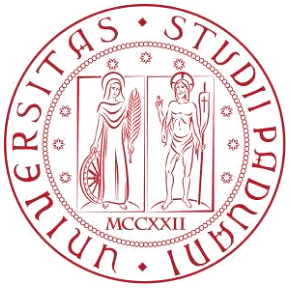

**UNIVERSITY OF PADOVA**

**Department of Philosophy, Sociology, Education, and Applied Psychology**

**Master's Degree in Clinical, Social, and Intercultural Psychology**

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# Cross-Cultural Adaptation and Psychometric Evaluation of the Trauma Bonding Scale for Adults in Intimate Relationships: Evidence from Samples in Türkiye and Italy

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## ABSTRACT

Trauma bonding refers to a persistent emotional attachment to a harmful or abusive partner despite fear, dependency, relational harm, and difficulty disengaging. Although the Trauma Bonding Scale for Adults (TBSA) directly assesses this construct, it was originally developed for sex trafficking contexts, making validation in intimate relationships necessary. This study adapted the TBSA to intimate relationship contexts and evaluated the resulting Intimate Relationships TBSA (IRTBSA) among adults in current romantic relationships in Türkiye and Italy. Using a quantitative cross-sectional validation design, the scale underwent forward-backward translation, contextual adaptation, expert review, and cognitive pretesting before online self-report data were collected from 483 participants in Türkiye and 456 in Italy. Structural validity was examined through confirmatory factor analyses, internal reliability with Cronbach's alpha, and convergent validity through correlations with psychologically controlling partner behaviors, shame, depressive symptoms, and posttraumatic stress disorder symptoms. The initial 30-item one-factor model did not show adequate fit in either sample. After statistical and conceptual item evaluation, five items were removed. The one-factor model estimated for the IRTBSA-25 showed acceptable fit, with high internal consistency in the Turkish ($\alpha = .96$) and Italian ($\alpha = .95$) samples. IRTBSA-25 scores were positively associated with restrictive engulfment victimization, shame, depressive symptoms, and PTSD symptoms, supporting convergent validity. Findings provide initial evidence that the IRTBSA-25 is a reliable and valid measure of trauma bonding in current romantic relationships, while future research should examine measurement invariance, clinical utility, longitudinal change, and diverse samples.


*Keywords*: trauma bonding, romantic partner, scale validation, cross-cultural, psychometrics

*To all survivors of harmful intimate relationships,*

*whose voices deserve to be heard, believed, and honored.*

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# CHAPTER 1

# TRAUMA BONDING

This chapter provides the theoretical foundation of the present study by reviewing trauma bonding as a relational and trauma-related phenomenon. It begins with the emergence, development, and conceptualization of trauma bonding, with particular attention to the contributions of Dutton, Painter, and Carnes. The chapter then discusses key mechanisms involved in trauma bonding, including intermittent reinforcement and power imbalance, followed by major theoretical explanations from attachment, cognitive, evolutionary, and neurobiological perspectives. Afterward, trauma bonding is distinguished from related concepts such as Stockholm syndrome, codependency, and learned helplessness in order to clarify its conceptual boundaries. The chapter then situates trauma bonding within intimate relationship contexts, particularly in relation to intimate partner violence (IPV), psychological violence, coercive control, and difficulty disengaging from harmful partners. Finally, the chapter reviews theoretically relevant correlates of trauma bonding, including psychological IPV victimization, shame, depression, and posttraumatic stress disorder (PTSD) symptoms, and explains why the systematic assessment of trauma bonding is important for both research and practice.

## 1.1. Emergence, Development, and Conceptualization of Trauma Bonding

Bonding is a fundamental aspect of human development, beginning at birth and continuing throughout the lifespan through interactions with significant others. Emotional experiences such as anxiety, sorrow, and security are closely linked to the state of individuals' affectional bonds (Bowlby, 1977). In this sense, emotional functioning and even psychopathology can be largely understood through the lens of relational bonds, as Bowlby noted, "the psychology and psychopathology of emotion is […] the psychology and psychopathology of affectional bonds" (p. 203).

While bonding is often associated with emotional security, it may also develop in relational contexts involving distress, harm, or instability. In these situations, individuals may be exposed to traumatic experiences that disrupt their sense of safety and psychological stability. Importantly, these experiences may occur within close interpersonal relationships in which emotional bonds are also present. Accordingly, it becomes essential to examine what happens when such emotional bonds are formed and maintained in the presence of harm. In such cases, attachment does not necessarily diminish; rather, it may persist or even intensify, giving rise to paradoxical relational patterns such as trauma bonding.

Early work by Dutton and Painter (1981) introduced the concept of traumatic bonding to explain why individuals exposed to violence may remain emotionally attached to abusive partners. Unlike secure bonding, traumatic bonding reflects an attachment pattern shaped by fear, threat, dependency, and relational uncertainty. Dutton and Painter (1981) argued that such bonds are primarily shaped by two relational mechanisms: power imbalance and intermittent abuse. While power imbalance refers to unequal control and dependency within the relationship, intermittent abuse refers to the alternation between harmful and caring interactions. Together, these dynamics help explain how attachment may persist, or even strengthen, despite ongoing harm.

