decreased depression (Simon & Barrett, 2010). Differently, loss of intimate partner has been found to be associated with increased psychological distress and decreased life satisfaction (Simon & Barrett, 2010; Rhoades, Kamp Dush, Atkins, Stanley, & Markman, 2011). Watkins et al. (2014), examined the effects of IPV victimisation and relationship status on young women’s physical health and depression symptoms on four occasions over a 1-year period. The results suggested, in line with previous studies (Beydoun, Beydoun, Kaufman, Lo, & Zonderman, 2012) that IPV victimization was related to greater physical health problems and symptoms of depression in victimized women than women who did not experience IPV during that year. In addition, women reported lower physical health problems and depression symptoms on occasions when they were in the same relationship as the previous assessment and did not report current IPV.

1.5 Protective factors against the negative effects of IPV on mental health.

IPV is linked to an abundance of physical and psychological negative effects (Campbell & Lewandowski, 1997; Koss & Heslet, 1992; Plichta, 1992). Further, little research has addressed protective factors that may reduce the risk of poor mental health in victims of IPV. One potential factor that may protect from adverse mental health outcomes is social support (Coker et al., 2002). In some cases, abused women may not seek social support because violence is a private matter or they may fell stigmatized or they may fear of retaliation by (ex) partner (Mitchell & Hodson, 1983). Arias (1999) suggested that social support may moderate the association between IPV and depressive symptoms. One of the first studies to assess the protective rule of social support on a range of mental health was
the research of Coker et al. (2002). In their cross-sectional study, they interviewed 1152 women seeking medical care; of these, 31% never talked to anyone about the abuse and 82% of those disclosing abuse reported that the persons (to whom they disclosed the abuse) were supportive. Abused women with higher social support were less likely to report current poor mental and physical health, depression, PTSD symptoms, anxiety and suicide ideation than abused women reporting lower social support. Social support has received the greatest attention among risk and resilience factors for mental health problems among women exposed to intimate partner aggression. Numerous investigations demonstrated that higher levels of support are associated with more positive adaptation (Thompson et al., 2000). Mertin and Mohr (2001), in a cross-sectional study of posttraumatic stress disorder (PTSD), depression, and anxiety among 59 domestic violence shelter residents in Australia, found that reports of higher perceived social support were associated with lower levels of each of the outcomes of interest. In accordance to Carlson, McNutt, Choi, & Rose (2002), social support may lead to lower depression by enhancing self-esteem and sense of well-being, increasing coping skills and available social and tangible resources. A small group of studies have examined longitudinal associations between measures of intimate partner violence, social support, and depressive symptoms. Campbell, Sullivan, and Davidson (1995) examined changes in depression across three time points over eight and a half months in a sample of 141 women leaving a shelter. Findings suggested that higher perceived quantity and quality of social support was associated with lower depression both cross-sectional at 6-month follow-up and longitudinally. Similarly, Nurius et al. (2003) found that positive social relations were associated with less depression, whilst negative social relations was related to more depression in a cross-sectional study of a sample of 448 women; further, these associations remained even when controlling for other predictors of depression including abuse severity, women’s appraisal of vulnerability, and socioeconomic resources. Anderson, Saunders, Yoshihama, Bybee, and Sullivan (2003) examined longitudinal predictors of depressive symptoms among women leaving shelter who remained separated from their abusers across a 2-year time period (N = 94). Consistent with the earlier study, findings suggested that higher social support was associated with less depressive symptoms across time. In contrast to findings obtained by Anderson et al. (2003), Carlson et al. (2002) divided participants into low and high support groups based on their responses and did not find an interactive effect of abuse victimization and social support on depressive symptoms.
in their cross-sectional survey of women ($N = 557$). However, these findings suggested that social support is less helpful in lessening the impacts of IPV on depression among women who experience higher levels of IPV. Beeble, Bybee, Sullivan, and Adams (2009) conducted the most methodologically sophisticated examination of social support and depressive symptoms in an IPV sample to date. They assessed 150 female IPV survivors recruited from community-based domestic violence programs on six occasions over a two year period. At each time point, participants’ satisfaction with the quality and quantity of their social support and depressive symptoms were assessed. They found that baseline levels of social support were negatively associated with baseline levels of depression, and higher levels of baseline social support were associated with steeper declines in depressive symptoms across the two year period. They also found that the association between baseline physical IPV and depressive symptoms was completely mediated by social support. In addition, there were no significant interactions between baseline social support and physical IPV in the prediction of either baseline depressive symptoms or change over time in these symptoms, indicating that the relationship between baseline physical IPV and depressive symptoms was not moderated by social support. Suvak, Taft, Goodman, and Dutton (2013) have tried to replicate and extend the work of Beeble et al. (2009) by examining longitudinal associations between social support and depressive symptoms in a large sample of women who sought help for IPV who were evaluated on 10 occasions over a four and a half year period. The finding, in line with the findings of Beeble and colleagues (2009), revealed that the support predicted changes in depressive symptoms over time that is, women’s reports of satisfaction with quality and quantity of a variety of types of social support predicted larger decreases in depressive symptoms during the 1.5 years following attempts to obtain help. In a recent review, Sylaska and Edwards (2014) highlighted that the majority of individuals disclose to at least one informal support (e.g., friends, family, classmates, and co-workers) and that victims’ disclosure is associated with a number of demographic (e.g., victims’ sex, age, race), intrapersonal (e.g., victims’ feelings of shame/embarrassment, perception of control over abuse), and situational (e.g., violence frequency and severity, if abuse is witnessed) factors. Following disclosure, victims experience a wide range of positive (e.g., believing the victim’s reports, validating the victim’s experiences) and negative (e.g. disbelieving, blaming the victim) social reactions, with positive reactions rated as the most common and most helpful forms of support by victims. Finally, reactions to disclosure indicated that positive social reactions are
associated with more psychological health benefits and fewer negative health symptoms, whereas negative social reactions were associated with increased negative psychological health symptoms.
Chapter 2: Prevent Intimate Partner Violence victimization

2.1 Risk factors for Intimate Partner Violence

Issues related to intimate partner violence (IPV) in married, cohabiting, and dating couples have generated a great deal of interest from scholars, social activists, and the public. In an effort to better understand the causes of this growing problem, researchers have begun to empirically identify the various risk factors that predispose its occurrence. In response to these alarming figures, researchers have explored myriad factors that may increase vulnerability to assault. Capaldi, Knoble, Wu Shortt, and Kim (2012), in their review, summarized a series of factors for perpetration and victimization among adults and adolescents that substantially may be grouped into three categories as described by the authors: (a) socio-demographic characteristics (e.g., age, gender, race/ethnicity), (b) developmental characteristics (e.g., family relationships), and (c) psychological and behavioural risk factors such as alcohol and drugs use and cognitions. In this section it will be adopted the same distinction, focusing on some factors, with additions to other studies summarized in similar reviews (e.g. Costa et al., 2015; Jennings et al., 2017).

Sociodemographic characteristics

Age. Age can represent in some ways a protective factor because findings from multi-wave prospective longitudinal studies across a 10-year found that the prevalence rates of men’s physical aggression toward a partner declines with age (Kim, Laurent, Capaldi, & Feingold, 2008). This is consistent with results of a study of Rodriguez, Lasch, Chandra, and Lee (2001) which they found that age significantly reduced the likelihood of engaging in violent arguments for both female and male respondents who reported having violent arguments. But suffering of violence early may represent risk factors for both perpetration and victimization. In a systematic review, Costa and colleagues (2015) tried to identify relevant prospective longitudinal studies investigating child and adolescent predictors of dating violence perpetration and/or victimization experienced in the context of adult romantic relationships. They found that substantiated physical abuse before age six significantly predicted physical abuse perpetration and victimization.
Gender. The reviewed studies generally indicate that men and women are relatively equally likely to perpetrate IPV (Ali & Naylor, 2013; Archer, 2000; Capaldi, Kim, & Shortt, 2007; Capaldi & Owen, 2001; Straus & Gelles, 1986) or that women show somewhat higher rates than men (Herrera, Wiersma, & Cleveland, 2008; Schluter, Abbott, & Bellringer, 2008). Thus, findings are consistent with the meta-analysis conducted by Archer (2000), which indicated that for IPV perpetration, women are slightly more likely than men to use one or more acts of physical aggression and to use such acts more frequently and that, overall, 62% of victims injured by a partner were women. There are indications of interactions between gender and age in predicting IPV. Capaldi, Kim, and Shortt (2007) found that women were observed to use more physical aggression than men in late adolescence, but the prevalence was similar by around age 26 years. Herrera, Wierserma, and Cleveland (2008) proposed that women's use of violence is influenced by their experience as victims. They suggest that women with a higher propensity for violence and aggression are significantly more likely to act on those tendencies when they are in a relationship with a violent male partner. Interestingly, they found that women who had violent tendencies but were with nonviolent partners did not act on these tendencies. They concluded that young women's use of violence is conditioned on being with a violent partner. In the systematic review of Costa et al. (2015), they underline how is difficult assessing the prevalence of dating violence across gender. They found some studies that investigated these differences (Esquivel-Santovena & Dixon, 2012; Sunday et al., 2011). In Esquivel-Santovena & Dixon (2012), for example, emerged that, 12-month rates of perpetration ranged from 9% to 14% for males and 3.5% to 17% for females and rates of victimization ranged from 5% to 12% for males and 5% to 35% for females. In a recent review of Jennings et al. (2017), they analyzed the prevalence of dating/intimate partner violence victimization among youth and young adults (ages 15-30) that range from 6% of boys and 9% of girls (ages 14–18) (Ackard & Neumark- Sztainer, 2002) to upwards of 21.8% of young men and 37.2% of young women (age 21) (Magdol et al., 1997). Kaukinen (2014), referring to young couples, emphasizes how the literature relies on research instruments designed to measure violence among adults. These likely fail to fully tap the context in which young people use violence within intimate relationships and the meaning youth attach to intimate relationships, violent behaviour, and coercive control. Jennings et al. (2017) carried out a systematic review on research articles focused on dating/intimate partner violence among individuals aged 15 to 30 about prevalence and examples of risk factors reported to be
associated with dating/intimate partner violence among youth and young adults. With respect to the prevalence of dating/intimate partner violence, although, a recent research by Kaukinen, Glover, and Hartman (2012) reveals that, among dating couples, violence is likely to occur in the context of a mutually violent relationship where women and men are both victims and perpetrators of violence, Jennings et al. (2017) found much smaller estimates (<10%) among younger persons than we did among older persons (~20–30%), with females in both age ranges reporting a higher prevalence of victimization compared to males.

Socioeconomic Status/Race/Acculturation. Socioeconomic status was found to be a most important proximal factor more than employment (Cunradi, Caetano, & Schafer, 2002). As Lanier and Maume (2009) highlight, a number of studies found that both socioeconomic and racial factors increase the degree of social isolation in communities, which in turn has a direct and positive impact on rates of violence (Lee, Maume, & Ousey, 2003; Peterson & Krivo, 1993; Shihadeh & Flynn, 1996); however, some researchers found that lower income was associated with greater male to female partner violence (O’Donnell, Smith, & Madison, 2002). Cattaneo and Goodman (2005), in their critical review have identified a number of factors that contribute to re-abuse in cases of male to female violence. Substantially, they divided such factors in three areas: individual, interpersonal and systemic. So, with regard to the victim, at individual level were considered the demographic variables such as ethnicity, age, employment and socioeconomic status (SES). Findings were fairly consistent for two of these variables. Age did not appear to be a useful predictor (Jacobson, Gottman, Gortner, Berns, & Shortt, 1996) while being minority women in lower income areas were at risk of re-victimization (Mears, Carlson, Holden, & Harris, 2001). In addition, a wide range of variables, interpersonal level was explored in relation to the re-victimization (Cattaneo & Goodman, 2005) including the history of psychological and physical violence, whether they were married, living together, or had children in common. Having children in common with their abusers (Hardesty & Ganong, 2006) or economic hardship may force women to maintain contact with them (Scott, London, & Myers, 2002). Also reconciliation attempts are rather frequent after separation, and the risk of re-abuse tends to increase when they fail (Aldridge & Browne, 2003). Moreover, persons living with their partners may have greater opportunities to engage in domestic violence (Wooldredge & Thistlethwaite, 2002).
**Family Risk Factors**

*Exposure to Intimate Partner Violence in Family of Origin.* Because of theories based in social learning and intergenerational transmission, a frequently studied risk factor for IPV is exposure to IPV in the family of origin or witnessing IPV of parents in childhood. In a study of Abajobir, Kisely, Williams, Clavarino, and Najman (2017), they investigated the association between substantiated child maltreatment and multiple forms of intimate partner violence in young adults (3322 (55%) female) with the mean age of 20.6 years, using a linked dataset from a child protection agency, physical abuse, emotional abuse and neglect are associated with experiencing later emotional intimate partner violence.

Although a handful of cross-sectional studies suggested there may be an association (Desai, Arias, Thompson, & Basile, 2002), these cross-sectional findings are confirmed by longitudinal studies (Widom, Czaja, & Dutton, 2014). Childhood maltreatment including sexual, physical and psychological abuse, and neglect may be chronic (Widom et al., 2014) and lead to victimization to multiple forms of intimate partner violence (Widom et al., 2014; Messman-Moore & Long, 2000). These consequences include sexual (Noll, Horowitz, Bonanno, Trickett, & Putnam, 2003), physical (Messman-Moore & Long, 2000) and psychological (Messman-Moore & Long, 2000) violence, and neglect (Widom, Czaja, & Dutton, 2008) into adulthood. However, against, Ireland and Smith (2009) found substantiated physical abuse perpetrated by a parent in adolescence was unrelated to the violence perpetration or victimization in early adulthood. In the fully prospective Minnesota Longitudinal Study, Linder and Collins (2005) found that, after controlling for early familial violence, individuals who experienced early childhood abuse, witnessed parental IPV, and experienced parental boundary violations (i.e., parental seductiveness or role reversal) reported higher levels of male to female IPV and female to male IPV in their romantic relationships. Similarly, Ehrensaft and colleagues (2003), after controlling for demographic factors and other predictors, found that exposure to violence between parents was a risk factor but not as strong a predictor as conduct disorder. Using retrospective reporting of childhood factors and the National Epidemiologic Survey on Alcohol and Related Conditions sample, Roberts, Gilman, Fitzmaurice, Decker, and Koenen (2010) found that—after controlling for childhood circumstances, adverse events, and demographic variables—witnessing IPV as a child was positively associated with IPV perpetration in adulthood. Again, using adult retrospective reports, Aldarondo and Sugarman (1996) found that men who witnessed family/spousal violence were at greater
risk for perpetrating IPV over both short and long time periods. Using a similar retrospective design, Renner and Slack (2006) found that after controlling for age when first child was born, race/ethnicity, marital status, age when first employed, childhood history, and SES variables- childhood physical abuse, sexual abuse, and witnessing IPV were predictive of IPV victimization. In an examination of the risk factors associated with dating/intimate partner violence, also Jennings, et al. (2017) found a large array of risk factors, among which childhood exposure to violence (Gover et al., 2008), witnessing interparental partner violence (Kim, Kim, Choi, & Emery, 2014), exposure to violence other than interparental partner violence (Malik, Sorenson, & Aneshensel, 1997) and alcohol use/abuse (Exner-Cortens et al., 2013).

**Alcohol and Drug Use.** There is ample literature supporting the premise that, in general, substance use is associated with increased odds of experiencing IPV (Jennings et al., 2017; Exner-Cortens et al., 2013; see Boles & Miotto, 2003 for review). However, this relation may be conditioned by the type of substance, pattern of use, gender, and type of IPV as well as other factors. Literature on the nature and extent of the association is inconsistent or inconclusive; some of these are arguably a reflection of an inherently complex relationship and findings reflect variations in methodology and measurement. For example, Low, Tiberio, Wu, Shortt, Capaldi, and Eddy (2017) found that most studies on substance use and IPV have focused exclusively on alcohol, in large part because of the early emphasis on disinhibition theories, which postulate that substance use increases risk of IPV because of impaired judgment and modification of expectations (Lennings, Copeland, & Howard, 2003). There is now ample evidence that alcohol, especially heavy alcohol use, contributes to IPV, although there is substantial literature suggesting that the alcohol-IPV relation is conditional upon individual characteristics and environmental circumstances (Leonard, 2005). Other types of substances, such as marijuana, have been associated with IPV in teenage (Reyes, Foshee, Bauer, & Ennett, 2014) and young-adult populations (see Testa & Brown, 2015, for review). However, many of these studies have examined marijuana use independent of alcohol use. This seems ill advised given the high rates of co-morbid use (Jackson, Sher, & Schulenberg, 2008). Studies that examine use of both substances simultaneously are needed. Only a few such studies have been conducted in regards to IPV. For example, Feingold, Kerr, and Capaldi (2008) found that, despite high levels of co-morbid substance use, marijuana use played a larger role in men’s physical and psychological IPV than did alcohol. It is interesting to note that once the effects of other
drug use were controlled for, alcohol was no longer significantly related to IPV. All things considered, the available research points to the importance of considering specific substances, such as marijuana use, while controlling for overlap in use to accurately assess the unique contribution of alcohol. Results suggested that women who used both alcohol and marijuana perpetrated significantly more psychological IPV compared with women who used only alcohol. Alcohol is widely considered to be a key proximal predictor of IPV because of its hypothesized disinhibitory effect on aggression (Flanzer, 2005). Drug use has been less frequently examined as a predictor. For the Rutgers Health and Human Development Project, White and Chen (2002) found that for men and women, after controlling for other risk factors (e.g., age, education, marital status, parental fighting), current problem drinking was significantly associated with IPV victimization and perpetration, although the magnitude of associations was small. Caetano, McGrath, Ramisetty-Mikler, & Field (2005) examined predictors of the recurrence and incidence of IPV perpetration across a 5-year period for couples, and in a multivariate prediction model—including several other risk factors (e.g., age, relationship status, race, employment) and alcohol use predictors (problems, five or more drinks per occasion in the past year, and average volume of use—each assessed for men and women)—found that male alcohol problems are associated with a higher recurrence of male to female partner violence, while female alcohol problems are associated with incidence of female to male partner violence. For the National Survey of Families and Households, Rodriguez et al. (2001) found that the frequency of drinking alcohol was not related to mutual IPV for employed adults; but for the non-employed relative to fulltime workers, more alcoholic drinks significantly increased the risk of violence. Testa, Livingston, and Leonard (2003) examined women’s victimization and found that women’s heavy episodic drinking did not predict subsequent experiences of male to female IPV in ongoing or new relationships, but that marijuana and hard drug use were associated with increased likelihood of victimization in new relationships. In longitudinal adolescent work, Reyes, Foshee, Bauer, and Ennett (2010) found for a rural school-based sample, after controlling for demographic and psychosocial covariates, that the results of the between-person effects of heavy alcohol use suggested that heavy alcohol use was significantly positively associated with the overall cohort trajectory of physical dating aggression perpetration with no evidence of sex differences. Adolescents with heavy alcohol use at baseline reported relatively high levels of dating aggression perpetration during early and middle adolescence; yet by late
adolescence, there were no differences in perpetration levels between heavy alcohol users and nonusers. After controlling for demographic and psychosocial covariates, the results of the within-person effects of heavy alcohol use suggested a negative interaction between heavy alcohol use and grade, such that the effect of heavy alcohol use on dating violence perpetration diminished as grade level increased. In an urban sample of high school girls, Buzy et al. (2004) found that, after controlling for any alcohol use and demographic variables, greater alcohol use was concurrently associated with greater risk for physical violence victimization for the girls and longitudinally associated with physical and sexual victimization 4 months later. In cross-sectional work, Temple and Freeman (2011) examined dating violence victimization for a Texas high school sample and found that, after controlling for demographic variables and alcohol use, lifetime use of any controlled substance significantly increased the likelihood of reporting dating violence victimization. O'Keefe (1997) found that, controlling for other factors (e.g., SES, race, family-of-origin violence, relationship characteristics), alcohol and drug use were associated with dating violence perpetration for boys and girls. Overall, these findings indicate that although there is evidence for an association of indicators of alcohol use with IPV perpetration and victimization, it is not as strong or as consistent as has generally been supposed. This is likely partly because of the strong association of problematic substance use with other risk factors, particularly with conduct problems/antisocial behaviour. It also appears that the association may be stronger for girls and women than for boys and men. There are fewer studies on the use of drugs and IPV, but those that are there suggest that there could be a stronger association between such use and IPV.