Following the work of Dutton and Painter (1981), Patrick Carnes (1997) further discussed trauma bonding within a more clinically oriented and recovery-focused psychological framework rather than presenting a formal theoretical model. Both Dutton and Painter (1981) and Carnes (1997) argue that individuals may remain attached to harmful relationships and that this attachment may even strengthen despite ongoing harm. However, they differ in their conceptualization of the underlying mechanisms of this bond. Dutton and Painter (1981) primarily focus on relational dynamics, emphasizing external mechanisms such as power imbalance and intermittent abuse. In contrast, Carnes (1997) approaches trauma bonding from a psychological perspective, highlighting internal mechanisms,

including compulsive attachment, emotional dependency, and addiction-like processes. To explain, compulsive attachment involves persistent preoccupation with the partner, difficulty sustaining decisions to leave, and repeated returns despite recognized harm, whereas emotional dependency reflects feeling complete only within the relationship and experiencing separation as emptiness and anxiety because the partner serves as a source of emotional regulation. Building on these processes, Carnes (1997) describes trauma bonding in addiction-like terms, emphasizing compulsive involvement in harmful relationships, temporary relief, and difficulty disengaging despite negative consequences.

Briefly, when these perspectives are considered together, drawing on the work of Donald Dutton and Susan Painter as well as Patrick Carnes, trauma bonding refers to a complex relational dynamic in which, through the interaction of internal and external mechanisms, individuals maintain a strong emotional attachment to their partner and remain in the relationship despite experiencing harm. To better understand how trauma bonding develops and persists within harmful relationships, it is important to examine the core mechanisms underlying this relational dynamic.

### 1.2. Key Mechanisms of Trauma Bonding

Although Carnes (1997) offered important clinical insights, this perspective was primarily recovery-oriented rather than a formal, empirically grounded theoretical model. Therefore, the present section focuses on Dutton and Painter's (1981) framework, which more directly explains the relational mechanisms underlying trauma bonding.

#### 1.2.1. Intermittent Reinforcement

Intermittent reinforcement is considered a central mechanism in trauma bonding because it strengthens attachment through unpredictable alternations between harm and relief. In abusive relationships, experiences of violence, fear, humiliation, or control may be followed by affection, apology, attention, or temporary calm, which reinforces the emotional bond despite ongoing harm (Dutton & Painter, 1981). This pattern is consistent with the

behavioral principle of intermittent reinforcement, whereby positive outcomes occur unpredictably rather than consistently. Because unpredictability makes behaviors more resistant to extinction, individuals may continue to expect affection or relief even after repeated negative experiences (Bouton, 2007; Ferster & Skinner, 1957; Mazur, 2006; Staddon & Cerutti, 2003).

In romantic relationships, this mechanism may make the absence of affection appear temporary rather than definitive. When hurtful and caring behaviors fluctuate, individuals may remain emotionally invested in the expectation that positive experiences will eventually return. Importantly, Dutton and Painter (1993) argue that trauma bonding is sustained through a combination of unpredictability and the sharp contrast between intense negative experiences and subsequent positive interactions. Over time, the partner may become both a generator of distress and a source of relief, creating a reinforcement loop that makes disengagement more difficult. This process becomes even stronger when combined with relational power imbalance (Dutton & Painter, 1993).

### 1.2.2. Power Imbalance

Power imbalance represents another central mechanism in trauma bonding, referring to the unequal distribution of control, resources, and influence within a relationship. In such dynamics, one partner holds greater authority over decision-making and the overall direction of the relationship, while the other becomes increasingly dependent and constrained (Dutton & Painter, 1981). This imbalance may operate through economic, psychological, and physical forms of control, including restricting access to financial resources, manipulation or gaslighting, isolation from support systems, threat, intimidation, and violations of bodily autonomy (Khan & Akram, 2025; Pugh & Becker, 2018; Stark, 2007). Together, these forms of control limit autonomy, erode agency and self-worth, and create both psychological and structural barriers to disengagement.

As dependency increases and alternative sources of support diminish, leaving the relationship may begin to feel neither feasible nor safe. In this context, the dominant partner may function as a source of control and threat while also becoming the primary reference point for validation, security, and emotional regulation (Herman, 1992). This dual role strengthens trauma bonding by making the partner central to both distress and relief. Cycles of abuse and reconciliation may further reinforce this process, as episodes of tension, threat, or violence are followed by remorse, apology, affection, or promises of change. However, such cycles should not be understood as sufficient explanations on their own; rather, they operate together with broader processes of power, dependency, and intermittent reinforcement (Dutton & Painter, 1993; Khan & Akram, 2025).

Finally, unequal relational power is also shaped by broader sociocultural and structural factors. Gender norms, stigma around separation, and economic dependency may legitimize control, normalize harmful behaviors, and restrict individuals' perceived or actual ability to leave (Anderson & Saunders, 2003; Dobash & Dobash, 1979; Kabeer, 1999; Postmus et al., 2012; Yllo, 1993). Therefore, power imbalance should not be seen as merely a co-occurring feature of trauma bonding, but as a central mechanism that sustains it by reinforcing dependency and limiting autonomy.

### 1.3. Theoretical Explanations of Trauma Bonding

The existing literature enhances our understanding of trauma bonding by situating it within various theoretical frameworks that clarify the psychological, relational, and biological processes involved in its development and maintenance (Reid, 2024).

#### 1.3.1. Attachment Theory

Attachment theory is one of the key theoretical frameworks for understanding trauma bonding (Reid, 2024). Originally developed by Bowlby (1969/1982) and Ainsworth et al. (1978), attachment theory explains how early relationships with caregivers shape individuals' expectations of safety, closeness, and emotional regulation. These expectations may later

influence how individuals experience trust, support, and intimacy in adult romantic relationships (Hazan & Shaver, 1987). Attachment patterns are commonly categorized as secure, avoidant, and anxious/ambivalent. While secure attachment is characterized by trust in the availability of support, avoidant attachment involves emotional distancing, and anxious/ambivalent attachment is marked by fear of abandonment, proximity-seeking, and heightened sensitivity to relational cues (Ainsworth et al., 1978; Hazan & Shaver, 1987).

Later work by Main and Solomon (1990) introduced disorganized attachment, which is particularly relevant to trauma bonding. Disorganized attachment refers to the absence of a coherent attachment strategy, often emerging when the attachment figure is simultaneously a source of comfort and fear. In such cases, individuals may show conflicting approach and avoidance tendencies toward the same figure (Main & Solomon, 1990). This pattern parallels the paradoxical dynamics of trauma bonding, where the abusive partner may be experienced as both threatening and emotionally necessary (Dutton & Painter, 1993; Reid, 2024). From this perspective, fear and threat do not necessarily weaken attachment; rather, they may activate the attachment system and intensify the need for proximity, safety, and regulation. When access to safer attachment figures is limited by social isolation, economic dependence, control, or fear, individuals may turn toward the abusive partner as a source of emotional regulation (Reid, 2024).

This process is further strengthened when moments of affection, attention, apology, or temporary calm are intermittently provided by the abusive partner. Such experiences may reinforce the expectation that proximity to the partner can reduce distress, even when the same partner is also the source of harm (Dutton & Painter, 1993; Reid, 2024). As a result, the source of fear and the source of perceived safety converge, creating a paradoxical bond in which attachment is maintained despite threat and abuse (Dutton & Painter, 1993; Reid, 2024).

### 1.3.2. Cognitive Theory

Cognitive theory suggests that individuals' emotional and behavioral responses are shaped by the meanings they attribute to events, rather than by the events alone (Beck, 1979; Galovski et al., 2020). Within intimate relationships, these interpretations may influence how individuals make sense of conflict, rejection, criticism, or abuse (Reid, 2024). Therefore, cognitive theory is relevant to trauma bonding because maladaptive appraisals may help explain how attachment to an abusive partner is maintained despite harm (Graham et al., 1994; Reid, 2024).

In trauma bonding, cognitive distortions may involve self-blame, minimization or denial of abuse, rationalization of the perpetrator's behavior, and the use of emotional attachment as a justification for remaining in the relationship (Badenes-Sastre et al., 2025; Graham et al., 1994; Herman, 1992). These distortions may lead individuals to interpret abuse as temporary, deserved, or caused by external stressors rather than as part of a harmful relational pattern (Graham et al., 1994; Herman, 1992). As a result, the abusive relationship may become more difficult to evaluate clearly and disengage from.

Cognitive explanations also emphasize the misinterpretation of emotional arousal. In abusive relationships, fear, distress, or physiological arousal may be cognitively reattributed to love, attachment, or relational significance, thereby strengthening the trauma bond (Fadesti et al., 2025; Graham et al., 1994). Similarly, identification with the abuser may function as a defensive process in which individuals internalize the abuser's beliefs or perspectives to reduce perceived threat or maintain a sense of control (Graham et al., 1994; Lahav et al., 2019). Although these processes may temporarily reduce distress, they may also reinforce continued attachment to the abusive partner.

Accordingly, from a cognitive perspective, trauma bonding can be understood as a process maintained through maladaptive appraisals of abuse, misattributions of emotional

arousal, and internalization of the abuser's perspective, all of which may contribute to the persistence of attachment in harmful relationships (Graham et al., 1994; Reid, 2024).

### 1.3.3. Evolutionary Perspective

Evolutionary perspectives suggest that trauma bonding may involve automatic, survival-oriented responses activated under conditions of threat, isolation, and limited escape (Bailey et al., 2023; Cantor & Price, 2007; Nair, 2015). From this view, responses to abuse are not shaped only by cognitive appraisals or attachment dynamics; they may also reflect evolutionarily older defensive systems that help individuals manage danger and increase the likelihood of survival (Gilbert, 2001; Taylor et al., 2000). Accordingly, maintaining proximity to a dominant or threatening individual may paradoxically function as a harm-reduction strategy when resistance or escape is not perceived as possible (Cantor & Price, 2007; Nair, 2015).

This perspective is closely related to appeasement and submissive survival strategies. Bailey et al. (2023) describe appeasement as a defensive response that may emerge under interpersonal threat, particularly when direct resistance or escape is unsafe or unavailable. Similarly, Cantor and Price (2007) argue that submissive or reconciliation-oriented behaviors may reduce the risk of further aggression in situations involving threat and power asymmetry. Research on nonhuman primates and other social species also suggests that, when escape is not feasible, individuals may engage in behaviors that reduce aggression and preserve proximity to the aggressor. Cantor and Price (2007), for example, describe "reverted escape," in which the attacked individual returns to the aggressor rather than moving away, thereby facilitating conditional reconciliation and reducing the likelihood of further aggression.

In this sense, threat does not always produce avoidance. Under certain conditions, it may also activate approach-oriented, appeasing, or compliance-based responses when these responses appear safer than resistance or separation (Bailey et al., 2023; Cantor & Price, 2007; Taylor et al., 2000). Therefore, from an evolutionary perspective, trauma bonding can

be understood as a survival-oriented pattern in which proximity to a harmful figure may be maintained because it is perceived, consciously or automatically, as the least dangerous available option (Bailey et al., 2023; Cantor & Price, 2007; Nair, 2015).

### 1.3.4. Neurobiological Perspective

From a neurobiological perspective, trauma bonding may be understood in relation to the effects of chronic stress and trauma on brain and body systems. Prolonged exposure to threat can alter stress-response systems, including the hypothalamic-pituitary-adrenal axis, which regulates cortisol release and prepares the body to respond to danger (De Bellis, 2005; Guilliams & Edwards, 2010; Nunez et al., 2025; Teicher, 2000). When stress becomes chronic, this system may become dysregulated, contributing to heightened arousal, fear, emotional numbing, or difficulties in emotion regulation (Cloitre et al., 2005; Guilliams & Edwards, 2010; McEwen, 2007; Nunez et al., 2025; van der Kolk, 2014).