**Cognition**

*Hostile Attributions, Attitudes, and Beliefs.* Among the risk factors identified in the literature associated with the occurrence of dating violence among young women there are attitudes and beliefs about interpersonal violence and feminine/masculine gender roles (Jennings et al., 2017). Research suggests that adherence to traditional gender-role ideology is associated with the justification and the actual perpetration of relationship violence (Reitzel-Jaffe & Wolfe, 2001). Gender-role stereotypes are viewed as key elements contributing to dating violence (Mahlstedt & Welsh, 2005) although previous studies indicated inconsistent findings (Yick & Agbayani-Siewert, 2000), especially regarding different types of violence (e.g., physical vs. sexual). Recent studies found that traditional gender-role beliefs are associated with sexual dating-violence perpetration and
victimization (Sears, Byers, & Price, 2007). For example, one study surveyed 324 boys and 309 girls in Canada and revealed that boys’ use of sexual dating violence and girls’ use of psychological dating violence were linked to risk factors suggesting an enactment of social scripts associated with their respective gender roles (Sears et al., 2007). In addition, a longitudinal study on American adolescents revealed that girls’ adherence to traditional gender stereotypes predicted the girls’ chronic victimization from sexual dating violence, but not boys’ victimization (Foshee et al., 2004, 1996). Studies using samples of Chinese American college students indicate instead that gender-role beliefs are not associated with physical IPV (Yick & Agbayani-Siewert, 2000). Researchers have demonstrated that perception of violence as justifiable under certain circumstances increases the risk of dating violence (Lewis & Fremouw, 2001). O’Keefe (1997) found a significant relationship between perpetration of male-to-female violence and justification of male-to-female violence among boys. Reitzel-Jaffe and Wolfe’s study (2001) revealed that young undergraduates (n = 585 males) who endorsed both traditional gender-role ideology and attitudes condoning relationship violence were more likely to physically assault partners than were those endorsing either traditional gender-role ideology or attitudes condoning relationship violence alone. In a longitudinal study (Herrenkohl & Jung, 2016), results demonstrated that the strongest prediction of adult IPV victimization and perpetration is from earlier forms of victimization and peer approval of dating violence in adolescence, in particular peer approval of violence related to dating violence was associated with psychological IPV victimization. So, literature on dating violence suggests connections among gender-role beliefs, attitudes justifying violence, and actual violent behaviours. León-Ramírez and Ferrando (2014) in their research claim that sexism is an important predictor of gender violence because the “balance of power” (Watts & Zimmerman, 2002, p. 1232) between the boy and the girl is unequal. At the general level, the term sexism is “a special case of prejudice marked by a deep ambivalence, rather than a uniform antipathy toward women” (Glick & Fiske, 1996, p. 491). According to Glick and Fiske (1996), sexism is made up of two clearly differentiated components, hostile and benevolent sexism: hostile sexism refers those aspects of sexism that fit Allport’s (1954) classic definition of prejudice, that is “an antipathy based upon a faulty and inflexible generalization” (p. 9); while, benevolent sexism was defined by Glick and Fiske (1996) as “a set of interrelated attitudes toward women that are sexist in terms of viewing women stereotypically and in restricted roles but that are subjectively positive in feeling tone (for the perceiver) and also
tend to elicit behaviours typically categorized as prosocial (e.g., helping) or intimacy seeking (e.g., self-disclosure)” (p. 491). In terms of primary prevention, as Graffunder, Noonan, Cox, and Wheaton (2004) noted, “correcting misperceptions among adolescents promises to yield great prevention returns for two reasons. First, because most members of peer groups prefer conformity to nonconformity, misperceptions may discourage men and boys from challenging offensive or hurtful peer behaviour. Second, misperceptions may also serve to pressure young men to conform to a false norm” (p. 7).

2.2 Primary and Secondary Prevention of IPV

The problem of IPV has been well documented with respect to its psychological, physical, social and economic costs (WHO, 2016). Although the evidence suggests that women-centred programmes can reduce a woman’s risk of further victimization (García-Moreno et al., 2015), unfortunately there are less conclusive evidence for the preventive of its occurrence (Ellsberg et al., 2014).

In the past 20 years, much research has been dedicated to the extent of violence against women and girls and understanding the underlying causes and risk factors associated with violence perpetration and victimization. As Whitaker, Murphy, Eckhardt, Hodges, and Cowart (2013) explain, preventing IPV before it begins is difficult for two reasons. First, it needs to identify the right target (e.g. any behaviour of IPV o specific forms of IPV as only severe IPV forms) and understanding the level of seriousness (e.g. pushing a partner or using a weapon on them). Second, it is difficult to identify the onset of IPV to understand when to intervene (Foshee & Reyes, 2009). In the literature are used terms such as prevention and primary prevention to refer to interventions that work with individuals or communities irrespective of their history of violence (Foshee et al., 1996). These interventions seek both to prevent violence from occurring in individuals who have not experienced it before and to reduce reoccurrence in those who have already experienced or used violence (Baldry, 2016). In contrast, secondary prevention interchangeably to refer to interventions that are designed to address violence that is already occurring in relationship, with the aim of reducing revictimization or recidivism (Foshee et al., 1996; Baldry, 2016). Cornelius and Resseguie (2007) reviewed all prevention programs for primary and secondary prevention in dating relationships. For example, Foshee et al. (1996) developed The Safe Dates Project, one among four school- based studies conducted in school settings using group-based curriculum (see also Wolfe et al., 2009; Jaycox et al.,
that found positive effects on IPV behaviour (Whitaker et al., 2013). This program focused on changing dating violence norms, conflict-management skills and gender stereotyping and utilized a pre-test-post-test experimental design with random assignment of 14 schools. While the participants in the control condition were exposed to only community activities (community service provider training), participants assigned to the experimental condition were exposed also to other activities such as 10-session curriculum provided by a trained presenter and a poster context. Evidences suggested that this program had a long-term durability of self-report reductions in perpetration and victimization one year following the prevention program (Foshee, Bauman, & Greene 2000), and at four-years post-treatment (Foshee et al., 2004). Avery-Leaf, Cascardi, O’Leary, and Cano (1997) implemented a program with both male and female (N=190) whose specific objective was to promote equity in dating relationships by highlighting the challenging of the conceptualization of violence as acceptable conflict resolution tactic. Results demonstrated that both female and male in the treatment group were significantly less accepting of aggression compared to the control group. Lavoie, Vezina, Piche and Boivin (1995) assessed changes in attitudes and knowledge as a result of two prevention programs (short and long term). The activities included watching a film and writing fictional letters to a perpetrator and to a victim of dating violence. Results revealed that positive attitudes changes were recorded following both the short and the long forms of program. Wolfe et al. (2003) proposed a prevention program with the aim to improve relationship skills and to decrease emotional distress in a sample of 158 participants (96 intervention participants and 62 control participants), The Youth Relationships Manual, one of the only programs to address revictimization in teen relationships grounded in Social learning and Feminist perspective, utilizing programs rigorously evaluated. Results revealed that both the treatment and control groups reported a decrease over time but the interventions group reported a greater decrease at a faster rate. In addition, the treatment group did not demonstrate significant gains in healthy relationship skills compared to the control group. Rosen and Bezold (1996) developed a didactic prevention program for women at risk for dating violence victimization. They first identified various types of violent behaviours that occur in dating relationships, after they explored the negative consequences and finally they worked on the empowerment and self-esteem skills. Participants noted positive changes in their ability to deal with violent situations. The limit of this program is given by the absence of empirical data to
assess changes over the course of the treatment. Hammond and Young (1991) proposed a culturally sensitive prevention program *The Positive Adolescents Choices Training* (PACT) that targeted interpersonal violence across various relationships rather than limited to dating relationships addressed to African-American teens. This program offered structured training on the communication, problem solving and negotiation involving a small group training of 10-12 youths. Results demonstrated that participants involved in the study were less likely to be involved in violent relationships at school compared to their peers. In a recent research, DePrince, Chu, Labus, Shirk and Potter (2015) tested and compared distinct curricula based on two approaches grounded on two theoretical framework different, the social learning and feminist theory (Wolfe et al., 1996; Crick & Dodge, 1994) and the risk detention-executive function perspective (Marx, Calhoun, Wilson, & Meyerson, 2001; Wilson, Calhoun, & Bernat, 1999) in order to examine revictimization (sexual or physical assault) over time. Adolescent females (N=180) were randomized to two different groups and were assessed immediately after intervention, 2 months after and 6 months after intervention. Results demonstrated that the two intervention conditions did not differ significantly from one another in sexual or physical revictimization over time, suggesting that both are relevant to revictimization. Secondary prevention, in accordance to Storey, Kropp, Hart, Belfrage, and Strand (2014) can include both the management of the perpetrator’s risk and management of the vulnerabilities of the victim and to link both parties to appropriate community services. In most cases the response of criminal justice and/or health care system may regard two processes: the risk assessment and the risk management. The first can be defined as “the process of identifying risk and protective factors” (Hart, 2008, p. 7) while risk management as “the process of preventing violence by influencing risk and protective factors” (Hart, 2008, p. 7). To fulfil these prevention-related goals, police have been increasingly turning to empirically informed practice more specifically to violence risk assessment instruments developed using empirical research. Instruments are: the Ontario Domestic Assault Risk Assessment Guide (ODARA; Hilton, Harris, & Rice, 2010; Hilton et al., 2004), the Brief Spousal Assault Form for the Evaluation of Risk (B-SAFER; Kropp, Hart, & Belfrage, 2005; Kropp, Hart, & Belfrage, 2010), the Spousal Assault Risk Assessment Guide (SARA; Kropp, Hart, Webster, & Eaves, 1994, 1995, 1999), the Italian brief version was validated in Italy by Baldry & Roia (2011) and the Danger Assessment (DA; Campbell, 1995; Campbell et al., 2003; see also Messing et al,
have been pilot tested or used by multiple police departments (Messing & Thaller, 2013).

### 2.3 Situational Risk Recognition

In accordance to Slep, Foran, Heyman, Snarr, and USAF Family Advocacy Research Program (2014), there are more encouraging findings for primary prevention programs in dating relationships, but, however, this prevention targeted a limited number of individual-level risk factors (e.g., attitudes about IPV, expectations for relationships), so, several important gaps need to be filled. Hence, a research question arises: what factors put people at risk for victimization or to repeated victimization? Beyond the risk factors above mentioned and known in the literature (for review see Capaldi et al., 2012; Costa et al., 2015; Jennings et al., 2017), a number of studies focused on situational risk recognition (e.g. a violent behaviour) and on risk perception for future victimization and on factors that may impair these abilities (for review see Gidycz, McNamara, & Edwards, 2006). Risk perception consists of two major components, that is, "the general estimate of perceived vulnerability and the recognition of a situational risk" (Gidycz et al., 2006, p. 442).

In this section will be examined the recognition of a situational risk, while, in the next section will be depth the risk perception for future victimization, studied mostly in women battered, victims of repeated violence. Sometimes these two terms are used interchangeably. A number of studies focused on situational risk recognition ability especially in the field of sexual violence (for review see Gidycz et al., 2006). Risk recognition ability can be defined as "the ability to sufficiently recognize danger cues (e.g., in social interactions) and to correctly identify dangerous situations" (Bockers, Roepke, Michael, Renneberg, & Knaevelsrud, 2014, p. 1). The firsts research on the situational risk recognition have hypothesized that poor recognition of risk for potential danger may mediate the relationship between previous histories of child and adolescent sexual assault (identified as one of the most important risk factor for future sexual victimization, see Gidycz, Coble, Latham, & Layman, 1993) and subsequent victimization experiences (Wilson et al., 1999) “putting individuals at higher risk for future victimization, that is, revictimization” (Volkert, Randjbar, Moritz, & Jelinek, 2013, p. 2). To date, situational risk recognition has been studied primarily within the context of sexual assault victimization and studies in this regard appear to be discordant in the results. A number of studies found, for example, that victims of sexual trauma showed delayed risk recognition in threatening
situations that involve sexual assault (Soler-Baillo, Marx, & Sloan, 2005; Wilson et al., 1999; Marx et al., 2001), whilst, other studies have found no support for the association between risk recognition and sexual victimization history (VanZile-Tamsen, Testa, & Livingston, 2005; Volkert et al., 2013; Price, 2015). There is also conflicting evidence on alcohol use and risk recognition. Results of some studies suggested that alcohol does impair risk recognition (Davis, 2000; Testa, Livingston, & Collins, 2000), whereas others have found no relationship (Cue, George, & Norris, 1996; Livingston & Testa, 2000). In order to investigate the relation between alcohol and risk recognition, two laboratory studies were conducted. In one study, Testa, Livingston, and Collins (2000), conducted an experimental study on situational risk recognition with a sample of community women (N=59). In experimental condition, they escorted participants to a simulated bar to consume their beverages, comparing them with the placebo group and no alcoholic beverage group. Following this, participants read a vignette that described a risky situation, in which an intoxicated male acquaintance shows up at the participant’s house after a night of drinking. The results suggested that compared to the non-drinking group and placebo group, participants in the alcohol conditions perceived the man more positively. Additionally, women in the placebo and alcohol groups anticipated that they would be more likely to engage in those risky behaviours. In a similar laboratory’s study, Davis (2000) found that in response to a vignette, alcohol consumption setting did decrease women’s perceptions of cues that were indicative of sexual assault risk. In a subsequent qualitative analysis of the data from the participants in the Testa et al. (2000) study, Livingston and Testa (2000) found that none of the three drinking groups differed in their risk recognition abilities. The researchers tried to explain these different results by suggesting that alcohol might exert an effect on woman’s responses in terms of resistance to a threatening situation rather than on their ability to identify threat. In addition, there are to date methodological problems on how to measure this construct. Generally, there were three methodologies that have investigated situational risk recognition. The first was developed by Marx and Gross (1995) in which participants listened to an audio taped date rape encounter and were asked to stop the tape when they thought the encounter has “gone too far,” a variable known as response latency. Longer decision latency implies poorer risk recognition. In the second methodology, developed by Messman-Moore and Brown (2006), participants read written vignettes depicting sexual assault and imagine themselves as the victim. Participants were asked to indicate at what point they would begin to feel uncomfortable and when they
would leave the scenario. Feeling more comfortable and leaving the scenario later indicates poorer risk recognition. Others measure of risk recognition used different vignettes or questions (e.g. Norris, Nurius, & Graham, 1999; Kearney, 2015). Finally, Witte and Kendra (2010) used a videotaped depiction of physical and psychological dating abuse to assess risk recognition, similar to the Marx and Gross (1995) methodology, to capture body language and other nonverbal cues related to physical violence. Psychological abuse was depicted during the first two segments and then physical abuse accompanied the escalating psychological abuse during the third and fourth segments. Participants rated the statement, “I think this interaction has gone too far”, during each of the four predetermined pauses in the video, using a 5-point Likert-style scale (1 = strongly disagree and 5 = strongly agree). Witte and Kendra (2010) also, were the firsts to investigate situational risk recognition in intimate partner violence (see table 2) instead of sexual assault examining whether history of physical IPV would influence risk recognition ability in physically aggressive dating situations. It was hypothesized that IPV victims would display deficits in risk recognition compared to their no victimized peers. So, they investigated the ability of victims of physical forms of IPV to recognize risk or danger in a physically violent heterosexual dating situation. Results demonstrated that “victims were less able to recognize subtle forms of abuse (i.e., punching the sofa) and more obvious acts (i.e., slap across the face) as signals that the situation had “gone too far” (Witte & Kendra, 2010, p. 2210). These results are in line with previous studies (Soler-Baillo et al., 2005; Wilson et al., 1999). In addition, IPV victims, when compared to their no victimized peers, had significantly more accepting attitudes toward men’s use of jealous tactics, verbal aggression, and physical aggression against women (Witte & Kendra, 2010). In a perspective study of a sexual assault risk reduction program, Marx, Calhoun, Wilson, and Meyerson (2001) had asked to the participants to answer to the Marx and Gross (1995) audiotape at the beginning of the study (Time 1). After two months, the authors assessed rates of victimization and it was found that women who were raped during this brief follow-up period evidenced longer response latencies at time 1 than those women who were not raped during the same period. Unfortunately, the generalizability of this study is limited because those participated in the study had histories of sexual victimization. As evidenced by Witte and Kendra (2010), it is still unclear how situational risk recognition deficits develop and what other variables might interact with or explain them. For example, Wilson, Calhoun, and Bernat (1999), using the audio taped vignette developed by Marx and
Gross (1995), conducted pair wise comparisons in a retrospective study to test a) whether women who reported a history of multiple victimization experiences would exhibit significantly poorer recognition of risk than either single-incident victims or no victims, b) whether trauma symptoms might be related to poorer risk recognition among re-victimized women (using only the first group of participants). They found a) that re-victimized women showed lower risk recognition ability than do victims of a single assault and no victims; b) dissociative symptoms did not relate to the risk recognition, but greater PTSD-related arousal was associated with enhanced risk recognition. A longitudinal study was conducted by Messman-Moore and Brown (2006) in which these researchers followed university women for eight months. These researchers explored the relationship between women’s ability to recognize and respond to sexual assault risk (at time 1) and the likelihood that they would be victimized during the follow-up period utilizing a written scenario. Results highlighted that risk recognition ability at time 1 was not only associated with a previous history of adult victimization, but also preceded victimization during the 8-month follow-up. Bockers et al. (2014), conducted a study comparing women victimized (exposure to one or more incidents of interpersonal violence, i.e., sexual abuse or physical maltreatment, during childhood only, age 0–14, or during adolescence, age 14–18 only), women re-victimized (exposure to two or more incidents of interpersonal violence that were committed by different perpetrators, and that occurred in at least two different periods of life) and no victims (lack of exposure to traumatic events). They hypothesized that the variables risk recognition, guilt, shame, attachment anxiety, sensation seeking, state dissociation, assertiveness, and self-efficacy would predict group membership. Results indicated that the set of variables included reliably predicted group membership. Risk recognition ability, attachment anxiety, state dissociation, and self-efficacy were significant predictors of group membership. Risk recognition ability and attachment anxiety significantly distinguished re-victimized women from women who had been victimized during childhood or adolescence only. Thus, these variables were specifically related to re-victimization but not to victimization. State dissociation and self-efficacy significantly distinguished re-victimized women from non-victimized women. Their data showed that lower risk recognition ability, measured in terms of response latencies, distinguished between the victimized and the re-victimized group, but not between the re-victimized group and the non-victimized group. These findings highlight that risk recognition may not be impaired in re-victimized individuals, but rather increased in
victimized individuals. Wobschall (2014) created five scenarios in order to measure risk recognition ability; the participants were asked to answer (yes or no) if IPV occurred. She found that females were more likely to accurately identify scenarios that depicted abusive behaviours were than male students. Given the limited existing data on situational risk recognition among IPV victims, Sherrill, Bell, and Wyngarden (2016) conducted qualitative analyses with 31 female victims of physical IPV perpetration in order to investigate situational factors that IPV victims identified as indicators of imminent risk during a recent IPV episode using semi-structured interviews. They identified 13 situational risk recognition themes: Partner's verbal behaviour; Partner's tone of voice; Partner's motor behaviour; Recall of partner's history of aggressive behaviour; Partner alcohol or drug use; Partner's facial expression; Participant acting aggressively prior to partner's use of physical aggression; Trigger of partner's possessiveness; Partner's anger escalated; Partner's initial aggression; Partner's body language; Recall of partner's mental health history and Participant's gut feeling. The thematic analyses revealed a wide variety of situational features that might signal to victims the imminent occurrence of their partners' physical aggression. Considered that numerous studies supported the link between risk behaviour and sensation seeking such as risky driving (Dahlen, Martin, Ragan, & Kuhlman, 2005), drug use (Zuckerman, 1994), and shop lifting or climbing (Hansen & Breivik, 2001) and considered that this relation is unclear, Volkert et al., (2013), aimed to examine the potential link between risk recognition and sensation seeking behaviour. They hypothesized, firstly, that the re-victimized group shows delayed risk recognition compared with the single-victimized and no traumatized group; second, that the re-victimized group shows higher sensation seeking than the single-victimized and no traumatized group. Third, they hypothesized a positive relationship between impaired risk recognition and high sensation seeking. Results demonstrated that 1) no difference in risk recognition between the re-victimized, single-victimized, and no traumatized group was found; 2) the three groups did not differ in the total score of sensation seeking; 3) there was a positive association between high sensation seeking and delayed exit of risk scenarios displays a deficit in risk recognition. Some researchers have found that risk recognition is more difficult when the perpetrator is known to the victim and they are involved in a relationship (for review see Gidycz et al., 2006). VanZile-Tamsen, Testa, and Livingston (2005), investigated situational risk recognition in sexual assault among 318 community women adopting an experimental study with four conditions. They used 4
written vignettes in which sexual advances escalate, ending with the perpetrator pushing the female on the bed, all the same scenario except that the perpetrator varies in each: someone just met a male friend, a date, or a boyfriend. Participants were asked to read the scenario and to assess how upset they would be in a similar situation. Results revealed that women are more likely to perceive rape-related threat when the perpetrator is someone with whom they do not have an expectation of sexual intimacy. In addition, contrary to initial hypotheses, sexual assault history did not have a direct effect on women’s risk recognition. Soler-Baillo, Marx, and Sloan (2005) examined the psycho-physiological correlates of risk recognition in sexual victimization. Victims and non-victims of sexual assault listened to a hypothetical date rape interaction and were asked to indicate the point at which the man had become sexually inappropriate. The findings of the study showed that, relative to non-victims, victims of sexual assault displayed significant differences in risk recognition and showed diminished physiological responding (attenuated heart rate reactivity) to particular segments of the stimulus. The authors concluded that: “A diminished physiological response in a context saturated with sexual threat cues may serve to impair the ability to detect those cues, may inhibit an appropriate action, such as leaving the situation, or both” (p. 178). In the same way, Marx and Soler-Baillo (2005) examined differences among acknowledged sexual assault victims, unacknowledged sexual assault victims, and no victims in risk recognition and their psycho-physiological correlates. A primary finding was that unacknowledged victims showed significantly longer response latencies (i.e., poorer risk recognition) relative to both acknowledged victims and no victims of sexual assault and that acknowledged sexual assault victims displayed significantly decreased heart rate activity during a portion of the stimulus highly relevant to the risk recognition task. This could have an important value in terms of prevention because risk recognition ability “may serve as a mechanism by which the cycle of victimization is perpetuated” (p. 623).
<table>
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<th>Authors</th>
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<th>Major variables in the study</th>
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<td>Volkert et al. (2012)</td>
<td>57 victims of interpersonal trauma and 25 nontraumatized controls (male and female)</td>
<td>Physical Violence/trauma</td>
<td>An audio taped vignette of a man and a woman engaged in conversation in five different risk scenarios, including interpersonal and no interpersonal trauma material, were developed: traffic accident, household accident, assault, ferry journey, and evening at the pub. Each scenario consisted of five gradually increasing risk levels (from 0=introduction, no risk to 4= negative/neutral ending or high risk/no risk, respectively) with a total duration of approximately 3.5 min for each scenario. Three scenarios (traffic accident, household accident, and assault) had a negative ending and two scenarios (evening at the pub and ferry journey) had a neutral ending.</td>
<td>-Age -Sensation seeking -Depressive symptoms -PTSD symptoms</td>
<td>The authors found a positive association between high sensation seeking and delayed exit of risk scenarios displays a deficit in risk recognition. Also that the revictimized, single-victimized, and nontraumatized group, respectively, did not differ with regard to sensation seeking and risk recognition.</td>
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<td>Wobschall, (2014)</td>
<td>Doctoral dissertation, Minnesota State University, Mankato 151 male students, 231 female students</td>
<td>Psychological and physical violence</td>
<td>Five scenarios of intimate partner violence. Participants were asked to read five scenarios and indicate, by selecting yes or no, which scenarios depicted intimate partner violence</td>
<td>-Attitudes toward IPV</td>
<td>Females were more likely to accurately identify scenarios that depicted abusive behaviours were than male students. Male students delayed more attitudes toward male-to-female violence than female students.</td>
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<td>Sherrill et al., (2016)</td>
<td>Community sample of 31 female victims of IPV episodes involving substance use</td>
<td>Psychological and physical violence</td>
<td>1) On a scale of 0-10, with 10 being fully expected/anticipated and 0 being not at all expected/anticipated, to what degree did you expect or think that your partner was going to act aggressively toward you immediately before he acted aggressively toward you? 2) If you expected at all that your partner might act aggressively toward you, what led you to believe this? In other words, what was it about your partner, the situation, etcetera that led you to believe that your partner might act aggressively toward you?</td>
<td>-Drugs use by either the identified victim or perpetrator</td>
<td>13 identified situational risk recognition themes:  - Partner’s verbal behaviour  - Partner’s tone of voice  - Partner’s motor behaviour  - Recall of partner’s history of aggressive behaviour  -Partner alcohol or drug use  -Partner's facial expression  -Participant acting aggressively prior to partner’s use of physical aggression  -Trigger of partner’s possessiveness.  - Partner's anger escalated  - Partner’s initial aggression  - Partner’s body language  -Recall of partner’s mental health history  - Participant’s gut feeling</td>
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<td>Study</td>
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<td>Witte &amp; Kendra (2010)</td>
<td>182 female undergraduate students</td>
<td>Psychological and physical violence</td>
<td>The videotaped vignette depicted a violent interaction between heterosexual college-aged dating partners (four segments). Psychological abuse was depicted during the first two segments and then physical abuse accompanied the escalating psychological abuse during the third and fourth segments. Participants rated the statement, “I think this interaction has gone too far,” during each of the four predetermined pauses in the video, using a 5-point Likert-style scale (1 = strongly disagree and 5 = strongly agree).</td>
<td>Results demonstrated that victims were less able to recognize subtle forms of abuse (i.e., punching the sofa) and more obvious acts (i.e., slap across the face) as signals that the situation had “gone too far.” In addition, IPV victims, when compared to their no victimized peers, had significantly more accepting attitudes toward men’s use of jealous tactics, verbal aggression, and physical aggression against women.</td>
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<td>Price (2015)</td>
<td>247 female students</td>
<td>Psychological and physical violence</td>
<td>The videotaped vignette depicted a violent interaction (Witte &amp; Kendra, 2010) between heterosexual college-aged dating partners.</td>
<td>Physical IPV victimization had no relationship with risk recognition. There appeared to be a stronger relationship between risk response and physical IPV victimization. Results indicated that attitudes about dating violence had a strong consistent relationship with physical IPV victimization.</td>
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<td>Kearney, 2015</td>
<td>433 undergraduate female students and 108 undergraduate male students</td>
<td>Psychological and physical violence</td>
<td>Fifty items were created to assess the Recognition of Warning Signs of Dating Violence. The domains included Isolate, Monitor, Control, Demean, Physical Aggression, Jealous, Anger, Minimize, Intimidate, Relationship Characteristics, Partner history and Healthy relationship. Participants asked to indicate whether they were warning sign of an abusive dating relationship using the following scale: 1= Not at all a warning sign; 2= Slightly a warning sign; 3= Quite a bit a warning sign; 4= Very much a warning sign.</td>
<td>For female participants, psychological aggression predicted abilities to recognize warning signs of dating violence ($\beta = -0.18$, $p&lt;.01$). For male participants, the violence subscale of hypermasculinity predicted the ability to recognize warning signs, that is, more endorsement of violence as justifiable was associated with less ability to recognize warning signs of dating violence ($\beta = -0.34$, $p&lt;.01$).</td>
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2.4 Risk Perception for future re-victimization

Most interventions focused on prevention of violence and its recurrence, but little is known about the specific mechanisms that underlie revictimization risk (DePrince et al., 2015). Prediction of revictimization or assessment of danger by victims of violence has become a major research focus in the area of intimate partner violence (Cattaneo, Bell, Goodman, & Dutton, 2007; see Cattaneo & Goodman 2005; Hilton & Harris, 2005, for reviews). This because, women’s assessments of risk for future violence once violence has occurred, are related to actual future risk for violence (Cattaneo & Goodman, 2003; Cattaneo et al. 2007; Heckert & Gondolf, 2004; Weisz, Tolman, & Saunders, 2000). In fact, numerous studies (e.g., (Heckert & Gondolf, 2004; Cattaneo et al., 2007; Connor-Smith, Henning, Moore, & Holdford, 2011) have found that female IPV victims’ assessment of risk is associated with actual subsequent victimization. So, within the secondary prevention in IPV, widely studied is the personal risk perception for future assaults. Hilton and Harris (2005) defined the term “risk” as a “statistical odds of danger; the chance or probability that an event will occur” (p. 18). As Harding and Helweg-Larsen (2009) underlined in their article “the term ‘risk assessment’ is currently the term of choice in intimate partner violence research, while other literatures (e.g. health behaviour research) use the term risk perception” (p. 1). So, in this section, the terms will be used interchangeably. Individual risk perception is important for two reasons. First, it may be an accurate predictor of future victimization (Dichter & Gelles, 2012; Heckert & Gondolf, 2004); second, the perception of risk is associated with taking action toward protective or risk-avoidant behaviours (Brewer, Weinstein, Cruite, & Herrington, 2004). In accordance with the behaviour motivation hypothesis (for review and meta-analysis, see Brewer et al., 2007), risk perceptions for negative events may lead to adoption of measures to reduce the risk (Brewer et al., 2004); the women that “perceive themselves to be in danger may be able to take steps to decrease their risk of violence victimization if they are afforded adequate resources to do so” (Dichter & Gelles, 2012, p. 45). Women’s risk assessments are a variable worth considering with regard to their intended behaviours, and thus, understanding factors that are associated with their risk perceptions have implications in helping to maximize women’s ability to ‘read’ their situation and adopt behaviours accordingly. Harding and Helweg-Larsen (2009) included in their cross-sectional study (56 victims of violence) a series of variables that may have an effect on risk perception such as having left the batterer on a previous occasion, previous contact with police and the frequency of severe violence sustained in the previous year. Data indicated that regarding the previous abuse, only sexual coercion emerged as a significant predictor
of increased personal risk perception and contrary to their predictions, physical assault, psychological abuse, and injury were not associated with personal risk perceptions while experiences as leaving the batterer or police contact were associated with increased personal risk perceptions only if the relationship continued but not with increased personal risk perceptions if the relationship ended. The authors also tried to test hypothesis according to which perceived risk would predict relationship intentions, that are who perceived higher risk would be more likely to intend to engage in protective measures such as to end the relationship. Results indicated that higher risk reduction predicted intent to end the relationship. Dichter and Gelles (2012) conducted a study on sample of one hundred seventy-three women recruited from the hospital emergency department and community-based organizations. They examined the following variables: relationship factors (e.g., police intervention), previous violence (such as sexual violence victimization, lethality threats) and social support, in relation to the risk perception. Data showed, contrary to the results of Harding and Helweg-Larsen’ study, that women’s perceptions of being at risk were associated with the women’s experiences of particular forms of violence—battering, lethality threats, and sexual violence—and not with their own characteristics or police arrest actions. In addition, women who reported having social support were less likely to feel at risk than those who reported not having social support. 

In the IPV literature on risk perception, moreover, researchers (see Cattaneo, Bell, Goodman, & Dutton, 2007; Dutton, Kaltman, Goodman, Weinfurt, & Vankos, 2005), have found trauma related symptoms among victims contribute significantly to a heightened perceived risk for future IPV victimization. In accordance with Helweg-Larsen, Harding, and Kleinman (2008), depressive symptoms were associated with greater personal risk perception. In a review of the literature, Helweg-Larsen and Shepperd (2001) concluded that depression, negative mood and anxiety all were associated with increased perceptions of personal risk as well as less comparative optimism (see also, Pyszczynski, Holt, & Greenberg, 1987). Further studies instead concluded that depression lowers personal risk perceptions because the self-focused attention associated with depression primes negative schemes that affect perceptions and judgments (Chu, 1992; Kluft, 1990). Chu (1992) and Kluft (1990) theorized that dissociative and numbing symptoms carry out women to be less able to perceive danger and are thus more likely to be revictimized. As Gidycz, McNamara and Edwards (2006) explain, some researchers have focused on the mediating role of psychological distress suggesting that when a woman's psychological functioning is
impaired, it is more difficult for her to perceive and/or respond to threat in a situation. This theory, in fact, is often used to explain revictimization (Gidycz et al., 2006). So, research needs to know has yet to explore what predicts level of accuracy among victims. What is now needed is a more complete understanding of factors that shape perception of risk in women battered and how these factors are likely to influence (both positively and negatively) women’s risk reduction and self-protection over time in terms of secondary prevention as the decision to stay/leave with the batterer. Cattaneo, Bell, Goodman, and Dotton (2007) suggested that it can be used Bronfenbrenner’s ecological framework (1977, 1979, 1986) to select factors at individual, interpersonal, and system levels that prior research suggest are likely to influence victims’ accuracy, considered the absence of an theory to guide in the selection of predictors for this focus, that is risk perception. So, at the individual level, a victim’s risk perception is likely to be influenced by her mental health at the time of the assessment such as PTSD and substance use (Golding, 1999; Kemp, Green, Hovanitz, & Rawlings, 1995). At interpersonal level, they identified prior experiences of abuse and social support. One such factor is previous personal experience with an event, which in general is associated with increased estimation of personal risk (Helweg-Larsen & Shepperd, 2001). This pattern has also been found with respect to sexual victimization in which women with previous experience of sexual victimization showed greater perceived risk for their future sexual victimization (Brown et al., 2009). Similarly, in a study on dating violence among college students, women with previous experience of dating violence reported higher personal-risk ratings for future violence than women without such experience. Therefore, factors as “longer relationship duration and/or a longer and more severe history of abuse in the relationship should be related to increased accuracy” (Cattaneo et al., 2007, p. 431). Social support is also considered important because when “the victim is isolated, she becomes increasingly dependent on the perpetrator, not only for survival and basic bodily needs but also for information and even for emotional sustenance...Inevitably, in the absence of any other point of view, the victim will come to see the world through the eyes of the perpetrator” (Herman, 1992, p. 81). Finally, at system level, Cattaneo et al. (2007) considered a type of formal support as predictor of accuracy of victim’s assessment that is the possibility to access to formal sources of help such as the police, shelter and other services in the area. In their study, Cattaneo et al. (2007), explored potential predictors of accuracy using four categories (true positive, false positive, true negative, false negative). Results revealed that regarding individual level’s factors, PTSD sufferers were more likely
to overestimate than underestimate their level of risk. In terms of substance use, women reporting higher levels were more likely to be false negatives (underestimating their risk) than any other group. At interpersonal and system levels, instead, nor variables related to history of abuse nor variables related to social support and formal help seeking contributed meaningfully to the prediction of accuracy. Furthermore, to date, as this perceived risk involves the implementation of a protective behaviour is unclear. This is because, on the one hand does not explain why but for which a high risk, women do not leave abusive partners or do not report. Previous research related to separation or relationship termination is contrasting. For example, Sonis and Langer (2008) found that victims of violence who had left their abusive partner were at decreased risk of future violence, whereas Robinson and Tregidga (2007) found that the end of the relationship was associated with an increase in repeat violence. In fact, leaving the relationship could be dangerous because may increase risk of further violence; some authors suggested that, in some cases, the point of highest risk of violence is when victims decide to leave their partner (Fleury, Sullivan, & Bybee, 2000); so, assaults may increase in severity after this decision (Anderson & Saunders, 2003). Considered all these aspects, it is important to fully understand the factors that may be associated with personal risk perceptions for future negative events and of the factors involved in the tough decision of stay or leave the abusive partner over time.
Chapter 3: Research

3.1. Overview of the studies

Beyond the risk factors known in the literature, a number of studies focused on situational risk recognition (e.g. a violent behaviour in intimate relationship), on risk perception for future victimization and on factors that may impair these abilities (for review see Gidycz, McNamara, & Edwards, 2006). Risk perception consists of two major components, that is, “the general estimate of perceived vulnerability and the recognition of a situational risk” (Gidycz et al., 2006, p. 442).

In terms of primary prevention, this thesis aimed to investigate the recognition of early signals of abuse in intimate relationships. Situational risk recognition has received considerable attention in the sexual assault literature, but has yet to be studied in interpersonal violence literature. So, the first study of this thesis aimed: a) to investigate the recognition of warnings of dating abuse in a community sample of Italian female students (N=232) examining retrospectively whether the young women involved in a violent relationship would have greater difficulty in recognizing the risks compared to those who did not have and b) which factors, within an ecological model (Heise, 1998), can have an influence on risk recognition ability. This was the first attempt to study, within an ecological approach, the recognition of the risk in intimate partner violence. This because, individuals who do not recognize a previous experience as a violence may be predisposed to ignore salient threat cues or not fully process important threat-relevant information in subsequent situations. The second study mainly aimed to examine the physiological correlates of situational risk recognition in dating violent situations in young women. For this, a study with a sample of 30 young women was conducted. Participants’ heart rate (HR), skin conductance level (SCL) and response latency were collected during the administration of twelve scenario on the risk recognition specially designed for these studies. A Biopac MP150 system and AcqKnowledge software were used to acquire and amplify the signals. This was the first attempt to study the relationship between the recognition of the risk in intimate partner violence and the physiological responses. There were only two studies in this regard but with reference to sexual violence (Marx & Soler-Baillo, 2005; Soler-Baillo, Marx, & Sloan, 2008). This because, a diminished physiological response in a context saturated with threat cues may serve to impair the ability to detect those cues, may inhibit an appropriate action, such as leaving the situation, or both and
also because, impairments in defensive responding may play a key role in the cycle of victimization. In terms of secondary prevention, widely studied is the personal risk perception in women battered because this may “putting individuals at higher risk for future victimization, that is, revictimization” (Volkert et al., 2013, p. 2). In this regard, the behaviour motivation hypothesizes that a high perception of risk for a negative event will lead to adoption of or change in behaviour in order to reduce the risk (Brewer et al., 2004). But as this perceived risk involves the implementation of a protective behaviour is unclear. This is because, on the one hand does not explain why in a high risk situation, women do not leave abusive partners or do not report. So, a longitudinal study was conducted (N=83) in order to understand firstly the factors that are associated with women battered’ risk perceptions; to date, there are few studies that have investigated the factors that increase or decrease the personal perceived risk of re-victimization. As Cattaneo et al. (2007) suggested, it can be used Bronfenbrenner’s ecological framework (1977, 1979, 1986) to select factors at individual, interpersonal, and system levels that prior research suggest are likely to influence victims’ accuracy, considered the absence of an theory to guide in the selection of predictors for this focus, that is risk perception, this is why they have implications in helping to maximize women’s ability to ‘read’ their situation and adopt behaviours accordingly. Secondly, they were analyzed which factors may be predictive of the stay/leave decision of the women after 12 months. To date, the evidence base is limited by several methodological weaknesses: small sample sizes, wide range of outcome measurements and timeframes. Moreover, many studies did not control for potential confounding factors, which might result in some bias in the results and most of the assessments identified did not include a long follow-up period (Ellsberg et al., 2014). In this study it was also considered the role of positive feelings that women could have toward their abusive partners (Gordon, Burton, & Porter, 2004), such as gratitude toward (ex) partner, variable that has never been taken into account in previous studies within IPV.
3.2 Study 1: Risk factors into recognizing warnings of dating abuse in young women: an ecological approach

Abstract

Situational risk recognition was examined in relation to the psychological and physical victimization in a representative sample of Italian female students. A total of 232 female students read a series of written scenarios depicting mostly psychologically aggressive encounters between heterosexual dating partners and made repeated judgments about the interaction. The first objective of this study was to determine retrospectively whether female victims of psychological and physical forms of intimate partner violence (IPV) displayed deficits in situational risk recognition in violent dating encounters. Results suggested that the history of psychological forms of IPV was associated with a deficient risk recognition ability, such that victims of psychological IPV were less likely to recognize the violent behaviours involved in the scenario vignette compared to no victims. The second objective of this study was to determine which factors, within an ecological approach to the study of IPV, may predict deficits in risk recognition in violent dating encounters. Results from this study suggest that the previous violence (physical and psychological) in intimate relationships, the supportive attitudes toward IPV and stereotypical beliefs about domestic violence predicted deficits in risk recognition. This study also provided evidence for the creation of a new methodology to assess risk recognition ability in young women.