These neurobiological responses are relevant to trauma bonding because they may affect how individuals evaluate threat, regulate distress, and respond to harmful relational contexts. In situations involving interpersonal violence, direct escape or resistance may not always be perceived as safe or possible (Reid, 2024). Under such conditions, stress responses may extend beyond fight-or-flight reactions to include proximity-seeking or connection-oriented responses, such as the tend-and-befriend pattern described by Taylor et al. (2000). As a result, individuals may move toward, rather than away from, a person associated with both distress and temporary comfort.

Dissociation is also particularly relevant in this context. As a trauma-related response, dissociation may protect individuals by reducing the immediate emotional impact of overwhelming experiences; however, it may also impair the ability to fully process harm, evaluate danger, and act protectively (Diseth, 2005; Doychak & Raghavan, 2023; Herman, 1992). When dissociation, stress-related attachment activation, and alternating patterns of harm and relief occur together, the abusive partner may become linked to both threat and

regulation. In this sense, neurobiological processes may contribute to trauma bonding by reducing effective self-protection and reinforcing attachment within cyclical abusive dynamics (Doychak & Raghavan, 2023; Reid et al., 2013).

Taken together, neurobiological explanations complement attachment, cognitive, and evolutionary perspectives by showing how chronic threat may alter stress regulation, emotional processing, and self-protective responses. From this perspective, trauma bonding may be maintained through the interplay of relational dependence, cognitive appraisals, and trauma-related bodily and neurobiological processes that may make disengagement more difficult. Therefore, trauma bonding can be understood as a multi-layered phenomenon shaped by the interaction of relational, cognitive, evolutionary, and neurobiological mechanisms.

### 1.4. Distinction Between Trauma Bonding and Related Concepts

Although the concept of trauma bonding has its own distinct conceptual framework in the literature, it is frequently confused with certain related constructs and, in some cases, used in a way that overlaps with these concepts. This section describes related concepts frequently discussed in the trauma bonding literature, particularly those involving similar relational, emotional, and psychological dynamics.

#### 1.4.1. Stockholm Syndrome

In the literature, Stockholm Syndrome is one of the concepts most frequently discussed in relation to trauma bonding, and the two terms are sometimes used interchangeably because both describe emotional attachment toward a harmful figure (Çevik & Emen, 2025; Reid, 2024). However, distinguishing between them is important for clarifying the conceptual boundaries of trauma bonding, particularly in intimate relationship contexts.

The term Stockholm Syndrome was coined by Nils Bejerot following the Norrmalmstorg bank robbery in Stockholm in 1973, after hostages appeared to develop

positive feelings toward their captors (Adorjan et al., 2012). It is commonly used to describe a psychological response in which individuals exposed to threat, captivity, or coercive control develop sympathy, attachment, or positive feelings toward the person harming them (Namnyak et al., 2008). This response has often been interpreted as a survival-oriented defense mechanism in situations where control is limited and escape is constrained (Namnyak et al., 2008).

Although Stockholm Syndrome and trauma bonding overlap in describing paradoxical attachment to a harmful person, they differ in their typical relational contexts and sustaining mechanisms. Stockholm Syndrome is classically associated with captor-captive dynamics, often in situations where there is no prior intimate relationship between the victim and the perpetrator (Adorjan et al., 2012; Çevik & Emen, 2025). In contrast, trauma bonding is more commonly discussed in the context of ongoing abusive or exploitative relationships, especially IPV, dating, or marital relationships (Çevik & Emen, 2025; Dutton & Painter, 1981, 1993; Reid, 2024).

In this sense, Stockholm Syndrome is primarily understood as a survival-oriented response to captivity or acute threat and is more closely associated with hostage or abduction contexts, where escape is severely constrained (Adorjan et al., 2012; Çevik & Emen, 2025; Namnyak et al., 2008; Reid, 2024). In contrast, as discussed in the previous sections, trauma bonding refers to a relational attachment process that develops within ongoing abusive relationships, where repeated cycles of harm and temporary care gradually reinforce attachment to the abusive partner (Çevik & Emen, 2025; Dutton & Painter, 1981, 1993; Reid, 2024). Thus, trauma bonding is distinguished from Stockholm Syndrome by its emphasis on continuing relational dynamics rather than acute captivity alone.

### 1.4.2. Codependency

Codependency has also been discussed in relation to trauma bonding because both concepts may help explain why individuals remain in harmful or dysfunctional relationships.

Codependency is generally described as a relational pattern in which individuals become excessively focused on another person's needs, neglect their own needs, and may assume caregiving, rescuing, or self-sacrificing roles within the relationship (Beattie, 1987; Cermak, 1986).

However, codependency and trauma bonding should not be treated as interchangeable. Codependency does not necessarily require abuse, threat, coercion, or a marked power imbalance; rather, it is primarily organized around excessive caretaking, responsibility for the other person, and self-neglect (Beattie, 1987; Cermak, 1986). In contrast, trauma bonding is more specifically concerned with the persistence of attachment to an abusive partner, rather than with caregiving or self-sacrificing relational patterns alone (Dutton & Painter, 1981, 1993; Reid, 2024).

Thus, although both concepts may involve emotional dependence, they differ in the processes underlying relationship maintenance: codependency centers on caregiving, rescuing, and self-neglect, whereas trauma bonding centers on sustained attachment to an abusive partner despite harm (Beattie, 1987; Cermak, 1986; Dutton & Painter, 1981, 1993; Reid, 2024).

### 1.4.3. Learned Helplessness

Learned helplessness has also been used to explain why individuals may remain in harmful or abusive relationships. The concept refers to a state in which repeated exposure to uncontrollable adverse experiences leads individuals to perceive that their actions cannot change the outcome, resulting in reduced attempts to escape or alter the situation (Seligman, 1975). In the context of IPV, learned helplessness has been applied to explain how repeated abuse may weaken perceived control, increase passivity, and contribute to difficulty leaving the abusive relationship (Walker, 1979; Peterson et al., 1993).

However, learned helplessness and trauma bonding should not be treated as equivalent. Learned helplessness primarily explains relationship persistence through

perceived lack of control, hopelessness, and reduced agency (Seligman, 1975; Peterson et al., 1993). In contrast, trauma bonding is more specifically concerned with the persistence of emotional attachment to the abusive partner despite harm (Dutton & Painter, 1981, 1993; Reid, 2024). Thus, learned helplessness may help explain why individuals feel unable to leave, but it does not fully account for why they may remain emotionally attached to, seek closeness with, or return to the person causing harm.

Therefore, although learned helplessness provides a useful framework for understanding passivity and perceived inescapability in abusive relationships, trauma bonding offers a more specific explanation for the attachment processes that may sustain the relationship despite ongoing abuse (Dutton & Painter, 1981, 1993; Reid, 2024; Walker, 1979).

### 1.5. Trauma Bonding in Intimate Relationships

The concept of an intimate partner extends beyond marital relationships to encompass a wide range of relational contexts, including spouses, cohabiting partners, dating partners, and former partners, regardless of the level of commitment or legal status (World Health Organization [WHO], 2012; Centers for Disease Control and Prevention, 2026). This broader conceptualization is particularly important in understanding trauma bonding, as such bonds may develop within these relationships when they are characterized by patterns of abuse and exploitation, most notably in the context of IPV (Reid, 2024).

Intimate relationships are characterized by ongoing and emotionally meaningful bonds involving attachment, mutual interdependence, and significant relational investment (Bowlby, 1969/1982; Kelley & Thibaut, 1978; Rusbult, 1980). They are also frequently embedded in broader social and structural contexts, such as cohabitation, marriage, parenthood, family involvement, and economic interdependence, which may strengthen relationship continuity over time (Kelley & Thibaut, 1978; Rusbult, 1980; Sternberg, 1986; WHO, 2012). In this respect, intimate relationships differ from many other interpersonal or

exploitative contexts that are more likely to be transient, situational, or externally imposed, and that may lack enduring emotional attachment between the individuals involved (Reid, 2024). Accordingly, leaving an abusive intimate relationship does not merely involve distancing oneself from a source of harm; it may also require disengaging from a relational identity, a social role, future-oriented expectations, and a primary source of emotional regulation. These challenges may be further intensified in the context of IPV, where coercive and harmful dynamics can become normalized, obscured, or embedded in everyday relational life, thereby reducing the visibility of abuse (Stark, 2007; Stark & Hester, 2019; WHO, 2012). Within such contexts, the coexistence of emotional attachment and harm creates a paradoxical relational dynamic that may facilitate the persistence of the relationship.

### 1.5.1. Intimate Partner Violence

IPV refers to behavior within an intimate relationship that causes physical, psychological, or sexual harm, including physical aggression, sexual coercion, psychological violence, and controlling behaviors (Department of Social Services, 2022; WHO, 2012). Although women are disproportionately affected by IPV, it is not limited to women and may be experienced by individuals across different gender identities and sexual orientations, including men and LGBTQIA+ individuals (Australian Institute of Health and Welfare, 2026; Drijber et al., 2013; Walters et al., 2013; WHO, 2012). IPV has also been associated with a range of adverse psychological, social, and economic outcomes, including symptoms of anxiety and depression, low self-esteem, economic instability, and housing insecurity (Candela, 2016; Karakurt et al., 2014; Pitman, 2017; Williamson, 2010).

Direct population-level prevalence estimates of trauma bonding remain limited, partly because standardized measures of trauma bonding have only recently begun to receive systematic psychometric attention (Reid et al., 2013; Reid, 2023). Therefore, the empirical relevance of trauma bonding in intimate relationships can be contextualized through the prevalence of IPV and psychological IPV victimization. Globally, WHO (2024) estimates

indicate that approximately one in three women worldwide has experienced physical and/or sexual IPV or non-partner sexual violence in their lifetime, and approximately 27% of women aged 15-49 who have been in a relationship have experienced physical and/or sexual violence by an intimate partner. Psychological forms of IPV are also widespread but less visible. Recent EU-wide findings indicate that 29.9% of women experienced psychological violence by a partner, including humiliation, jealousy, intimidation, or controlling behaviors (European Institute for Gender Equality, 2026). In Italy, Istat (2025) reported that among women who currently have or previously had a partner, 12.6% reported physical or sexual violence within the couple, 17.9% reported psychological violence, and 6.6% reported economic violence. In Türkiye, the 2014 National Research on Domestic Violence against Women found that 38% of ever-married women reported lifetime physical and/or sexual violence, whereas psychological violence was reported by 44% over the lifetime and 26% in the past 12 months (Hacettepe University Institute of Population Studies, 2015). These figures do not provide prevalence estimates for trauma bonding itself, but they demonstrate that the relational conditions in which trauma bonding may emerge are common and clinically relevant.

The relational nature of IPV makes it especially relevant to trauma bonding because abuse occurs within an emotionally meaningful relationship in which harm, attachment, dependence, and hope may become intertwined (Dutton & Painter, 1981, 1993; Reid, 2024). Trauma bonding refers to a strong emotional attachment to a harmful, abusive, or controlling partner and has been discussed in relation to repeated patterns of abuse, power imbalance, intermittent reinforcement, fear, relational uncertainty, and psychological dependence (Dutton & Painter, 1981, 1993; Reid, 2024). In abusive intimate relationships, harmful behaviors may be followed by affection, apology, care, or promises of change, creating an unstable relational pattern in which the abusive partner is experienced as both a source of harm and a source of emotional attachment (Dutton & Painter, 1993; Reid, 2024). This

alternation may make the relationship difficult to interpret and may contribute to the maintenance of attachment despite ongoing harm.