Research Objectives

The study and analyses were exploratory and focused on two primary research objectives. Objective 1: we first examined the influence of the history of physical and psychological aggressive dating situations on risk recognition ability, in particular we hypothesized, in line with previous research on sexual violence and situational risk recognition in IPV, that young women with experiences of violence in an intimate partner relationship will have greater difficulty in recognizing the risk compared to those who did not have it. Objective 2: we analyzed, within an ecological approach at various levels, the association of the personal factors such as age, the violent behaviours witnessed or suffered in the environments containing person (e.g. home), alcohol and drugs use, previous violent episodes in the relationships, sexist norms, attitudes and beliefs about IPV on the deficient risk recognition.
Method

Description of the research design

This study was implemented using non-experimental, quantitative research method to obtain information pertaining to intimate partner violence among sampled university female students. A cross-sectional survey was created to determine sampled university students’ abilities to accurately identify scenarios of intimate partner violence, among those proposed, as well as their attitudes toward IPV, sexism and their beliefs toward violence against women. So, a computer-assisted self-administered screen was used to disclosure of IPV in young women, this is because, in line with Hussain et al. (2013), it leads to higher rates of IPV disclosure in comparison to both face-to-face interview and self-administered written screens. The research gained permission by ethical committee of Department of Psychology-Università degli Studi della Campania- Luigi Vanvitelli.

Procedure

The survey was administered to a convenience sample of psychology undergraduate female students at different Italian universities between November 2016 and July 2017. The Universities involved have been the Università Cattolica del Sacro Cuore in Milan, the Università Chieti-Pescara, the Università degli Studi della Campania- Luigi Vanvitelli, the Università di Bari and the Università degli Studi di Torino.

Female students participated voluntarily and did not receive any rewards or incentives for their participation in the research study. Participants were solicited via an online survey site www.sara-cesvis.org – DIVA Online in order to complete the online questionnaire. Before doing so, they read a consent form explaining the voluntary nature of the participation and consent to processing of (anonymous) personal data. The following instructions were then given:

*DIVA is a questionnaire that asks girls and young women information about what they think about intimate relationships. Have you ever asked yourself if certain things can also happen to you? Read the questionnaire in all its parts and the instructions; for each question you have to provide the answer that best fits your situation and your condition since there are no 'wrong' or 'right' answers. You just have to answer what is corresponding to you and your experience. The questionnaire is anonymous. The duration of the questionnaire is about 30 minutes. It is not possible return to the previous page because all information entered will be
lost. If you start but do not wish to continue simply do not submit and the information you inputted will not be recorded. THANK YOU FOR YOUR PARTICIPATION!

Participants

Participants were 232 Italian female students from different Universities in Italy. The average age of the participants was 23.01 (SD = 2.50). Approximately 30% was born in North Italy, 3.4% in Centre of Italy and 63.8% in South of Italy. About eighty one percent (N=190) of the sample reported that they were currently or had a dating relationship in the past year (for more details see Table 2).

Measures

Participants will fill out a set of materials:

Socio-demographic information

- **Demographics.** Participants asked a number of demographic questions including age, place of born and place of residence;

- **Questions on the relationship.** To measure the presence or absence of a relationship we asked: Do you have a relationship or did you have a relationship in the past year? ( ) Yes, I currently have a relationship; () Yes, I had relationships lasting more than a month in the last year but now I have no relationship; ( ) No.

If no, we asked “What is your current relationship status?” Response options to this question included: ( ) I did not have relationships lasting more than a month in the last year; ( ) I never had an intimate relationship. To measure the type of relationships respondents were asked the following question: “Which is the type of relationship?” Response options to this question included: ( ) Dating partner ( ) Boyfriend ( ) Husband ( ) Cohabiting partner.

- **Alcohol and drugs use.** For alcohol use, the question read, “Do you ever drink alcohol outside of meals (e.g. alcoholic aperitifs, bitters or spirits)?” If yes, “how many times a week?” Response options to this question included: ( ) Once a week ( ) twice a week ( ) several times a week. To measure drugs use, the question read, “Do you ever use with friends or alone of substances that affect your perception and your mood?” If yes, “how many times a week?” Response options to this question included: ( ) once a week, ( ) twice a week, ( ) several times a week. Drugs use included substances as marijuana, hallucinogens, cocaine and heroin.
Violence

- **Previous violence with adults with whom they lived with.** To measure the previous violence respondents were asked the following question: 1) Have you ever witnessed a violent episode between adults with whom you lived with? 2) Have you ever been abused by adults with whom you lived with? Response options to these questions included: Yes or No.

- **Psychological Violence.** Measure of Psychologically Abusive Behaviours (MPAB-Follingstad et al., 2015). The MPAB consists in fourteen categories were finalized as potentially no overlapping types of psychologically abusive behaviours, resulting in a total of 42 psychologically abusive behaviours for example, “partner criticized and belittled you” (see Table 4 for item and subscale descriptions). Responses to these variables indicate the chronicity of engaging in or experiencing the behaviours noted above (0=never, 1=once in the past year, 2=few times in the past year, 3=monthly, 4=every week, 5=nearly every day and 7= not in last year but it did happen before). For the analysis of this study, we constructed intimate partner violence victimization variables that are dichotomous to indicate whether the respondent experienced at least one act of psychological violence the 12 months prior to the survey or whether the respondent experienced at least one act of violence in their relationships (even before 12 months). (Cronbach’s alpha=.95).

- **Physical Abuse.** Revised Conflict Tactics Scale (CTS2). The measure of physical violence victimization used in this study is similar to those used in other studies examining intimate partner violence among college samples. Items measuring intimate partner violence were modified from the Revised CTS (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The victimization variables include the following items: threw something that could hurt, twisted arm or hair, kicked, slapped, pushed or shoved, punched or hit with hand or an object, choked, slammed against a wall, grabbed, and used force (like hitting, holding down, or using a weapon) to make partner. Responses to these variables indicate the chronicity of engaging in or experiencing the behaviours noted above (0=never, 1=once in the past year, 2=twice in the past year, 3=3–5 times in the past year, 4=6 or more times in the past year, 5= 11-20 times in the past year, 6= more than 20 times in the past year and 7= not in last year but it did happen before). For the analysis of this study, we constructed intimate partner violence victimization variables that are
dichotomous to indicate whether the respondent experienced at least one act of violence the 12 months prior to the survey or whether the respondent experienced at least one act of violence in their relationships (even before 12 months). For item and subscale descriptions see Table 4. (Cronbach’s alpha=.73).

**Attitudes**

- **Ambivalent Sexism** (Glick & Fiske, 2001). To measure sexism norms, the Ambivalent Sexism Inventory (ASI) was used. This consists of 22 items developed to assess individual levels of hostile and benevolent sexism (Glick & Fiske, 2001). The answers range on a six-point Likert-type scale from 0 (strongly disagree) to 5 (strongly agree). The responses to these items were averaged to form a single index of ambivalent sexism (an example item is “Women seek to gain power by getting control over men”). (Cronbach’s alpha=.91).

- **Domestic Violence Myth Acceptance Scale** (DVMAS- Peters, 2008). It consists in 18-item and measures domestic violence myths that were conceptually defined as stereotypical beliefs about domestic violence that are generally false but are widely and persistently held, and which serve to minimize, deny, or justify physical aggression against intimate partners. The responses to these items were averaged to form a single index of Domestic Violence Myth Acceptance (an example item is “When a man is violent it is because he lost control of his temper”). (Cronbach’s alpha=.81).

- **Intimate Partner Violence Attitude Scale**. (IPVAS- Fincham, Cui, Braithwaite, & Pasley, 2008). The scale consists of 17 items and includes three factors found in the original study (Smith, Thompson, Tomaka, & Buchanan, 2005), abuse (e.g., “As long as my partner doesn’t hurt me ‘threats’ are excused”), control (e.g., “It is okay for me to tell my partner not to talk to someone of the opposite sex”), and violence (e.g., “It would not be appropriate to ever kick, bite, or hit a partner with one’s fist”). All items were answered on a 5-point scale, ranging from strongly disagree to strongly agree. The responses to these items were averaged to form a single index of Attitude toward IPV. (Cronbach’s alpha=.73).

**Risk Recognition**

- **Risk recognition ability.** In 1979, psychologist Lenore Walker found that many violent relationships follow a common pattern or cycle. The entire cycle may happen in one day or it may take weeks or months. It is different for every relationship and
not all relationships follow the cycle. On the basis on the warning signs of abuse, known in literature, such as manipulation, threats, verbal abuse, monitoring, control, possessivity, jealousy etc. (see Walker, 1979, Follingstad et al., 2015) and in line with previous instrument created on risk recognition (see Messman-Moore and Brown, 2006), it was created an instrument that measures the extent to which a young woman is capable to recognize the warnings signs in the heterosexual relationships (see Appendix 1). So, to assess risk recognition ability, we developed stimulus material based on the risk perception vignette of Messman-Moore and Brown (2006) adapted for situational dating violence in young women. It consists of 12 scenario items rated on a 3 point scale: 0 (I end the relationship), 1 (I disagree but I continue the relationship), 2 (I continue the relationship because after all what he says or does is right). These response alternatives were chosen because women may perceive threat but for multiple reasons remain in dangerous situations as some researchers have explained (Livingston & Testa, 2000). Initially, we performed a pilot study and an initial item pool of 14 items was generated. The pool was judged to have good face and content validity by a convenience sample of experts in the field of domestic violence. A random sample of students was recruited via the campus intranet e-mail system. A total of 145 individuals completed the online survey and submitted it via the Internet. After the first factor analysis, two of the items were omitted from subsequent analyses. So, the items were unit weighted and then summed to create a single index of Risk Recognition. Higher scores mean high deficient risk recognition of warnings signs of dating violence (Cronbach’s alpha=.78). Furthermore, participants were also asked to rate the quality of the acting on the scenario. The majority (84.5%) of participants agreed, slightly agreed or strongly agreed to the statement, “I think these scenarios are realistic and believable.” Only 10.8% neither agreed nor disagreed, 4.7% slightly disagreed, disagreed or strongly disagreed. The mean score on this rating (1= strongly disagree and 7= strongly agree) was 5.69 (SD= 1.21), suggesting that, on average, participants agreed that the scenarios were realistic and believable.

Analyses
Initially, this study examined the prevalence of dating violence victimization among a sample of 232 female students. Our prevalence measures indicated whether female
students experienced any one of 42 acts of psychological violence (MPAB) in the 12 months prior to the survey or during their life (considering also previous relationships) and any one of 12 acts of physical violence (CTS2-Revised) in the 12 months prior to the survey or during their life (considering also previous relationships). We also highlighted women’s experiences with the severe forms of violence (as indicated by the potential injury and infrequency of occurrence), including choking, punching, and shoving into walls (see table 5). Second, we also estimated a series of:

- Independent sample t-tests to examine the differences between history of physical and psychological violence toward each variables considered in the study;
- Chi-square to examine the differences between victims no victims of psychological and physical violence toward victimization history witnessed before and suffered after by adult with whom they lived with;
- A series of ANOVAs were conducted to test our first hypothesis that is whether female students with experiences of violence in an intimate partner relationship will have greater difficulty in recognizing the risk compared to those who did not have it.
- Finally, in order to achieve the second objective of the study we estimated a hierarchical regression model to evaluate the predictivity of each factor considered in this study within an ecological model on risk recognition ability.
### Table 2. Demographic description of sample (N=232).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)</th>
<th>Min-Max</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>23.01 (2.50)</td>
<td>19-31</td>
</tr>
<tr>
<td>N</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td><strong>Place of born</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North of Italy</td>
<td>71</td>
<td>30.6</td>
</tr>
<tr>
<td>Centre of Italy</td>
<td>8</td>
<td>3.4</td>
</tr>
<tr>
<td>South of Italy</td>
<td>148</td>
<td>63.8</td>
</tr>
<tr>
<td>Islands</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>Country EU</td>
<td>1</td>
<td>0.4</td>
</tr>
<tr>
<td>Country extra EU</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Nationality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Italian</td>
<td>230</td>
<td>99.1</td>
</tr>
<tr>
<td>Country EU</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Country extra EU</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North of Italy</td>
<td>71</td>
<td>30.6</td>
</tr>
<tr>
<td>Centre of Italy</td>
<td>10</td>
<td>4.3</td>
</tr>
<tr>
<td>South of Italy</td>
<td>147</td>
<td>63.4</td>
</tr>
<tr>
<td>Islands</td>
<td>4</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Do you have/Did you have a relationship currently or in the past 12 months?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, I currently have a relationship</td>
<td>172</td>
<td>74.1</td>
</tr>
<tr>
<td>Yes, I had relationships lasting more than a month in the last year but now I have no relationship</td>
<td>19</td>
<td>8.2</td>
</tr>
<tr>
<td>No, I did not have relationships lasting more than a month</td>
<td>22</td>
<td>9.5</td>
</tr>
<tr>
<td>No, I never had an intimate relationship</td>
<td>19</td>
<td>8.2</td>
</tr>
<tr>
<td><strong>Type of relationship (N=172)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dating partner</td>
<td>5</td>
<td>2.9</td>
</tr>
<tr>
<td>Boyfriend</td>
<td>162</td>
<td>94.2</td>
</tr>
<tr>
<td>Husband</td>
<td>4</td>
<td>2.3</td>
</tr>
<tr>
<td>Cohabitng partner</td>
<td>1</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Have you ever been abused by adults with whom you lived with?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12</td>
<td>5.2</td>
</tr>
<tr>
<td>No</td>
<td>220</td>
<td>94.8</td>
</tr>
<tr>
<td><strong>Have you ever witnessed a violent episode between adults with whom you lived with?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>46</td>
<td>19.8</td>
</tr>
<tr>
<td>No</td>
<td>186</td>
<td>80.2</td>
</tr>
<tr>
<td><strong>Do you ever drink alcohol outside of meals (e.g. alcoholic aperitifs, bitters or spirits)?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, once a week</td>
<td>105</td>
<td>45.3</td>
</tr>
<tr>
<td>Yes, twice a week</td>
<td>21</td>
<td>9.0</td>
</tr>
<tr>
<td>Yes, more times a week</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>106</td>
<td>45.7</td>
</tr>
<tr>
<td><strong>Do you ever use with friends or alone of substances that affect your perception and your mood?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, once a week</td>
<td>37</td>
<td>15.9</td>
</tr>
<tr>
<td>Yes, twice a week</td>
<td>5</td>
<td>2.2</td>
</tr>
<tr>
<td>Yes, more times a week</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>190</td>
<td>81.9</td>
</tr>
</tbody>
</table>
Results

Victimization History

In order to have information about history of victimization and prevalence, we conducted descriptive statistics about behaviours suffered in their currently relationship or in the last relationship (see Table 3 and Table 4). Of the 232 participants in the sample, 190 provided complete data for the CTS2 and MPAB thus were included in the remaining analyses; forty two (18.1%) participants did not replied to the questions because they did not have relationships lasting more than a month or they never had an intimate relationship. Of these 190 participants, 99 (approximately 43%) were classified as victims of psychological violence within the 12 months prior and 29 (approximately 13%) were classified as victims of physical IPV within the 12 months prior to the survey. Physical violence victimization experiences for the entire sample of female students, in the 12 months prior to the survey, ranged from 2 to 12% for pushes, slaps, and thrown objects to less than 2% for the most severe forms of violence (beating up and choking). Of the participants in the sample, 46 (19.8%) were classified as victims of physical abuse during their life (considering also previous relationships) and 144 (62.1%) were classified as no victims of physical IPV. Regarding psychological violence of the 232 participants, N= 110 (47.4%) reported to have suffered at least a psychological abuse during their life (considering also previous relationships) and 80 (34.5%) were classified as no victims of psychological IPV.
Table 3. Items of the MPAB scale and percentages of prevalence in the past 12 months.