This process may be particularly complex in cases involving psychological IPV and coercive control. Compared with more visible forms of physical violence, psychological violence, and coercive control may be more difficult to detect because they are often embedded in everyday relational interactions, including intimidation, humiliation, emotional manipulation, monitoring, isolation, and control over autonomy (Black et al., 2011; Carney & Barner, 2012; Stark, 2007; Stark & Hester, 2019). Previous findings indicate that psychological aggression is commonly reported by both women and men, suggesting that non-physical forms of IPV are central to understanding abusive intimate relationships rather than secondary or minor forms of harm (Black et al., 2011; Carney & Barner, 2012).

The less visible and often normalized nature of psychological IPV may also make it harder for survivors to label their experiences as abusive. When controlling, degrading, or threatening behaviors are followed by affection, remorse, or temporary closeness, survivors may experience confusion and ambivalence about the meaning of the relationship (Dutton & Painter, 1993; Stark, 2007; Reid, 2024). In this sense, psychological IPV may be especially relevant to trauma bonding because it can combine harm with intermittent care, relational uncertainty, and emotional dependence, thereby sustaining attachment while obscuring the abusive nature of the relationship (Dutton & Painter, 1993; Effiong et al., 2022; Reid, 2024).

Trauma bonding in IPV should therefore not be understood as a simple failure to leave or as an individual weakness. Rather, it may reflect a relational process in which fear, attachment, hope, dependence, and attempts to make sense of the partner's behavior become intertwined (Dutton & Painter, 1993; Reid, 2024). For example, survivors may focus on the partner's caring moments, interpret apologies as evidence of change, minimize or conceal the abuse, or feel responsible for maintaining the relationship. Such responses can be understood as attempts to preserve emotional meaning and predict safety within an unstable and harmful

relationship rather than as irrationality or lack of judgment (Dutton & Painter, 1993; Reid, 2024).

Taken together, these dynamics suggest that trauma bonding in IPV should be understood as a relational and trauma-related process in which harm, attachment, fear, hope, dependence, and intermittent care become intertwined. This perspective is particularly important for the present thesis because it frames trauma bonding not as passivity, irrationality, or poor judgment, but as a distinct attachment process that may persist within abusive and controlling intimate relationships (Dutton & Painter, 1993; Reid, 2024).

### 1.5.2. Why Leaving an Abusive Relationship May Be Difficult

Difficulty leaving an abusive relationship should not be understood solely as a matter of individual choice or motivation. Within trauma bonding, separation may be complicated by fear, emotional dependence, hope for change, attachment-related insecurity, and trauma-related symptoms (Dutton & Painter, 1993; Reid, 2024). In this context, the abusive partner may be experienced as a source of harm while also becoming associated with emotional attachment, temporary relief, and relational meaning. Accordingly, decisions to stay, leave, return, or re-establish contact should not be interpreted simply as inconsistency or irrationality; rather, they may reflect the psychological effects of an abusive relationship in which safety, threat, affection, and dependence have become intertwined (Dutton & Painter, 1993; Reid, 2024).

Empirical evidence also supports the relevance of attachment and trauma-related symptoms in understanding difficulty leaving. Shaughnessy et al. (2023) examined trauma bonding among individuals currently involved in abusive romantic relationships and found that childhood maltreatment and attachment insecurity significantly predicted trauma bonding, while traumatic bonding was positively associated with PTSD symptoms. These findings suggest that attachment to an abusive partner may be shaped by a combination of the current abusive relationship, earlier relational trauma, insecure attachment patterns, and

trauma-related symptomatology (Shaughnessy et al., 2023). Therefore, difficulty disengaging from an abusive partner may reflect the interaction between present relational harm and broader attachment- and trauma-related vulnerabilities.

Coercive control further clarifies why leaving may remain difficult even when survivors recognize the relationship as harmful. Coercive control involves repeated patterns of physical and non-physical abuse that restrict autonomy, agency, and perceived freedom within the relationship (Stark, 2007; Stark & Hester, 2019). Thus, the difficulty of leaving may be understood as involving emotional attachment alongside the gradual narrowing of perceived and actual choices. In a qualitative systematic review of women's experiences of coercive control, Choudhury et al. (2025) identified themes including inability to exercise agency, living in fear and unpredictability, life post-separation, and mental health impact. These findings suggest that survivors may remain in or return to abusive relationships not because they accept the abuse, but because their sense of choice is shaped by fear, uncertainty, anticipated consequences, and the psychological effects of prolonged control (Choudhury et al., 2025).

Taken together, difficulty leaving an abusive relationship can be understood as a relational and trauma-related process shaped by attachment, intermittent affection, coercive control, fear, constrained agency, and trauma-related symptoms. This perspective shifts the focus away from asking why survivors "do not leave" and toward understanding how abusive relationship dynamics can make separation emotionally, psychologically, and practically difficult. In the context of the present study, this is particularly important because trauma bonding is conceptualized not as passivity or poor judgment, but as a distinct relational attachment process that may persist despite harm.