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>YES (%)</th>
<th>NO (%)</th>
<th>N.A %</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A.</td>
<td>Harmed or destroyed your personal things of value (e.g., pictures, keepsakes, clothes, etc.) as a way to intimidate you</td>
<td>4 (1.7)</td>
<td>186 (80.2)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>1B.</td>
<td>Threatened to harm others (e.g., your family, your children, your close friends) around you to intimidate you</td>
<td>1 (0.4)</td>
<td>189 (81.5)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>1C.</td>
<td>Harmed pets as a way to intimidate you</td>
<td>0</td>
<td>190 (81.9)</td>
<td>42 (18.1)</td>
<td>2.1</td>
</tr>
<tr>
<td>2A.</td>
<td>Threw a temper tantrum (e.g., breaking objects, acting in a rage) as a way to frighten you</td>
<td>20 (8.6)</td>
<td>170 (73.3)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>2B.</td>
<td>Verbally threaten to physically harm you or make a gesture that seemed physically threatening as a way to frighten you</td>
<td>6 (2.6)</td>
<td>184 (79.3)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>2C.</td>
<td>Threaten to kill you as a way to frighten you</td>
<td>1 (0.4)</td>
<td>189 (81.5)</td>
<td>42 (18.1)</td>
<td>11.0</td>
</tr>
<tr>
<td>3A.</td>
<td>Acted rude toward, gossip about, or tell lies about your family and friends to discourage you from spending time with them</td>
<td>5 (2.2)</td>
<td>185 (79.7)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>3B.</td>
<td>Tried to keep you from socializing with family or friends without him/her being present.</td>
<td>11 (4.7)</td>
<td>179 (77.2)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>3C.</td>
<td>Tried to forbid you from socializing with family or friends</td>
<td>5 (2.2)</td>
<td>185 (79.7)</td>
<td>42 (18.1)</td>
<td>5.9</td>
</tr>
<tr>
<td>4A.</td>
<td>Continued to act very upset (e.g., pouted, stayed angry, gave you the silent treatment) until you did what he/she wanted you to do</td>
<td>42(18.1)</td>
<td>148(63.8)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>4B.</td>
<td>Threatened to end the relationship as a way to get you to do what he/she wanted.</td>
<td>13 (5.6)</td>
<td>177 (76.3)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>4C.</td>
<td>Threatened to commit suicide as a way to get you to do what he/she wanted</td>
<td>4 (1.7)</td>
<td>186 (80.2)</td>
<td>42 (18.1)</td>
<td>23.2</td>
</tr>
<tr>
<td>5A.</td>
<td>Threatened to reveal an embarrassing secret as a way to hurt or manipulate you</td>
<td>3 (1.3)</td>
<td>187 (80.6)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>5B.</td>
<td>Revealed important secrets to others that you had told him/her as a way to embarrass you</td>
<td>2 (0.9)</td>
<td>188 (81.0)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>5C.</td>
<td>Insulted or ridiculed you in front of others</td>
<td>13 (5.6)</td>
<td>177 (76.3)</td>
<td>42 (18.1)</td>
<td>7.9</td>
</tr>
<tr>
<td>6A.</td>
<td>Criticized and belittled you as a way to make you feel bad about yourself</td>
<td>29(12.5)</td>
<td>161 (69.4)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>6B.</td>
<td>Yelled and screamed as a way to make you feel bad about yourself</td>
<td>35(15.1)</td>
<td>155 (66.8)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>6C.</td>
<td>Called you derogatory names as a way to make you feel bad about yourself</td>
<td>16 (6.9)</td>
<td>174 (75.0)</td>
<td>42 (18.1)</td>
<td>22.6</td>
</tr>
<tr>
<td>7A.</td>
<td>Criticized your physical looks or sexual performance as a way to humiliate you</td>
<td>9 (3.9)</td>
<td>181 (78.0)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>7B.</td>
<td>Refused to have sex with you as a way of making you feel insecure or inadequate</td>
<td>5 (2.2)</td>
<td>185 (79.7)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>7C.</td>
<td>Insisted you have sex with him/her in belittling or humiliating ways</td>
<td>3 (1.3)</td>
<td>187 (80.6)</td>
<td>42 (18.1)</td>
<td>6.9</td>
</tr>
<tr>
<td>8A.</td>
<td>Tried to make you think he/she was more competent and intelligent than you as a way of making you feel inferior</td>
<td>15 (6.5)</td>
<td>175 (75.4)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>8B.</td>
<td>Treated you as useless or stupid as a way to make you feel inferior</td>
<td>10 (4.3)</td>
<td>180 (77.6)</td>
<td>42 (18.1)</td>
<td></td>
</tr>
<tr>
<td>8C.</td>
<td>Tried to demand obedience to orders that he/she gave as a way to make you feel inferior</td>
<td>1 (0.4)</td>
<td>189 (81.5)</td>
<td>42 (18.1)</td>
<td>9.5</td>
</tr>
</tbody>
</table>

(Continued on next page)
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Frequency (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9A.</td>
<td>Intentionally turned a neutral interaction into an argument or disagreed with the purpose to create conflict</td>
<td>27 (11.6)</td>
</tr>
<tr>
<td>9B.</td>
<td>Treated an argument as though he/she had to “drive you into the ground” and make you feel bad when making their points</td>
<td>56 (24.1)</td>
</tr>
<tr>
<td>9C.</td>
<td>Treated you with strong hatred and contempt</td>
<td>14 (6.0)</td>
</tr>
<tr>
<td>10A.</td>
<td>Tried to make you report on details of where you went and what you did when you were not with him/her as a way to check on you</td>
<td>21 (9.1)</td>
</tr>
<tr>
<td>10B.</td>
<td>Listened in on phone conversations, read your email or went through your belongings without your permission as a way to check on you</td>
<td>5 (2.2)</td>
</tr>
<tr>
<td>10C.</td>
<td>Followed or had you followed by someone else as a way of checking up on your activities</td>
<td>4 (1.7)</td>
</tr>
<tr>
<td>11A.</td>
<td>Pointed out others as attractive as a way of making you feel insecure</td>
<td>11 (4.7)</td>
</tr>
<tr>
<td>11B.</td>
<td>Flirted with others in front of you as a way to make you feel jealous and insecure</td>
<td>10 (4.3)</td>
</tr>
<tr>
<td>11C.</td>
<td>Implied he/she was having a relationship with someone else as a way to make you feel insecure and worried</td>
<td>3 (1.3)</td>
</tr>
<tr>
<td>12A.</td>
<td>Acted very upset because he/she felt jealous if you spoke to or looked at any person so that you would restrict your behaviour around others</td>
<td>33 (14.2)</td>
</tr>
<tr>
<td>12B.</td>
<td>Falsely accused you of having an affair or trying to have an affair as a way to restrict your behaviour as proof you were not</td>
<td>9 (3.9)</td>
</tr>
<tr>
<td>12C.</td>
<td>Tried to prevent you from speaking to or looking at any person who could be a potential romantic partner for you</td>
<td>8 (3.4)</td>
</tr>
<tr>
<td>13A.</td>
<td>Ignored important holidays and events as a way to punish or hurt you</td>
<td>4 (1.7)</td>
</tr>
<tr>
<td>13B.</td>
<td>Refused to speak to you as a way to punish or hurt you</td>
<td>31 (13.4)</td>
</tr>
<tr>
<td>13C.</td>
<td>Withheld physical or verbal affection as a way to punish or hurt you</td>
<td>16 (6.9)</td>
</tr>
<tr>
<td>14A.</td>
<td>Acted very upset when he/she didn’t get to make small decisions to control you, such as what to watch on television or which restaurant to eat at</td>
<td>7 (3.0)</td>
</tr>
<tr>
<td>14B.</td>
<td>Tried to make personal choices that should have been left up to you (e.g., which clothes to wear, whether you should smoke or drink, what you eat) to control you</td>
<td>10 (4.3)</td>
</tr>
<tr>
<td>14C.</td>
<td>Tried to make major decisions that affected you without consulting with you to control you.</td>
<td>8 (3.4)</td>
</tr>
</tbody>
</table>

Note: A = milder items; B = moderate items; C = severe items; 1 = Sadistic; 2 = Threats; 3 = Isolate; 4 = Manipulate; 5 = Public Humiliation; 6 = Verbal Abuse; 7 = Wound re: Sexuality; 8 = Treat as Inferior; 9 = Hostile Environment; 10 = Monitor; 11 = Wound re: Fidelity; 12 = Restriction due to Jealousy; 13 = Withhold Emotional/Physical Affection; 14 = Control Personal Decisions.

The column N.A. refers to the forty two (18.1%) participants did not reply to the questions because they did not have relationships lasting more than a month or they never had an intimate relationship.
Table 4. Items of CTS2- Distribution of physical abuse among female in the past year (12 months).

<table>
<thead>
<tr>
<th></th>
<th>YES N (%)</th>
<th>NO N (%)</th>
<th>N.A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical assault- Minor subscale</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pushed or shoved me</td>
<td>29 (12.5)</td>
<td>161 (69.4)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Grabbed me</td>
<td>14 (6.0)</td>
<td>176 (75.9)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Twisted my arm or pulled my hair</td>
<td>10 (4.3)</td>
<td>180 (77.6)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Threw an object at me with intent to injure</td>
<td>9 (3.9)</td>
<td>181 (78.0)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Slapped me</td>
<td>4 (1.7)</td>
<td>186 (80.2)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td><strong>Physical assault- Severe subscale</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slammed me against a wall</td>
<td>3 (1.3)</td>
<td>187 (80.6)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Beat me up</td>
<td>2 (0.9)</td>
<td>188 (81.0)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Punched me with something</td>
<td>1 (0.4)</td>
<td>189 (81.5)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Choked/Strangled me</td>
<td>1 (0.4)</td>
<td>189 (81.5)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Kicked me</td>
<td>1 (0.4)</td>
<td>189 (81.5)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Threatened me with a knife or gun</td>
<td>1 (0.4)</td>
<td>189 (81.5)</td>
<td>42 (18.1)</td>
</tr>
<tr>
<td>Burned or scalded me</td>
<td>1 (0.4)</td>
<td>189 (81.5)</td>
<td>42 (18.1)</td>
</tr>
</tbody>
</table>

*Note.* The column N.A. refers to the forty two (18.1%) participants did not replied to the questions because they did not have relationships lasting more than a month or they never had an intimate relationship.

**Individual history, previous violence in intimate relationships, attitudes and beliefs.**

**Independent sample t-test**

Independent samples t tests were conducted with victimization history during their life (considering also previous relationships) as the independent variable (both psychological and physical violence) and the following as dependent variables: attitudes toward male-to-female forms of violence (IPVAS), stereotypical beliefs about domestic violence (DVMAS) and sexism norms (ASI) in order to compare means. Results indicated that victims of psychological violence had more accepting attitudes \(M = 1.82, SD = 0.34\) toward male-to-female forms of violence (IPVAS) compared to no victims \(M = 1.63, SD = 0.33\), \(t_{(188)} = -3.78, p < .001\). In addition, IPV victims of psychological violence had more stereotypical beliefs \(M = 2.34, SD= 0.66\) about domestic violence (DVMAS), compared to no victims \(M= 2.04,\)
Furthermore, IPV victims of psychological violence had more accepting of sexism norms (ASI) ($M = 2.41, SD = 0.39$) compared to no victims ($M = 2.22, SD = 0.48$), $t_{(188)} = -2.89, p < .01$.

Independent samples $t$ tests were conducted also with victimization history of physical violence as the independent variable. Results indicated that there is no difference between victims of physical violence ($M = 1.80, SD = 0.34$) and no victims ($M = 1.72, SD = 0.34$), toward male-to-female forms of violence (IPVAS), $t_{(188)} = -1.44$, $p = .15$. In addition, there is no difference between victims of physical violence ($M = 2.30, SD = 0.73$) and no victims ($M = 2.19, SD = 0.64$), toward stereotypical beliefs about domestic violence (DVMAS), $t_{(188)} = -1.03, p = .30$. In return, however, IPV victims of physical violence had more accepting of sexism norms (ASI) ($M = 2.47, SD = 0.42$) compared to no victims ($M = 2.28, SD = 0.44$), $t_{(188)} = -2.52, p < .05$.

**Chi-square analyses**

In order to examine the differences between victims and no victims of psychological and physical violence toward victimization history witnessed before and suffered after by adult with whom they lived with, a series of chi-square analyses was conducted. In terms of psychological violence, more female students with psychological victimization (22.9%) than no victims (11.2%) stated that they had witnessed violence between adults with whom they lived with $\chi^2 (1) = 4.27, p < .05$, whilst, with regard to having been abused by adult with whom they lived with, differences between victims and no victims of psychological violence were not statistically significant $\chi^2 (1) = 1.03, p > .05$. In terms of physical violence, more female students with physical victimization (30.4%) than no victims (14.0%) stated that they had witnessed violence between adults with whom they lived with $\chi^2 (1) = 6.38, p < .05$, in addition, also with regard to having been abused by adult with whom they lived with, differences between victims (10.9%) and no victims (2.1%) of physical violence were statistically significant $\chi^2 (1) = 6.61, p = .01$.

**Correlations**

We performed a correlation analysis to check correlations among variables considered. As depicted in Table 5, higher deficient risk recognition was positively related to sexism norms (ASI), to the beliefs about the myth of violence (DVMAS) and to attitudes toward IPV (IPVAS). In addition, higher scoring in psychological violence was positively related to
deficient risk recognition. Alcohol use was positively related to psychological abuse and drugs use and negatively associated to the participants' age. Use of drugs was positively related to psychological and physical abuse, while alcohol use was positively related only to the psychological abuse. In addition, drugs use was related to the abused by adults with whom they lived with. Finally, deficient risk recognition was negatively related to the participants' age.
Table 5. Correlations among variables in the study (N=232). Means, standard deviations and Cronbach’s alpha.

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<th>2</th>
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<th>7</th>
<th>8</th>
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<th>10</th>
<th>11</th>
<th>α</th>
<th>Mean (sd)</th>
<th>Min-Max</th>
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<td></td>
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<td>0.05</td>
<td>0-1</td>
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<td>adults with whom you lived with?</td>
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<td>3. Have you ever witnessed ...</td>
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<td>0.19</td>
<td>0-1</td>
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<td>4. CTS2, Physical Abuse-prevalence</td>
<td>0.02</td>
<td>0.22**</td>
<td>0.22**</td>
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<td>5. MPAB, Psychological Abuse</td>
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<td>0.21**</td>
<td>0.27**</td>
<td>0.51**</td>
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<td>0.42</td>
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<td>prevalence in the life</td>
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<td></td>
<td></td>
<td>3.46</td>
<td>5.89</td>
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<tr>
<td>6. Alcohol use (0=No, 1=Yes)</td>
<td>-0.22**</td>
<td>0.04</td>
<td>0.07</td>
<td>0.08</td>
<td>.16*</td>
<td>1</td>
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<td></td>
<td></td>
<td>-0.55</td>
<td>0-1</td>
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<tr>
<td>7. Drugs use (0=No, 1=Yes)</td>
<td>0.03</td>
<td>0.28**</td>
<td>0.09</td>
<td>0.18*</td>
<td>0.31**</td>
<td>0.27**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.22</td>
<td>0-1</td>
</tr>
<tr>
<td>8.Sexist norms (ASI)</td>
<td>-0.12</td>
<td>-0.07</td>
<td>-0.02</td>
<td>0.09</td>
<td>0.02</td>
<td>0.06</td>
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<td>0.91</td>
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<td>9.Domestic Violence Myth</td>
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<td>0.04</td>
<td>0.05</td>
<td>0.01</td>
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</tr>
<tr>
<td>10.Intimate Partner Violence</td>
<td>-0.09</td>
<td>-0.06</td>
<td>-0.11</td>
<td>0.05</td>
<td>0.11</td>
<td>0.01</td>
<td>0.07</td>
<td>.25**</td>
<td>.25**</td>
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<td></td>
<td></td>
<td>0.73</td>
<td>1.5</td>
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<td>Attitudes Scale (IPVAS)</td>
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<tr>
<td>11. Deficient situational Risk</td>
<td>-0.13*</td>
<td>0.05</td>
<td>0.01</td>
<td>0.03</td>
<td>.31**</td>
<td>0.03</td>
<td>-0.04</td>
<td>.21**</td>
<td>.28**</td>
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<td>Recognition</td>
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</tr>
</tbody>
</table>

Note. *p<.05  **p<.01
**Risk Recognition**

**ANOVA**

**Objective 1.** A series of ANOVAs were then conducted with IPV as a between-subjects factor (history of abuse vs. no history of abuse) on the deficit of risk recognition. For the first ANOVA, a one-way analysis of variance was conducted to check for the effects of the psychological history of abuse vs. no history of abuse during the life—considering also previous relationships on the deficit of risk recognition. A significant effect occurred according to the independent variable, with $F_{1, 188}=23.09$, $p<0.001$, partial $\eta^2=.11$. The female students with previous experiences of psychological violence had greater difficulty in recognizing the risk ($M=4.81$, $SD=3.13$) compared to those who did not have it ($M=2.84$, $SD=2.25$). For the second ANOVA, a one-way analysis of variance was conducted to check for the effects of the physical history of abuse vs. no history of abuse during the life—considering also previous relationships on the deficit of risk recognition. There is not a significant effect according to the independent variable, with $F_{1, 188}=0.81$, $p=.78$, partial $\eta^2=.000$.

**Hierarchical Regression**

**Objective 2.** To test the second hypothesis a three-step hierarchical regressions were conducted for Deficient Risk Recognition (see Table 6). The models followed the expected relationship between variables under investigation, according to the predicted outcomes, controlling for possible correlates. The variables entered in the first step did not account for significant variance. In the first step, for Deficient Risk Recognition, age, witnessed and suffered violence by adults with whom they lived with accounted only for 2 per cent of the total variance with only age being significant ($\beta=-0.136$, $p<0.05$) and the model was not statistically significant ($F_{3, 227}=1.69$, $p=0.17$). In the second step of the analysis, previous history of IPV (physical and psychological), alcohol and drugs use were added to the model, with psychological violence ($\beta=0.351$, $p<0.001$) and physical violence ($\beta=-0.157$, $p<0.05$) being statistically significant, increasing the variance of deficit of risk recognition ($\Delta R^2=0.084$, $F_{\text{change}(4, 223)}=5.24$, $p<0.001$). In the last step of the model, attitudes toward IPV in relationships, sexism and stereotypical beliefs about domestic violence were entered in the model, significantly increasing the total variance ($\Delta R^2=0.223$, $F_{\text{change}(3, 220)}=24.33$, $p<0.001$). Psychological violence ($\beta=0.318$, $p<0.001$), physical violence ($\beta=-0.172$, $p=0.01$), stereotypical beliefs
about domestic violence (β=0.160, p<0.05) and attitudes toward male-to-female violence (β=0.398, p<0.001) were statistically significant, and the full model accounted for 33 percent of the total variance of Deficit of Risk Recognition (F(10, 220)=10.77, p<0.001).

<table>
<thead>
<tr>
<th>Predictor variable</th>
<th>Adj R²</th>
<th>ΔR²</th>
<th>β</th>
<th>B</th>
<th>F Model (df)</th>
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<tbody>
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<td>Step 1:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Age</td>
<td>.009</td>
<td>.022</td>
<td>-.136*</td>
<td>-.170</td>
<td>1.69 (3,227)</td>
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<tr>
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<td>.106***</td>
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<td>3.77** (7,223)</td>
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<td>Drugs use</td>
<td></td>
<td></td>
<td>-.093</td>
<td>-.705</td>
<td></td>
</tr>
<tr>
<td>(0=No, 1=Yes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASI</td>
<td></td>
<td></td>
<td>.033</td>
<td>.243</td>
<td></td>
</tr>
<tr>
<td>DVMAS</td>
<td></td>
<td></td>
<td>.160*</td>
<td>.733</td>
<td></td>
</tr>
<tr>
<td>IPVAS</td>
<td></td>
<td></td>
<td>.398***</td>
<td>3.527</td>
<td></td>
</tr>
</tbody>
</table>

Note. N=232, 1 p<.10 *p<.05 **p<.01 ***p<.001
Discussion

The present study investigated the ability of victims and no victims of the physical and psychological forms of IPV to recognize the violent warnings in heterosexual dating situations. Firstly, in order to have information about history of victimization and prevalence, we conducted descriptive statistics about behaviours suffered in their currently relationship or in the past relationship. Approximately 20% were classified as victims of physical abuse during their life (considering also previous relationships) and approximately 47% reported to have suffered at least a psychological abuse in intimate relationships. Secondly, independent samples t tests were conducted with victimization history as the independent variable (both psychological and physical violence) and the following as dependent variables: attitudes toward male-to-female forms of violence (IPVAS), stereotypical beliefs about domestic violence (DVMAS) and sexist norms (ASI) in order to compare means. Results indicated that victims of psychological violence had more accepting attitudes toward male-to-female forms of violence (IPVAS), more stereotypical beliefs about domestic violence (DVMAS) and more accepting of sexist norms (ASI) compared to no victims. Independent samples t tests were conducted also with victimization history of physical violence as the independent variable. Results indicated that there are no differences between victims of physical violence and no victims, toward male-to-female forms of violence (IPVAS) and toward stereotypical beliefs about domestic violence (DVMAS). In return, however, IPV victims of physical violence had more accepting of sexism norms (ASI) compared to no victims.

In summary results reveal that both psychological and physical violence are connected with sexist norms rather than attitudes or beliefs. These results are in line with previous studies that suggested that gender-role stereotypes are viewed as key elements contributing to dating violence (Mahlstedt & Welsh, 2005). At the general level, the term sexism is used to refer to attitudes about the roles and responsibilities considered appropriate for men and women, as well as beliefs regarding gender roles (Glick & Fiske, 1996). León-Ramírez and Ferrando (2014), in their research, claim that the sexism is an important predictor of gender violence (see also León-Ramírez & Ferrando, 2013) and these positions, in turn, lead to potentially violent behaviours when couples are in situations of conflict or disagreement (Bascón et al., 2013) because the “balance of power” (Watts & Zimmerman, 2002, p.1232) between the boy and the girl is unequal. This study focused on two primary research objectives. We first examined the influence of the history
of psychological and physical aggressive dating situations on risk recognition ability, in particular we had hypothesized, in line with previous research on situational risk recognition and IPV (Witte & Kendra, 2010), that young women with experiences of violence in a intimate partner relationship would have greater difficulty in recognizing the risks compared to those who did not have it. This hypothesis was partially supported. ANOVAs' results suggested that the female students with previous experiences of psychological violence in the past year had greater difficulty in recognizing the risk compared to those who did not have it; regarding to the physical violence instead, results suggested that there is not a significant effect between victims and no victims of physical assault on situational risk recognition.