### 1.6. Theoretically Relevant Correlates of Trauma Bonding in Intimate Relationships

The relational dynamics described above suggest that trauma bonding in intimate relationships can be understood as an attachment-related pattern embedded within broader

relational and psychological functioning. In the present study, psychological IPV victimization, shame, depression, and PTSD symptoms were selected as theoretically meaningful correlates of trauma bonding. These constructs are not conceptualized as interchangeable with trauma bonding. Rather, each represents a different dimension of the relational and psychological context in which trauma bonding may develop and persist. Psychological IPV victimization reflects the abusive and controlling relational environment; shame captures self-conscious affect and self-evaluative distress; depressive symptoms reflect diminished emotional vitality, hopelessness, and reduced perceived agency; and PTSD symptoms reflect trauma-related responses to repeated threat, fear, and relational instability. Because the present study uses a cross-sectional validation design, these variables are not treated as causal predictors or outcomes, but as theoretically expected correlates that provide the conceptual basis for the construct validity analyses presented later in the thesis.

### 1.6.1. Controlling Partner Behaviors in the Form of Psychological Intimate Partner Violence Victimization

Psychological IPV victimization is particularly relevant to the present study because it represents the relational exposure against which trauma bonding can be meaningfully interpreted. Unlike shame, depressive symptoms, or PTSD symptoms, psychological IPV victimization does not primarily refer to an internal psychological state, but to the abusive and controlling relational environment in which attachment to a harmful partner may be maintained. In the context of this thesis, particular emphasis is placed on controlling and autonomy-restricting partner behaviors, as such behaviors may limit agency, increase dependence, and make the boundary between care, attachment, and control more difficult to recognize (Dutton & Painter, 1993; Stark, 2007; Stark & Hester, 2019; Reid, 2024).

As discussed before, psychological IPV may involve behaviors such as monitoring, humiliation, emotional withdrawal, intimidation, restriction of autonomy, and control. These behaviors may not always be immediately recognized as abuse, especially when they are

interpreted through romanticized beliefs that frame jealousy, control, commitment, or protection as signs of love and relational investment (Power et al., 2006; Papp et al., 2017; Jiménez-Picón et al., 2023). In such contexts, psychological IPV victimization may create relational conditions in which fear, dependence, confusion, and attachment become intertwined (Dutton & Painter, 1993; Reid, 2024).

Empirical evidence supports the clinical significance of psychological IPV and coercive control. In a systematic review and meta-analysis including 194 studies, Dokkedahl et al. (2022) found strong associations between psychological violence and PTSD, depression, and anxiety; PTSD showed the strongest association among both female and male victims. Their subtype analyses further indicated that coercive control was particularly associated with PTSD among female victims, whereas emotional/verbal abuse and dominance/isolation were most strongly associated with depression (Dokkedahl et al., 2022). Similarly, Lohmann et al. (2024), in a systematic review and meta-analysis of coercive control, reported moderate associations between coercive control and PTSD, $r = .32$, and between coercive control and depression, $r = .27$. They also found that psychological IPV was moderately associated with PTSD, $r = .34$, and depression, $r = .33$. These findings support the view that psychological IPV and coercive control are not secondary or less harmful forms of victimization, but clinically meaningful forms of relational harm that may be connected to the affective and trauma-related processes examined in the present study.

Accordingly, psychological IPV victimization is expected to be positively associated with trauma bonding. This association is theoretically meaningful because trauma bonding is conceptualized as an attachment process that may persist in abusive and controlling relationships, particularly when harm, intermittent care, dependence, fear, and relational ambiguity coexist (Dutton & Painter, 1993; Reid, 2024).

### 1.6.2. Shame

Shame is a particularly important affective correlate of trauma bonding because, in abusive intimate relationships, relational harm may gradually become internalized into the self. Shame differs from fear or sadness because it is directed toward the self as a whole; it involves feeling defective, exposed, unworthy, or fundamentally inadequate (Tangney & Dearing, 2002). In abusive intimate relationships, shame may emerge when individuals interpret the abuse, their difficulty leaving, or their continued attachment to the abusive partner as evidence of personal failure. This is especially relevant to trauma bonding because the survivor may not only experience harm from the partner, but may also blame themselves for remaining emotionally attached to that partner. Thus, shame may transform relational victimization into self-condemnation and make emotional detachment more difficult (Beck et al., 2011; Tangney & Dearing, 2002).

There is substantial empirical support for the relationship between shame and trauma-related distress. López-Castro et al. (2019), in a meta-analysis of 25 studies including 3,663 participants, found a significant moderate association between shame and PTSD symptoms, $r = .49$. DeCou et al. (2023) similarly reported moderate weighted mean correlations between trauma-related shame and symptoms of psychopathology, $r = .44$, trauma-related distress, $r = .49$, and depression, $r = .35$. These findings suggest that shame is not simply an incidental emotional response following trauma, but a clinically meaningful process in trauma-exposed populations. Within IPV specifically, Beck et al. (2011) examined 63 women who had experienced IPV and found that shame, guilt-related distress, and guilt-related cognitions were significantly associated with PTSD. Moreover, emotional/verbal abuse and dominance/isolation interacted with high levels of shame in their association with PTSD, indicating that shame may become particularly salient when psychological violence targets the survivor's self-worth, autonomy, and social connectedness (Beck et al., 2011).

In the context of trauma bonding, shame may be relevant through several interrelated processes. First, shame may inhibit disclosure and help-seeking because survivors may fear being judged, blamed, or misunderstood for remaining in the relationship (Overstreet & Quinn, 2013). Second, shame may intensify self-blame, leading survivors to interpret the partner's abuse or their difficulty leaving as evidence of their own inadequacy rather than as a consequence of coercive or harmful relationship dynamics (Beck et al., 2011; Tangney & Dearing, 2002). Third, shame may reinforce emotional dependence when the abusive partner alternates between degradation and temporary validation, affection, apology, or reassurance. Under these conditions, the partner may become both a source of shame and a temporary source of relief from shame, which is consistent with trauma bonding processes involving intermittent harm and care (Dutton & Painter, 1993; Reid, 2024). Therefore, shame is expected to be positively associated with trauma bonding, not because shame is equivalent to trauma bonding, but because shame may contribute to the affective conditions that make detachment from the abusive partner more difficult.