In general, the results are not at all comforting. In accordance with the first ANOVA and with previous studies (Witte & Kendra, 2010; Soler-Baillo et al., 2005; Wilson et al., 1999), the victims of psychological violence showed greater deficits in the recognition of risk, while the results of the second ANOVA tell us that victims of physical violence (that are already advanced state of initial psychological violence) do not exhibit greater ability to recognize risks compared to non-victims but not even a deficit in risk recognition ability. This last result, contrary with previous studies (Witte & Kendra, 2010; Soler-Baillo, Marx, & Sloan, 2005; Wilson, Calhoun, & Bernat, 1999) and in line with other studies (Volkert et al., 2013; VanZile et al., 2005), did not find an association between victims and non-victims in risk recognition ability (Volkert et al., 2013). Both results pose serious risks to female students of continuous revictimization, they could have an important value in terms of prevention because it “may serve as a mechanism by which the cycle of victimization is perpetuated” (Marx & Soler-Baillo, 2005, p. 623); in other words, individuals who do not recognize a previous experience as a violence may be predisposed to ignore salient threat cues or not fully process important threat-relevant information in subsequent situations and this may “putting individuals at higher risk for future victimization, that is, revictimization” (Volkert et al., 2013, p. 2). A frequently studied risk factor for IPV is exposure to IPV in the family of origin or witnessing IPV of parents in childhood. So, in order to examine the differences between victims and no victims of psychological and physical violence toward victimization history witnessed before and suffered after by adult with whom they lived with, a series of chi-square analyses was conducted. Physical violence appears to be associated to a higher frequency to both violence suffered and witnessed during childhood, while psychological violence seems to be associated only with witnessed violence. In fact
these results are however in line with previous studies that underline the association between childhood physical abuse, sexual abuse, and witnessing IPV and IPV victimization (Renner and Slack 2006; see Jennings et al., 2017 for review). Renner and Slack (2006) found that—after controlling for age, race/ethnicity, marital status, childhood history, and SES variables—childhood physical abuse, sexual abuse, and witnessing IPV were predictive of IPV victimization. In an examination of the risk factors associated with dating/intimate partner violence, also Jennings, et al. (2017), in their review, found a large array of risk factors, among which childhood exposure to violence (Gover et al., 2008; Gover et al., 2011), witnessing interparental partner violence (Kim et al., 2014), exposure to violence other than interparental partner violence (Malik et al., 1997) and alcohol use/abuse (Exner-Cortens et al., 2013). Regarding alcohol and drugs use, in line with these studies (White & Chen, 2002; Exner-Cortens et al., 2013) in this study it was found that: alcohol use was positively related to only psychological abuse, to drugs use and negatively associated to the participants’ age; moreover, drugs use was positively related to both psychological and physical abuse and to the abused by adults with whom they lived with. Second, we had analyzed, within an ecological approach at various levels, the association between personal factors such us age, the violent behaviours witnessed or suffered in the environments containing person (e.g., home), alcohol and drugs use, previous violent episodes in intimate relationships and sexism, attitudes and beliefs about IPV on deficient risk recognition. This was the first attempt to study within an ecological approach to the recognition of the risk in intimate partner violence. This was born from the need to study dating violence considering all risk factors instead of considering only isolated variables. Following the application of the ecological approach of Heise (1998), at ontogenic level, they were considered: witnessing marital abuse as a child and the abuse during childhood. At microsystem level, that includes situational factors that are “the interactions in which a person directly engages with others as well as to the subjective meanings assigned to those interactions” (Heise, 1998, p. 269), we included: previous psychological and physical abuse in intimate dating relationships and alcohol and drugs use. At the macrosystem level: rigid gender roles, approval attitudes toward IPV and stereotypical beliefs about domestic violence. So, to explore the second hypothesis, a three-step hierarchical regression was conducted for Deficient Risk Recognition. Results suggested that among the variables considered, psychological violence, physical violence, stereotypical beliefs about domestic violence and attitudes toward male-to-female violence were statistically significant, and
the full model accounted for 32% of the total variance of Deficit of Risk Recognition. In line with previous studies analyzed, previous psychological and physical violence significantly increasing the variance of deficit of risk recognition (Witte & Kendra, 2010). Regarding physical violence, it is interesting note that the relation is negative. Probably, women that have been victims of physical abuse, therefore to a subsequent step of cycle of violence, in a retrospective way have a greater recognizing of subtle signals of psychological violence that are precursors of a physical violence. This suggests that an escalation of violence brings greater recognition of its precursors giving reason to a slice of studies that underline that victims of repeated violence may well recognize the warnings of initially violent forms of a violent intimate relationship (Bockers et al., 2014). The findings from this study should be considered in light of methodological limitations. First, the data collection relied on self-report of sensitive topics and participation was voluntary, allowing for possible self-selection bias around participation and reporting. In addition, to date, situational risk recognition has been studied primarily within the context of sexual assault victimization and studies in this regard appear to be discordant in the results. Previously, recognition of warning signs has been measured especially in sexual assault using audio (Marx & Gross, 2005; Marx & Soler-Baillo, 2005; Wilson et al., 1999) or written vignettes (Messman-Moore & Brown, 2006). Video vignettes (Witte & Kendra, 2010) were used to assess ability to recognize danger in psychological and physical violence scenarios but through this method, ability to detect danger was determined by response latencies from when the vignette began until when participants indicated the scenarios had gone too far. While this method was successful at determining when participants felt the interaction escalated enough that danger was imminent, it did not detect how and whether well people are able to recognize subtle danger signals that often are present at the beginning of dating relationships. A valid and reliable measure to detect risk recognition abilities within a dating relationship does not exist and thus needed to be developed for this study. This study used a scenario depiction of dating abuse to assess risk recognition, similar to the Messman-Moore and Brown (2006) methodology (see Appendix 1). The scenario depicted mostly a psychologically aggressive encounter between dating partners and was consisted in twelve written vignettes. Participants made ratings about the scenario encounter after each vignette deciding whether leave or no their partner and if they were agree with that behaviour suffered. These response alternatives were chosen because women may perceive threat but remain in dangerous situations as some researchers have explained.
(Livingston & Testa, 2000). Several methodological differences could perhaps suggest possible reasons for discrepancies in results across studies. A second explanation for inconsistencies across studies pertains to the fact that several studies utilized prospective designs, while other utilized retrospective designs. Overall, generalizability of the vignettes and scenarios utilized in the vast majority of studies is questionable. Whereas a potential assault situation involves a complex series of factors that likely interact to lead to a woman's perception of risk, it is difficult to see how these types of complex interactions can actually be simulated with brief scenarios. Thus, these vignettes, which are purported to measure risk recognition, may not be capturing the true essence and complexities of real life social interactions.
3.3 Study 2: Recognizing warnings of dating abuse in young women: the psycho physiological correlates

Abstract
This study examined the psycho physiological correlates of risk recognition in psychological victimization. Victims and no-victims of psychological abuse read to a hypothetical date interaction and were asked to indicate their judgments about the interactions. Subjective and objective (physiological) measures of responding as well as a measure of risk recognition in reaction to the interactions were analyzed in a sample of 30 participants to evaluate both between and within-subjects’ differences. Results showed that, relative to non-victims, victims of psychological abuse displayed significant differences in objective measures of physiological reactivity that is victims displayed a decreased heart rate activity to a portion of the hypothetical interaction. Overall, the results indicated that altered physiological responding to relevant threat cues, as for non-victims, may be related to individuals’ ability to identify and react to threatening situations of psychological violence.

Research objectives
The present study aims to investigate the differences in situational risk recognition and its psycho physiological correlates among a sample of victims and non victims of psychological intimate partner violence. **Objective 1**: it was hypothesized that victims of intimate partner violence in dating situations would exhibit poorer risk recognition abilities than non-victims in response to a hypothetical dating violence scenario and longer latency response during the scenarios. **Objective 2**: accordingly, we speculated that victims would exhibit a significantly different pattern of reactivity (measured objectively) in response to the hypothetical scenarios compared to non-victims, that is, victims of psychological abuse would display a decrease in psycho physiological correlates.
Method

Participants
Thirty women volunteered participated to the study (see Table 7). The mean age of the sample was 25.12 (SD=3.23). All participants were Caucasian and Italian. In order to have information about history of victimization and prevalence in the past 12 months, we conducted descriptive statistics about behaviours suffered in their currently relationship or in the last relationship. Of the 30 participants we excluded by the analyses 4 participants, victims of physical abuse because they were in a step successive to early signals of a violent relationship, so, finally, 26 participants were included in the remaining analyses. Of these, 4 participants did not replied to the questions about previous violence in the relationships because they did not have relationships lasting more than a month or they never had an intimate relationship, so we assigned them 0 to indicate absence to psychological violence in intimate relationships. So, 15 female students (approximately 58%) were classified as victims of psychological violence and 11 (approximately 42%) were classified as no victims of psychological violence. There were no significant differences between the two victim status groups with respect to age and self-reported trait anxious symptoms (all ps>.05).

Measures
Self-report measures
- Psychological and physical violence. Revised Conflict Tactics Scale (CTS2). The measure of psychological and physical violence victimization used in this study is similar to those used in other studies examining intimate partner violence among college samples. Items measuring intimate partner violence were modified from the Revised CTS (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The victimization variables include the following items: threw something that could hurt, twisted arm or hair, kicked, slapped, pushed or shoved, punched or hit with hand or an object, choked, slammed against a wall, grabbed, and used force (like hitting, holding down, or using a weapon) to make partner. Responses to these variables indicate the chronicity of engaging in or experiencing the behaviours noted above (0=never, 1=once in the past year, 2=twice in the past year, 3=3–5 times in the past year, 4=6 or more times in the past year, 5= 11-20 times in the past year, 6= more than 20 times in the past year and 7= not in last year but it did
happen before). For the analysis of this study, we constructed intimate partner violence victimization variables that are dichotomous to indicate whether the respondent experienced at least one act of violence the 12 months prior to the survey or whether the respondent experienced at least one act of violence in their relationships (even before 12 months) (Psychological violence- Cronbach’s alpha=.65; physical violence alpha=.62).

- **Self-Assessment Manikin** (Bradley & Lang, 1994). Subjective emotional responses to the stimulus were collected using the 5-point valence (pleasantness) and arousal scales of the SAM. Responses on the valence dimension range from 1 (extremely “happy, pleased, satisfied, content, hopeful”) to 5 (extremely “unhappy, annoyed, unsatisfied, melancholic, despaired, bored”). Responses on the arousal dimension range from 1 (extremely “relaxed, calm, sluggish, dull, sleepy, unaroused”) to 5 (extremely “stimulated, excited, frenzied, jittery, wide-awake, aroused”). Previous research has demonstrated that the valence and arousal dimensions reliably co-vary with physiological reactions associated with emotional response (e.g., skin conductance response, heart rate), suggesting that the SAM is a valid measure of emotional responding (Bradley, Greenwald, Petry, & Lang, 1992; Lang, Greenwald, Bradley, & Hamm, 1993). Upon termination of the scenario stimulus, participants were instructed to rate their emotional experience to the vignette using both the valence and arousal dimensions of the SAM.

- **Risk recognition ability.** To assess risk recognition ability, we developed stimulus material based on the risk perception vignette of Messman-Moore and Brown (2006) (see Appendix 1), adapted for situational dating violence in young women. It consists in 12 scenario items rated on a 3 point: 0 (I conclude the relationship), 1 (I disagree but I continue the relationship), 2 (I continue the relationship because after all what he says or does is right). The items were unit weighted and then summed to create a single index of Risk Recognition. Higher scores mean high deficient risk recognition of warnings signs of dating violence. Furthermore, participants were also asked to rate the quality of the acting on the scenario. The majority (92.3%) of participants agreed, slightly agreed or strongly agreed to the statement, “I think these scenarios are realistic and believable.” Only 7.7% neither agreed nor disagreed. The mean score on this rating (1= strongly disagree and 7= strongly agree) was 5.62 ($SD = 0.98$), suggesting that, on average, participants agreed that the scenario was realistic and believable (Cronbach’s alpha=.77).
- **Trait Anxiety.** (STAI-Y Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). It is a tool for detecting and measuring anxiety, easy-to-use, validated in Italian by Pedrabissi and Santinello (1989), widely used in literature and with good features psychometric, trustworthy and valid. The questionnaire is made up of 40 items, to which the subject must respond in terms of intensity. It is divided into two sections: Y1 measures state anxiety, anxiety conceived as experience particular, feelings of insecurity, impotence in the face of perceived damage which can lead to worry or flight and avoidance; Y2 measures the personal propensity to anxiety and personal tendency a perceive living conditions as potentially threatening and react to them with different intensity of anxiety. For this study it was used only Y2 for a total of 20 items. The scores for Y2 are computed. Scores of stair are between a minimum of 20 and a maximum of 80. (Cronbach’s alpha=.95).

**Physiological Measures.**
- Participants’ heart rate (HR) and skin conductance level (SCL) were collected during the procedures. A Biopac MP150 system and AcqKnowledge software, connected to a Pentium IV PC, were used to acquire and amplify the signals. HR was collected using two disposable, pre-gelled Biopac 35-mm electrodes that were attached to the wrists of each forearm, with a third electrode placed on the left forearm serving as a ground. SCL was collected with two 4-mm Ag-AgCl unpolarized electrodes that were affixed to the palmar surface of the middle phalanges of the second and third fingers of the left hand. These electrodes were filled with NaCl Unibase paste. HR was sampled at a rate of 1000 Hz continuously. Heart rate was measured by the detection of cardiac R-waves; the stored interbeat intervals were converted to second-by-second beats per minute (bpm) values. SCL was sampled at a rate of 30 Hz and averaged over half-second intervals.

- **Response Latency.** This measure has been operationalized as the length of time needed by participants to indicate when the participant replied. Latencies were recorded in seconds using a reaction time on an IBM-compatible computer activated at the start of the scenario and terminated by a participant’s computer key press.

**Procedure**
On arrival, each participant provided verbal and written informed consent:

“This is a questionnaire that asks girls and young women information about what they think about intimate relationships. Have you ever asked yourself if certain things can also happen
to you? Read the questionnaire in all its parts and the instructions; for each question you have to provide the answer that best fits your situation and your condition since there are no ‘wrong’ or ‘right’ answers. You just have to answer what is corresponding to you and your experience. During administration, will be continuously collected data of your physiological activity. The data will be processed in aggregate form and therefore anonymous. THANK YOU FOR YOUR PARTICIPATION!” and was then seated in a reclining chair in a dimly lit room. A computer keyboard was situated on a small table in front to the participant. Electrodes were then attached as described. The experimenter asked the participant to relax and left the room to ensure that the physiological signals were being properly acquired. After 60 seconds of continuous recording, the experimenter informed the participant to continue relaxing for an additional 5 minutes. A 320-second resting baseline period of HR and SCL activity was then collected. After the baseline period, participants were told that they would be reading to a scenario interaction between two partners. The following instructions were then given: “Your task is to read to the situations, by replying each scenario on the basis of reply that you consider the most appropriate. Once it ends, continue to relax in the chair, keeping as still as possible, until I come back into the room. Do you have any questions?”. Words such as danger and risk were excluded from the instructions to minimize participant priming and the influence of social desirability. To minimize movement artefact, participants were told to place their hands directly next to the keyboard before beginning the task. After participants expressed an understanding of these instructions, the experimenter left the room, began the physiological recording, and initiated the presentation of the scenario. During this phase of the experiment, HR was continuously collected. After stimulus presentation, participants were instructed to rate their emotional responses to the vignette using the SAM. Participants completed then CTS2 and STAI-Y scales. After completion of the measures, all participants were fully debriefed.
Table 7. Demographic description of sample (N=26).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean (SD)</th>
<th>Min-Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>25.12 (3.23)</td>
<td>20-30</td>
</tr>
<tr>
<td>Place of born</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>North of Italy</td>
<td>1</td>
<td>3.8</td>
</tr>
<tr>
<td>Centre of Italy</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>South of Italy</td>
<td>24</td>
<td>92.3</td>
</tr>
<tr>
<td>Islands</td>
<td>1</td>
<td>3.8</td>
</tr>
<tr>
<td>Nationality</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Italian</td>
<td>26</td>
<td>100</td>
</tr>
<tr>
<td>Residence</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>North of Italy</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Centre of Italy</td>
<td>1</td>
<td>3.8</td>
</tr>
<tr>
<td>South of Italy</td>
<td>25</td>
<td>96.2</td>
</tr>
<tr>
<td>Islands</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Do you have/Did you have a relationship currently or in the past 12 months?</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Yes, I currently have a relationship</td>
<td>17</td>
<td>65.4</td>
</tr>
<tr>
<td>Yes, I had relationships lasting more than a month in the last year but now I have no relationship</td>
<td>5</td>
<td>19.2</td>
</tr>
<tr>
<td>No, I did not have relationships lasting more than a month</td>
<td>2</td>
<td>7.7</td>
</tr>
<tr>
<td>No, I never had an intimate relationship</td>
<td>2</td>
<td>7.7</td>
</tr>
<tr>
<td>Are you enrolled at the university?</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>88.5</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Results

Data Reduction and Analysis Plan

Because this investigation examined the psycho physiological correlates of risk recognition in the context of psychological threat cues, the analyses of HR and SCL were focused on the 12 segments of the scenario. To examine HR reactivity, the mean bpm for each of the twelve segments was calculated for each participant, as well as the mean bpm from the baseline period and of the total duration of all twelve scenarios. To examine SCL reactivity, the mean for each of the twelve segments was calculated for each participant, as well as the mean from the baseline period and of the total duration of all twelve scenarios.

Risk Recognition

Objective 1. An ANOVA was conducted with psychological IPV as a between-subjects factor (history of abuse vs. no history of abuse) on the deficit of risk recognition. A one-way analysis of variance was conducted to check for the effects of the psychological history of abuse vs. no history of abuse on the deficit of risk recognition. No significant effect was
found \((F_{1, 24}=0.201, p>.05, \text{partial } \eta^2=.01)\); there were not found significant differences between victims and non-victims of psychological abuse in recognizing the risk.

**Response latency**

The second dependent variable used is response latency, which as operationalized as the length of time needed by participants to indicate the answer. In this study, latencies were recorded in seconds using a reaction time on an IBM-compatible computer activated at the start of the scenario and terminated by a participant’s computer key press. In order to examine between-groups differences in mean scores, an independent sample t-test was used. Results highlights that victims of psychological violence exhibited significantly longer response latencies \((M=15076.47, SD=2687.93)\) than non-victims \((M=13107.69, SD=1845.48)\) during reading scenarios \((t_{(24)}=-2.09, p<.05)\).

**Subjective emotional response**

Victims’ and non-victims’ ratings of valence and arousal were compared using independent samples t-tests. The results indicated that there are no significant differences both in valence \((t_{(24)}=-0.96, p=.35)\) and arousal \((t_{(24)}=-1.76, p=.09)\) subjective emotional responses.

**Heart Rate Reactivity**

**Objective 2.** To examine potential within- and between-group baseline and total scenario period HR differences, for each participant it was extracted the same baseline period as the total time spent reading 12 scenarios \((\text{min}= 150- \text{max}= 290 \text{ seconds})\) and the mean of HR for both periods (baseline and scenario) was calculated. Using a mixed ANOVA, findings revealed that there was a main effect of the average scores of bpm for seconds \((F_{1,24}=9.92, p=.004 \text{ partial } \eta^2 = .29)\) within subjects and no between- \((F_{1,24}=1.99, p=.17 \text{ partial } \eta^2 = .08)\) group differences was found. Findings revealed also a trend in interaction between group (victims vs non-victims) and bpm during scenario period \((F_{1,24}=4.13, p=.053 \text{ partial } \eta^2 = .15)\). This interaction is displayed in the graph below (Figure 4), showing that victims of psychological violence displayed a significant decrease of bpm for seconds during the scenario administration period compared to non-victims. No group differences in baseline HR were observed.
To examine HR reactivity to the scenarios, a mixed ANOVA was conducted using the mean scores in HR for each one of the twelve scenarios as a within-subjects factor and victim status as the between-subjects factor. Findings revealed a significant main effect within- \( (F_{[11, 14]} = 42.37, p<.001 \eta^2 = .81) \), indicating a significant change in arousal across different segments of the stimulus, and between \( (F_{[1, 24]} = 6.46, p<.05 \eta^2 = .21) \). However, this effect was qualified by a significant victim status interaction \( (F_{[11, 14]} = 2.15, p<.05 \eta^2 = .08) \). Post hoc analyses revealed that no victims experienced significantly greater HR reactivity than victims during the seventh \( (p=.003) \), eighth \( (p=.036) \), ninth \( (p=.024) \), and twelfth \( (p=.004) \) scenario of the interaction stimulus. Specifically, non-victims showed a mean HR increase of 1.23 bpm during the seventh scenario, of 0.63 bpm during the eighth scenario, of 1.16 bpm during the ninth scenario and of 2.05 bpm during the twelfth scenario. No additional significant group differences in HR reactivity across different scenario were found (Figure 5).

Figure 4. Mean heart rate activity in baseline and scenario periods.
Figure 5. Mean heart rate activity across twelve scenarios.

**Skin Conductance Level**

To examine potential within- and between-group baseline and total scenario period SCL differences, for each participant it was extracted the same baseline period as the total time spent reading 12 scenarios (min= 150- max= 290 seconds) and the mean of SCL for both periods (baseline and scenario) was calculated. Using a mixed ANOVA, no within- ($F_{[1, 24]}= 2.49$, $p=.13 \eta^2 = .09$) or between- ($F_{[1, 24]}= 2.84$, $p=.11 \eta^2 = .11$) group differences were observed and no significant interaction was noted ($F_{[1, 24]}= 0.15$, $p=.71 \eta^2 = .01$). Similarly, in order to examine SCL reactivity to the scenarios, a mixed ANOVA was conducted using the mean scores in SCL for each one of the twelve scenarios as a within-subjects factor and victim status as the between-subjects factor. Findings revealed no within- ($F_{[11, 14]}= 1.39$, $p=.18 \eta^2 = .06$) or between- ($F_{[1, 24]}= 3.01$, $p=.10 \eta^2 = .11$) group differences were observed and no significant interactions were noted ($F_{[11, 14]}= 0.32$, $p=.98 \eta^2 = .01$).
Discussion

This study replicated previous findings in sexual assaults, that is that women with a history of sexual victimization may have an impaired ability to recognize sexual threat cues. Furthermore, the findings of the study presented here support the hypothesis that victims of psychological violence exhibit a different pattern of physiological reactivity in response to a scenario compared to non-victims. Although the two groups did not significantly differ in overall Skin Conductance level (SCL) reactivity to the stimulus across all segments and compared to the baseline period, non-victims displayed a greater increase in heart rate reactivity during the scenarios compared to victims. During some portions of the stimulus that are most relevant to the risk recognition task - segments that occur towards the end of the stimulus in which the interaction between the couple is characterized by more intense episodes of psychological violence, no victims showed greater heart rate acceleration than victims. This difference in physiological reactivity was statistically eliminated in earlier segments of the scenario as both victims’ and non-victims’ heart rate reactivity were attenuated to levels similar to that observed during the resting, that is baseline period. This physiological pattern of reactivity suggests that the elevated heart rate reactivity found in the last segments of the stimulus is primarily a function of the active processes involved in assessing and responding to the risk recognition task, and it is during this period that victims exhibited less autonomic reactivity. This finding is consistent with other research on the psycho physiological correlates of defensive responding in sexual assaults literature (Marx et al., 2005; Bradley et al., 2001; Soler-Baillo et al., 2005). A diminished physiological response in a context saturated with threat cues may serve to impair the ability to detect those cues, may inhibit an appropriate action, such as leaving the situation, or both. In contrast to the finding that, relative to non-victims, victims showed diminished physiological responding to particular segments of the stimulus, there were not differences between victims and non-victims regarding valence and arousal subjective reported as well as scoring on risk recognition ability. Although the reason for the last discrepancy in the present study is unclear, it is possible that social desirability has played an important role for this explicit measure self-reported but not for objective measures such as heart rate activity and latency response. In fact, results highlight that victims of psychological violence exhibited significantly longer response latencies and a decrease heart rate activity than non-victims during reading scenarios. Although these young women may recognize threat at the same time as no victims, their defences may not be adequately activated. While the findings of this study are intriguing, several limitations should be noted.
Foremost, the sample is small. Furthermore, it would also be of interest to examine differences among individuals with varying violence histories in order to further investigate the processes related to situational risk recognition. Despite the noted limitations, the findings of this investigation suggest that altered defensive responding may be related to individuals’ ability to identify and react to threatening situations in intimate relationships. Further, impairments in defensive responding may play a key role in the cycle of victimization. Additional similar researches with sensitive measurement procedures is needed to strengthen and refine the findings reported here, because this was the first attempt to explore situational risk recognition in interpersonal violence using objective measures.
3.4 Study 3: Risk perception in women battered: a longitudinal study

Abstract
In terms of secondary prevention of Intimate Partner Violence (IPV), widely studied by psychologist and social workers are risk perceptions of recurrence of women battered. These perceptions represent components of most theories of health behaviour, but the relationship between these perceptions and protective behaviour over time such as leaving the abusive partner is unclear. In addition, limited research has investigated factors that are associated with perceived risk within an ecological approach. Results from a longitudinal study on women battered (N=83) indicated that among all factors considered at individual, interpersonal and system levels, depression, time of relationship and victim's employment were greater predictors of an high risk perception more than previous history of abuse as well as of a formal and informal support. Further, high level of perceived personal risk predicted the women's behaviour to leave their abusive partner after 12 months. Gratitude toward (ex) partner was found to be a risk factor toward stay/leave decision. Results are discussed as they may inform interventions preventing revictimization in IPV.

Research objectives
The study and analyses were exploratory and focus on two primary research objectives. **Objective1.** We first examined within an ecological approach at various levels, the association between personal factors such as victim's mental health at the time of the assessment as depression, prior experiences of abuse, victim's employment, time of relationship, previous separations and informal support at interpersonal level and formal support as at system level as predictor of accuracy of victim's assessment, that is the possibility to access to formal sources of help such as the police and refuge centre; in particular it was hypothesized that the level of depression will be mainly associated with a high risk perception. **Objective2.** Second, they were analyzed which factors may be predictive of the stay/leave decision of the women after 12 months, in particular it was hypothesized that the level of perceived risk will be the most important predictor as well as gratitude toward (ex) partner as risk factor in the decision to stay with an abusive partner.
Method

Participants
The sample included 83 women of all ages who have turned to refuge centres in Milan, Rome and Caserta or who have been intercepted in hospitals, having need of medical care caused by physical and/or psychological damages. Mean age is 42.21 (SD=9.58). The study sample is 82% Italian nationality whereas 18% foreign. About three thirds of the participants were employed in full- or part-time work at the time of first data collection, about 80% of them reported that they had formal support by refuge centre and about 46% reported that they had informal support by own relatives/parents. Brief demographic data are presented in Table 8.

Procedure
After receiving approval from the Università degli Studi della Campania-Luigi Vanvitelli for the following procedure, an introduction and general information letter was sent to the refuge centre of Caserta, Rome and Milan and Hospital Mangiagalli of Milan. Any interested refuge centre that responded to the letter has become an active recruitment site for the study. Women were invited to participate in the study if they were at the shelter due to intimate partner violence from a current or former male partner. A structured interview was administered face to face. Participants were informed that their participation would have been voluntary and their responses would have been completely anonymous. All participants provided oral and written informed consent before beginning the interview. So, participants were instructed to answer the questions with regard to the abusive relationship. The survey generally took between 40 to 45 min to complete. Data collection at time 1 took place in a private space at the hospital or refuge centre from which the participants were recruited. Women, after about 12 months, have been recalled to the follow up telephone interview. The follow up survey generally took between 20 to 30 min to complete.

Materials
The nine-page survey contained six sections that were relevant to the current study: Background and demographic information, risk perception, mental health, previous violence, relationship behaviours, and formal and informal support.
- **Background and demographic information (Time 1).** Self reported socio-demographic variables: age, nationality, employment, presence of children, residence, education, type of relationship, previous separations, presence of reporting to the police, living with batterer, time of relationship, relationship status and current cohabitation. Relationship status prior to shelter stay was assessed by asking “How would you define your relationship to your batterer pre-shelter?” Participants were asked to check one of the following: Spouses, Ex spouses, cohabitants, ex cohabitants, engaged, ex engaged or “Other” (write in what). Current cohabitation status was assessed by asking “Were you living in the same house or residence with your batterer now or before you came to this shelter?” Participants were instructed to check yes or no. Previous reported to the police was assessed by asking “In the past, have you reported a violence episode with your batterer?” Participants were instructed to check yes or no.

- **Risk Perception (Time 1).** Participants were asked to rate the likelihood that they would personally experience future violence from a partner. Personal risk perception was assessed in three ways: psychological violence by asking “What do you think the chances are that you will be threatened, verbally assaulted by your (ex) partner in the next months?” Ratings were made on a five-point Likert scale on which participants indicated a rating from 1 (Not at all likely) to 5 (Very likely). Physical violence by asking “What do you think the chances are that you will be pushed, shoved, or hit by your (ex) partner in the next months?” Ratings were made on a five-point Likert scale on which participants indicated a rating from 1 (Not at all likely) to 5 (Very likely). Lethal violence by asking “What do you think the chances are that you will be battered by your (ex) partner to the deadly point in the next months?”

**Mental health**

- Depression Scale (CES-D) of Radloff (1977) (Time 1 and Time 2). The CES-D scale is a short self-report scale designed to measure depressive symptomatology in the general population. It was designed to measure current level of depression symptoms. It consists of 20 items. The range of possible scores is between 0 (for those who say ‘not at all or less than one day to all 20 questions’) and 60 (for those who say ‘5-7 days’ or ‘nearly every day for 2 weeks’ for all 20 questions). Cut off is 16. People who have a total CESD-style score less than 16 across all 20 questions, no present clinical significance.
Previous violence

- Intimate Partner Violence (Time 1 and Time 2). Revised Conflict Tactics Scale (CTS2). The measure of physical and psychological violence victimization used in this study is similar to those used in other studies examining intimate partner violence. Items measuring intimate partner violence were modified from the Revised CTS (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). The physical victimization variables include the following items: threw something that could hurt, twisted arm or hair, kicked, slapped, pushed or shoved, punched or hit with hand or an object, choked, slammed against a wall, grabbed, and used force (like hitting, holding down, or using a weapon) to make partner. Responses to these variables indicate the chronicity of engaging in or experiencing the behaviours noted above (0=never, 1=once in the past year, 2=twice in the past year, 3=3–5 times in the past year, 4=6 or more times in the past year, 5=11-20 times in the past year, 6=more than 20 times in the past year and 7=not in last year but it did happen before). This study provides an indication of chronicity. Our sample were asked to indicate how many times in the 12 months prior to the survey they had either been the victim of specific acts of psychological and physical violence (see description above). We used a mean value for each violence item as our chronicity measure to represent the number of times women in our study were either victims of violence by an intimate partner (see table 10).

Personal factors

- Positivity Scale of Caprara et al. (2012). The P Scale was designed as a short instrument with which to directly assess a positive view of one’s self, one’s life, and one’s future, as well as one’s confidence in others. Eight items were formatted with 5-point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree).

- Gratitude toward (ex) partner (Time 1). For this study, we adapted three items from the version of the Gratitude Questionnaire (GQ-6; McCullough et al., 2002) that measures a general tendency to feel grateful and thankful towards perceived benefactors: “I have so much to be thankful for at my partner”, “Nevertheless, I am grateful to my (ex) partner because the relationship with him made me grow as a person”, “There are more things for which I am grateful to my (ex) partner than the negative things”. Responses were provided using a 6-point scale rated from 1 (strongly disagree) to 6 (strongly agree). It was used a mean value to assess gratitude score.
**Relationship behaviour**

- Stay-leave decision (Time 2). After 12 months it was asked to the women if they stay or no with batterer. Participants were instructed to check yes or no.

**Support**

- Informal support (Time 1). Informal support was assessed by asking “Were you receiving help and support you need from your family (parents and/or relatives)?” Participants were instructed to check yes or no.
- Formal Support (Time 1). Formal support was assessed by asking If they had turned to a refuge center. Participants were instructed to check yes or no.
Table 8. Demographic information of the sample (N=83).

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<thead>
<tr>
<th>Type of relationship with batterer</th>
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<tr>
<td>Ex spouses</td>
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<tr>
<td>Cohabitants</td>
<td>2.4 (2)</td>
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<tr>
<td>Ex cohabitants</td>
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<td>Ex engaged</td>
<td>7.2 (6)</td>
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<tr>
<td>Engaged</td>
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<tr>
<td>Other</td>
<td>2.4 (2)</td>
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<td>Country extra EU</td>
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<td>Centre of Italy</td>
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<td>South of Italy</td>
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<tr>
<td>Secondary education</td>
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<td>Degree</td>
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<tr>
<td>Employed</td>
<td>60.4 (51)</td>
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<td>No</td>
<td>28.9 (24)</td>
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<tr>
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<td>59.0 (49)</td>
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<tr>
<td>No</td>
<td>41.0 (34)</td>
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Data Analysis

Quantitative Data. SPSS 20.0 was used to conduct statistical analyses of quantitative data. Descriptive and independent and paired samples t test were conducted to explore differences among some aspects of the sample as well as history of victimization. In addition, the Pearson’s correlations were used to measure association between each of the key independent and dependent variables (risk perception and stay/leave decision). Hierarchical regression was used to test the predictivity of each factors considered in this study within an ecological model on risk perception. Moreover, binary logistic regression model was used to identify odds of the outcome (stay/leave decision) after 12 months, controlling for all other key variables in the model.

Results

Victimization history

The 83 women in this sample reported experiencing varying levels of psychological abuse and physical assault, in the year prior to the survey. As Table 9 shows, some of the women experienced at time 1 very severe forms of abuse (e.g., 50% of the sample endorsed being choked or strangled, and about 38.6% threatened with a knife or gun).

On average, women suffered psychological violence $M=3.47$ ($SD=1.51$), that is from 3-5 times in the past year to 6 or more times in the past year. Overall, regarding physical violence ($M=3.31$, $SD=1.21$) women suffered abuse at same way from 3-5 times in the past
year to 6 or more times in the past year. Seventy-four women had already left their partner at time 1. In most cases (71.1%) the women had already reported the partner to the police for the abuses and in 59% of cases they had already left the partner before. Sixty-six women asked for help to a refuge centre (where they were interviewed) while seventeen women were interviewed because come to the emergency room in Milan. In most cases they had children with them (88%) and in 90% of cases, someone was aware of what was happening (e.g. parents, friends or relatives). In addition, 71% of the women reported a clinical depressive symptomatology whilst a 21% (N=24) that didn’t have. At time 2 (after 12 months), instead, there was a decreasing of violence, as shown the results of two a paired samples t-tests. For psychological violence, results indicated that psychological violence at time 2 has decreased significantly \( (M = 0.86, SD = 1.38) \) compared to that at time 1 \( (M = 3.44, SD = 1.49) \), \( t_{(81)}=-11.42, p < .001 \). Also for physical violence, results indicated that the abuses at time 2 has decreased significantly \( (M = 0.26, SD = 0.88) \) compared to that at time 1 \( (M = 1.76, SD = 1.40) \), \( t_{(81)}=-8.50, p < .001 \).

As indicated by data \( t_{(80)}=-3.70, p<.001 \), depressive symptomatology decreased significantly \( (M = 19.46, SD = 13.80) \) with respect to initial scores \( (M = 25.37, SD = 13.78) \) after 12 months (see Fig. 7). In addition, independent samples t-tests assessed differences in personal risk perceptions among who had left previously and women who had not left previously. Results revealed that women who had left their batterer on a previous occasion \( (M=3.22, SD=1.23) \) did not differ significantly from women who had never left \( (M=3.44, SD=1.16) \) for perceived personal risk, \( t_{(81)}=0.81, p=.42 \). There was also no difference with respect to perceived personal risk in women who had reported the partner to the police \( (M=3.40, SD=1.20) \) compared to the women who had never reported the partner to the police \( (M=3.11, SD=1.20) \), \( t_{(81)}=-0.98, p=.33 \).
Correlational findings are presented in Table 10. Consistent with predictions, victim’s risk perception is associated with taking action toward protective behaviours as the decision to leave the batterer, so, increasing the perceived risk women choose to leave the partners (r=-.27, p<.05). Interestingly note that gratitude toward (ex) partner was found positively associated with the decision to stay with abusive partner at time 2 (r=.38, p<.01). Moreover, a significant positive association was found between depressive symptoms and risk perception. Data reveal that an increasing depressive symptomatology is positively associated with an increasing of the individual risk perception (r=.24, p<.05). The bivariate correlations also indicated significant negative associations between depressive symptoms at time 1 and Positivity Scale (T1) with correlation coefficient of -.23 (p<.05). There was
also a significant negative association between victim’s age and psychological violence. Additionally, in line with previous research (Harding & Helweg-Larsen, 2009), psychological and physical abuse were not associated with individual risk perception. Furthermore, women viewed continuing the relationship reported an increased psychological (r=.50, p<.01) and physical violence (r=.32, p<.01) at time 2. Regarding informal support, there was a significant associations between informal support and formal support (r=.29, p<.01), as well as negative association between informal support and the choice to leave partner after 12 months (r=.22, p<.05) that is an increasing of informal support is associated with the choice to leave the batterer.
Table 10. Correlations among variables in the study (N=83). Means, standard deviations and Cronbach’s alpha.

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</tbody>
</table>

Note: *p<.05    **p<.01    *Time of relationship is expressed in months.
Hierarchical Regression

Objective 1. To explore the first objective a hierarchical regression was conducted for Risk Perception (see Table 11). The models followed the expected relationship between variables under investigation, according to the predicted outcomes, controlling for possible correlates. In the first step, for Risk Perception, depressive symptomatology accounted for 6 per cent of the total variance and it was significant \( (F_{1, 76} = 4.80, p = 0.3) \). In the second step of the analysis, chronicity of IPV (physical and psychological), victim’s employment, time of relationship, previous separations and informal support were added to the model, with time of relationship being significant \( (\beta = 0.267, p < 0.05) \), significantly increasing the variance of perceived risk \( (\Delta R^2 = 0.157, F_{6, 70} = 2.35, p < 0.05) \). In the last step of the model, formal support, that is the possibility to access to formal sources of help such as the police and refuge centre was entered in the model, but it did not increase the total variance \( (\Delta R^2 = 0.029, F_{2, 68} = 1.28, p = 0.3) \). Depressive symptoms \( (\beta = 0.275, p < 0.05) \), time of relationship \( (\beta = -0.255, p < 0.05) \) and victim’s employment \( (\beta = 0.234, p < 0.05) \) were statistically significant, and the full model accounted for 25 percent of the total variance of Risk Perception \( (F_{9, 68} = 2.46, p < 0.05) \).
**Binary Logistic Regression**

**Objective 2.** A logistic regression analysis was performed (Table 12) with stay/leave decision as the DV and Risk Perception, relationship variables (e.g., time of relationship, left in the past), victim’s job, gratitude toward (ex) partner, informal support (parents/relatives), formal support that is the possibility to access to formal sources of help such as contacts with the police and refuge centre, positivity view of life and future, chronicity of IPV at time 1 (physical and psychological) and depressive symptomatology (T1) as predictor variables. A total of 83 cases were analyzed and the full model significantly predicted stay-leave decision status (omnibus chi-square= 25.20 (12), p<.05). The model accounted for between 28% and 52% of the variance in stay/leave decision status, with 98.5% of the women that left their partner successfully predicted. However 50% of predictions for women group that chose to stay with batterer were accurate.
Overall 92.3% of predictions were accurate. Table 12 gives coefficients and the Wald statistic and associated degrees of freedom and probability values for each of the predictor variables. This shows that only risk perception and gratitude toward (ex) partner predicted stay/leave decision of the victims. The values of the coefficients reveal that an increase of an unit of risk perception is associated with a decrease in the odds of decision to stay with batterer by a factor of .66 (95% CI 0.45 and 0.98), and that each unit increase in gratitude toward (ex) partner score is associated with an increase in the odds of decision of stay with batterer by a factor of 4.61 (95% CI 1.53 - 13.87).

<table>
<thead>
<tr>
<th>Variable</th>
<th>B(SE)</th>
<th>Wald</th>
<th>df</th>
<th>EXP(B)</th>
<th>95 C.I. for EXP(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Perception</td>
<td>-0.41 (0.20)</td>
<td>4.16</td>
<td>1</td>
<td>0.66*</td>
<td>0.45 - 0.98</td>
</tr>
<tr>
<td>Informal support (parents/relatives) (0=No, 1=Yes)</td>
<td>1.97 (1.22)</td>
<td>2.63</td>
<td>1</td>
<td>7.16</td>
<td>0.66 - 77.40</td>
</tr>
<tr>
<td>Victim's job (0=No, 1=Yes)</td>
<td>2.20 (1.41)</td>
<td>2.41</td>
<td>1</td>
<td>8.98</td>
<td>0.56 - 143.25</td>
</tr>
<tr>
<td>Time of relationship</td>
<td>0.01 (0.01)</td>
<td>1.36</td>
<td>1</td>
<td>1.01</td>
<td>0.10 - 1.02</td>
</tr>
<tr>
<td>Left in the past (0=No, 1=Yes)</td>
<td>-0.95 (1.10)</td>
<td>0.74</td>
<td>1</td>
<td>0.39</td>
<td>0.04 - 3.36</td>
</tr>
<tr>
<td>Gratitude toward (ex) partner</td>
<td>1.53 (0.56)</td>
<td>7.39</td>
<td>1</td>
<td>4.61**</td>
<td>1.53 - 13.87</td>
</tr>
<tr>
<td>Contacts with police(Formal support) (0=No, 1=Yes)</td>
<td>1.03 (1.08)</td>
<td>0.91</td>
<td>1</td>
<td>2.81</td>
<td>0.34 - 23.49</td>
</tr>
<tr>
<td>Refuge Centre (Formal support) (0=No, 1=Yes)</td>
<td>0.003 (1.31)</td>
<td>0.00</td>
<td>1</td>
<td>1.03</td>
<td>0.08 - 13.02</td>
</tr>
<tr>
<td>Positive view of life</td>
<td>0.63 (0.57)</td>
<td>1.20</td>
<td>1</td>
<td>1.87</td>
<td>0.61 - 5.74</td>
</tr>
<tr>
<td>Psychological violence</td>
<td>-0.25 (0.55)</td>
<td>0.20</td>
<td>1</td>
<td>0.78</td>
<td>0.27 - 2.29</td>
</tr>
<tr>
<td>Physical violence</td>
<td>-0.18 (0.52)</td>
<td>0.12</td>
<td>1</td>
<td>0.84</td>
<td>0.30 - 2.30</td>
</tr>
<tr>
<td>Depression</td>
<td>0.54 (0.04)</td>
<td>2.21</td>
<td>1</td>
<td>1.06</td>
<td>0.98 - 1.13</td>
</tr>
</tbody>
</table>

Note: *p<.05 **p<.01

\[ R^2 = 0.28 \text{(Cox and Snell)} \ 0.52 \text{ (Nagelkerke)} \  \chi^2(12) = 25.20^* \]
Discussion

This study aimed to explore factors related to perceived risk of future abuses by victims of violence, because as previous research suggested, the perception of risk is associated with taking action toward protective or risk-avoidant behaviours (Brewer et al., 2004). In fact, in accordance with the behaviour motivation hypothesis, risk perceptions for negative events may lead to adoption of measures to reduce the risk (Brewer et al., 2007) as the decision to leave the batterer (Harding & Helweg-Larsen, 2009). As Cattaneo, Bell, Goodman, and Dotton (2007) suggested, it can be used Bronfenbrenner’s ecological framework (1977, 1979, 1986) to select factors at individual, interpersonal, and system levels that prior research suggest are likely to influence victims’ accuracy, considered the absence of an theory to guide in the selection of predictors for this focus. So, the study focused on two primary research objectives. First, in accordance with Cattaneo et al. (2007), we examined within an ecological approach at various levels, the association between personal factors such as victim’s mental health at the time of the assessment as depression, prior experiences of abuse, victim's employment, time of relationship, previous separations and informal support at interpersonal level and formal support as at system level as predictor of accuracy of victim’s assessment, that is the possibility to access to formal sources of help such as the police and refuge center. This because, to date, data are conflicting regarding the role of depressive symptomatology in risk perception. So, at the individual level, results of this study revealed that, in line with previous research (Helweg-Larsen et al., 2008), depressive symptoms were associated with greater personal risk perception, while, in line with other studies (e.g., Helweg-Larsen & Shepperd, 2001; Harding & Helweg-Larsen, 2009), psychological and physical abuse were not associated with individual risk perception. In addition, also in line with previous research (Harding & Helweg-Larsen, 2009; Dichter & Gelles, 2012), experiences as leaving the batterer were not associated with increased personal risk perceptions. One potential explanation for the null findings is the restricted range of abuse experience. All of the women in the study had experienced physical or emotional abuse that was severe enough to cause them to seek emergency shelter away from their batterer. While some research indicates that populations with varying degrees of the same experience exhibit differences in risk perceptions (Helweg-Larsen, 1999), the literature that focuses on perceived risk and experience within personal relationships and physical victimization has traditionally compared a victimized population to a non victimized population (Brown et al., 2009; Helweg-Larsen et al, 2008).
Differences that are apparent between these groups are potentially more robust than differences among the severity of abuse sustained among women in a domestic violence shelter when experience reflects a rating of severity versus a dichotomous variable defined by occurrence. The current study attempted to control for the restricted range of abuse experience by using the severe abuse subscales. It is possible that even the range of severe abuse was so restricted in this sample that it made it difficult to detect the effect of experience. Furthermore, in contrast to the results of Dichter and Gelles (2012) and in agreement to Cattaneo et al. (2007), nor variables related to informal support and formal help seeking contributed meaningfully to the prediction of accuracy. It may be that we considered this construct too roughly, having used only dichotomous variables. Perhaps a measure that assesses specific aspects of social support, particularly assistance directly targeting a victim’s abusive experiences or containing particular messages, would more significantly impact accuracy. Second, they were analyzed which factors may be predictive of the stay/leave decision of the women after 12 months, in particular it emerged that the level of perceived risk was one of the most important predictors, in accordance with the behaviour motivation hypothesis as well as gratitude toward (ex) partner as risk factor in the decision to stay with an abusive partner. Results demonstrated that a high level of perceived risk for future violence predict the termination of relation after 12 months or however a no return with the abusive partner. Interestingly note that gratitude toward (ex) partner was associated with an increase in the odds of decision of stay with batterer. As illustrated here, women’s risk assessments are a variable worth considering with regard to their intended behaviours, and thus, understanding factors that are associated with their risk perceptions have implications in helping to maximize women’s ability to ‘read’ their situation and adopt behaviours accordingly. Results of this study should be considered within the context of two sets of limitations. Firstly, most participants in this study were seeking help for IPV (e.g. rifuge centre) and this likely puts them above a certain threshold of risk perception compared to women who are not seeking help. Second, the time elapsed between administration and the other has been too long. As a result, it is important to fully understand the factors that affect the stay/leave decisions of women in IPV relationships, so that professionals who work with these women can better help them with these choices. Actually, whereas some women are able to extricate themselves from abusive relationships, others are never able to leave, or they find themselves returning to their partners after multiple attempts to end their relationships (e.g., Herbert, Silver, & Ellard,
1991) and beyond the perceived risk, greater emphasis should be given to the positive feelings that a woman experiences against the abuser, as the gratitude toward (ex) partner.
Conclusions

The problem of Intimate Partner Violence, in all its forms, has been well documented with respect to its psychological, physical, social and economic costs (WHO, 2016). Physical IPV has been found to be a precursor to intimate partner femicide (the killing of women) in 65% to 80% of cases (Campbell, Glass, Sharps, Laughon, & Bloom, 2007; Campbell et al., 2003), while, psychological violence has been found to be a precursor to physical violence (Stets & Henderson, 1991) as well as the so-called “cycle of violence” (Walker, 1979) with behaviours such as isolation, humiliation, criticizing, verbal abuse, monitoring, control, etc. (Walker, 1979; Follingstad et al., 2015). Scholars underline how in the age group 18-24 years are frequent assaults; date back to the point where the first experiences of violence in 47% of women who have experienced IPV in adulthood (Black et al., 2011). Although the evidence suggests that women-centred programmes can reduce a woman’s risk of further victimization, unfortunately there are less conclusive evidences to prevent its occurrence (Ellsberg et al., 2014). The past decade has seen a growing public health interest in development of primary prevention strategies to address dating violent situations but there is limited research, to date, on recognizing the early signals of violence in young women; in this regard, research has shown that IPV victims often misinterpret their partners’ abusive behaviours as “signs of love” (Wekerle & Wolfe, 1999, p. 440; Roscoe & Callahan, 1985; Roscoe & Kelsey, 1986). So, beyond the risk factors known in the literature, in terms of primary prevention, this thesis aimed to investigate the recognition of early signals of abuse in young women. Risk recognition ability can be as “the ability to sufficiently recognize danger cues (e.g., in social interactions) and to correctly identify dangerous situations” (Bockers et al., 2014, p.1).

Some studies suggested that victims of sexual trauma showed delayed risk recognition in threatening situations that involve sexual assault and that women who have been previously victimized are more likely to have deficiencies in risk recognition (Marx et al., 2001; Wilson et al., 1999; Witte & Kendra, 2009) “putting individuals at higher risk for future victimization, that is, revictimization” (Volkert et al., 2013, p. 2). Investigators have found moreover that a decrease of physiological responding to relevant threat cues may be related to individuals’ inability to identify and react to sexually threatening situations (Soler-Baillo et al., 2005; Marx et al., 2001). Unfortunately, situational risk recognition has received considerable attention in the sexual assault literature, but has yet to be studied in
interpersonal violence literature. So, the first study of this thesis aimed:

a) to investigate the recognition of warnings of dating abuse in a community sample of Italian female students (N=232) examining retrospectively whether the young women involved in a violent relationship would have greater difficulty in recognizing the risks compared to those who did not have it; and also

b) which factors, within an ecological model (Heise, 1998), can have an influence on risk recognition ability. Results of this retrospective study suggested that, in line with previous research on situational risk recognition and IPV (Witte & Kendra, 2010), female students with previous experiences of psychological violence in the past year had greater difficulty in recognizing the early signals of violence compared to those who did not ever have it; regarding to the physical violence instead, results suggested that there is not a significant effect between victims and no victims of physical assault on situational risk recognition. In general, these results are not at all comforting because the victims of psychological violence showed greater deficits in the recognition of risk than non-victims, while, victims of physical violence (that are already advanced state of initial psychological violence) did not exhibit greater ability to recognize risks compared to non-victims but not even a deficit in risk recognition ability. This last result, contrary with previous studies (Witte & Kendra, 2010; Soler-Baillo, Marx, & Sloan, 2005; Wilson, Calhoun, & Bernat, 1999) and in line with other studies (Volkert et al., 2013; VanZile et al., 2005), did not find an association between victims and non-victims of violence in risk recognition ability (Volkert et al., 2013). Both results pose serious risks to female students of continuous revictimization, they could have an important value in terms of prevention because it “may serve as a mechanism by which the cycle of victimization is perpetuated” (Marx & Soler-Baillo, 2005, p. 623); in other words, individuals who do not recognize a previous experience as a violence may be predisposed to ignore salient threat cues or not fully process important threat-relevant information in subsequent situations and this may “putting individuals at higher risk for future victimization, that is, revictimization” (Volkert et al., 2013, p. 2). Also, we analyzed, within an ecological approach at various levels, the association between personal factors such us age, the violent behaviours witnessed or suffered in the environments containing person (e.g., home), alcohol and drugs use, previous violent episodes in intimate relationships and sexism, attitudes and beliefs about IPV on deficient risk recognition. This was the first attempt to study, within an ecological approach, the recognition of the risk in intimate partner violence. This was born from the need to study dating violence considering an integrated approach and all risk factors.
instead of considering only isolated variables. Following the application of the ecological approach of Heise (1998), three-step hierarchical regressions were conducted for Deficient Risk Recognition. Results suggested that among the variables considered, psychological violence, physical violence, stereotypical beliefs about domestic violence and attitudes toward male-to-female violence were statistically significant, and the full model accounted for 32% of the total variance of Deficit of Risk Recognition. In line with previous studies that had analyzed the factors individually, previous psychological and physical violence significantly increasing the variance of deficit of risk recognition (Witte & Kendra, 2010).

Regarding physical violence, it is interesting note that the relation is negative. Probably, women that have been victims of physical abuse, therefore to a subsequent step of cycle of violence, in a retrospective way have a greater recognizing of subtle signals of psychological violence that are precursors of a physical violence. This suggests that an escalation of violence brings greater recognition of its precursors giving reason to a slice of studies that underline that victims of repeated violence may well recognize the warnings of initially violent forms of a violent intimate relationship (Bockers et al., 2014). The second study of this thesis aimed to examine the physiological correlates of risk recognition in dating violent situations in young women. For this objective, a study with physiological measures was conducted with a sample of 30 young women. Participants’ heart rate (HR), skin conductance level (SCL) and response latency were collected during the administration of twelve scenario on the risk recognition specially designed for the study. A Biopac MP150 system and AcqKnowledge software were used to acquire and amplify the signals. This study replicated previous findings that women with a history of sexual victimization may have an impaired ability to recognize sexual threat cues. Furthermore, the findings supported the hypothesis that victims of psychological violence exhibited a different pattern of physiological reactivity in response to a scenario compared to non-victims. Although the two groups did not significantly differ in overall Skin Conductance level (SCL) reactivity to the stimulus across all segments and compared to the baseline period, non-victims displayed a greater increase in heart rate reactivity during the scenarios compared to victims. This physiological pattern of reactivity suggests that the elevated heart rate reactivity found in the last segments of the stimulus is primarily a function of the active processes involved in assessing and responding to the risk recognition task, and it is during this period that victims exhibited less autonomic reactivity. This finding is consistent with other research on the physiological correlates of
defensive responding (Marx et al., 2005; Bradley et al., 2001; Soler-Baillo et al., 2005). A diminished physiological response in a context saturated with threat cues may serve to impair the ability to detect those cues, may inhibit an appropriate action, such as leaving the situation, or both. The findings of this investigation suggest also that, altered defensive responding may be related to individuals’ ability to identify and react to threatening situations in intimate relationships. Further, impairments in defensive responding may play a key role in the cycle of victimization. In terms of secondary prevention, widely studied is the personal risk perception. In this regard, the behaviour motivation theory hypothesizes that a high perception of risk for a negative event will lead to adoption of or change in behaviour in order to reduce the risk (Brewer et al., 2004). But as this perceived risk involves the implementation of a protective behaviour is unclear. This is because, on the one hand does not explain why but for which a high risk, women do not leave abusive partners or do not report. For this second construct, a longitudinal study was conducted (N=83) in order to understand firstly the factors that are associated with women’ risk perceptions this is why they have implications in helping to maximize women’s ability to ‘read’ their situation and adopt behaviours accordingly, secondly, they were analyzed which factors may be predictive of the stay/leave decision of the women after 12 months. Results showed that depressive symptoms were associated with greater personal risk perception. Results demonstrated that a high level of perceived risk for future violence predict the termination of relation after 12 months or however a no return with the abusive partner. Interestingly note that gratitude toward (ex) partner was associated with an increase in the odds of decision of stay with batterer. In this study, there was not correlations between risk perception and future abuses, probably in this sample women adopted immediate security measures following extreme violence suffered (in fact many women were conducted in refuge centre or in hospital for that) and successfully terminated the relationship.

To date, the evidence base is limited by several methodological weaknesses: small sample sizes, wide range of outcome measurements and timeframes. Moreover, many studies did not control for potential confounding factors, which might result in some bias in the results and most of the assessments identified did not include a long follow-up period (Ellsberg et al., 2014). Overall, the findings point to the imperative of greatly increasing investment in violence research and programme evaluation. Therefore, this study contributes to the growing literature on the risk recognition ability in young women and on risk perception in
women battered. Although perpetrators are always responsible for aggressive behaviours toward victims, better understanding of ways we can empower women with defensive strategies will also help prevent additional assault from occurring.
Appendix 1

Please imagine yourself to be the girl/woman described in the following situations. Read the text carefully and then answer the questions. You are in a pub with some friends, you’re having fun, and a group of boys are approaching you. In particular there is a boy, Mr. S., that you really like and you believe that he feels the same way about you; he approaches you, you start talking, and there seems to be a good feeling between the two of you and you exchange phone numbers. After a week, you start dating; He is sweet and thoughtful, and he calls you often and always asks you what are you doing and where you are.

1) After a month, you decide to make the relationship with S. official and he wants to know always where his girlfriend is or what she is doing, saying that for him, it is a matter of respect.

**How do you respond to S.??**

( ) I end the relationship

( ) I disagree but I maintain the relationship

( ) I maintain the relationship because after all what he said was right

2) You are happy together and want to spend more time together but your free days do not always coincide so S. tells you that you have to give up some extra activities such as the gym or going out with friends so that you have more time to spend with him.

3) A friend asks you if you want to go shopping with her, you go, but when S. calls you and you tell them where you are, he is upset by the fact that you did not warn him that you were going to go out. He asks you not to be late, and to call him when you get home.

4) One day you are at home and a friend asks you to accompany her to a business dinner with a male colleague. You decide to go as it would be a good opportunity to see her again after so long. At mid-evening, you check your phone and you find 15 calls from S.
5) After a romantic evening, you are in the car and S. asks you for explanations regarding the time you spend with friends; S. accuses you of hiding something. You deny this but he gets angry and asks to control your phone as proof of ‘innocence.’

6) S. suspects you are being disloyal. You tell him that he's wrong but he does not believe you and he begins to raise his voice telling you that he was wrong to trust you, that you're a bad girl just like all women.

7) One afternoon, after coming home after a course, you login to your social network and you realize that some of your contacts have been deleted. S. has used your password. You call him and he says: ‘there should be no secrets between us, the people I eliminated didn't like me, you do not understand that you are only mine.’

8) One day S. tells you that he has been invited to the birthday of a dear friend and that it would be nice to go with you so you can meet his friends. You go to the party. On the way to the bathroom, one of the guests asks you to dance with him. S. sees you and approaches you, takes you by the arm, and pulls you away saying: ‘we are going; “I cannot stand it when other males get close to you.”’

9) One day, you go out for some shopping and meet friends. By chance, S. happens to walk by and see you. He walks you away from the group and starts to argue; he scolds you and begins to insult you: ‘you have disrespected me and humiliated me!’

10) While he is screaming at you he shakes you by the arms. He is really hurting you.

11) You try to reassure him by saying that what he is saying is not true but he is angry and slaps you in the face.

12) One morning, you go out to do some shopping. S. calls you and asks you if he can meet you. You meet, but when he sees you, he starts complaining about what you are wearing. He tells you that it would be easier if you didn’t wear tight trousers in public.


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