### 1.6.3. Depression

Depressive symptoms are relevant to trauma bonding in intimate relationships because they may reflect the psychological consequences of repeated invalidation, relational instability, social isolation, and perceived powerlessness. In abusive intimate relationships, survivors may experience reduced hope, diminished self-worth, emotional exhaustion, and difficulty imagining alternatives outside the relationship. These features are relevant to trauma bonding because attachment to the abusive partner may coexist with hopelessness, fear of abandonment, and reduced perceived agency. Thus, depressive symptoms may help characterize the broader psychological context in which attachment to a harmful partner persists, even when the relationship is experienced as damaging.

Recent meta-analytic evidence supports the association between IPV and depression. White et al. (2024), in a systematic review and meta-analysis of 201 studies including

250,599 women, found that IPV was associated with increased odds of depression, PTSD, and suicidality; across analyses, depression odds ratios ranged from 2.04 to 3.14, PTSD odds ratios ranged from 2.15 to 2.66, and suicidality odds ratios ranged from 2.17 to 5.52. Importantly, this review also found that lifetime psychological violence was the most prevalent form of IPV among the included studies (White et al., 2024). Longitudinal evidence further supports this relationship. Watson and Bitsika (2025) reviewed longitudinal studies on IPV and subsequent depression in women and found that 10 of 11 studies reported a statistically significant positive association between IPV exposure and depression. Their random-effects meta-analysis showed that female IPV survivors had increased odds of developing subsequent depression, OR = 1.92, 95% CI [1.28, 2.86], although heterogeneity was high (Watson & Bitsika, 2025). These findings suggest that depression is not merely comorbid with IPV exposure but may also develop over time in relation to repeated relational harm.

Within the context of trauma bonding, depressive symptoms may be especially relevant because they are associated with hopelessness, emotional exhaustion, low self-worth, and reduced perceived agency. These symptoms may make it more difficult for survivors to evaluate alternatives, seek support, or sustain separation from the abusive partner. However, depressive symptoms should not be equated with trauma bonding. A trauma-bonded survivor may experience depressive symptoms while also feeling longing, loyalty, guilt, hope, or attachment toward the abusive partner. In other words, depression may reflect diminished emotional vitality and perceived agency, whereas trauma bonding refers more specifically to the persistence of emotional attachment to a harmful partner. This distinction is important for the present study because it supports the expectation that trauma bonding and depressive symptoms will be meaningfully related but not redundant constructs.

### 1.6.4. Posttraumatic Stress Disorder

PTSD symptoms represent another theoretically relevant correlate of trauma bonding in intimate relationships. Whereas depressive symptoms may reflect hopelessness, diminished emotional vitality, and reduced perceived agency, PTSD symptoms reflect trauma-related responses to repeated threat, fear, and dysregulation. In abusive intimate relationships, the source of danger may also be an attachment figure who intermittently provides affection, validation, or temporary relief. This creates a distinctive trauma context in which partner-related cues may become associated with both fear and attachment (Dutton & Painter, 1993; Reid, 2024). Survivors may experience intrusive memories, hypervigilance, avoidance, emotional numbing, negative self-beliefs, and heightened sensitivity to reminders of abuse, all of which are central features of PTSD symptomatology (American Psychiatric Association, 2022). In this context, PTSD symptoms may complicate survivors' ability to evaluate the relationship, regulate distress, and maintain distance from the abusive partner.

Emerging trauma bonding research directly supports the relevance of PTSD symptoms. Shaughnessy et al. (2023) examined traumatic bonding among 354 participants who were currently involved in abusive relationships. Their path model showed that childhood maltreatment and attachment insecurity significantly predicted traumatic bonding even after accounting for age, gender, and romantic love; traumatic bonding was also positively associated with PTSD symptoms (Shaughnessy et al., 2023). This finding is especially important for the present thesis because it suggests that trauma bonding is not reducible to romantic love alone, but is also connected to trauma-related symptomatology in the context of abusive romantic relationships. This interpretation is consistent with broader IPV literature showing that psychological violence and coercive control are significantly associated with PTSD symptoms (Dokkedahl et al., 2022; Lohmann et al., 2024).

Within the context of trauma bonding, PTSD symptoms may be especially relevant because they can shape how survivors experience threat, safety, and separation.

Hypervigilance may lead survivors to remain highly attentive to the partner's emotional state in an effort to anticipate conflict or prevent escalation. Avoidance may make it difficult to confront the full meaning of the abuse or to engage with external support systems that would require disclosure. Negative trauma-related cognitions may reinforce beliefs such as self-blame, helplessness, or perceived inability to cope independently. Intrusive memories and physiological arousal may increase the need for immediate emotional relief, which the abusive partner may intermittently provide through affection, apology, or temporary calm. In this sense, PTSD symptoms may not only reflect the psychological impact of abusive relational experiences, but may also be associated with the fear, dependence, and dysregulation that make disengagement from the abusive partner more difficult (Dutton & Painter, 1993; Reid, 2024; Shaughnessy et al., 2023).

Accordingly, PTSD symptoms are expected to be positively associated with trauma bonding. This association is theoretically meaningful because trauma bonding is conceptualized as a relational attachment process that may persist in contexts of repeated threat, fear, emotional dysregulation, and intermittent relief from the abusive partner (Dutton & Painter, 1993; Reid, 2024; Shaughnessy et al., 2023).

# CHAPTER 2

# MEASURING TRAUMA BONDING: THE TRAUMA BONDING SCALE FOR ADULTS

After establishing the theoretical foundation of trauma bonding in Chapter 1, this chapter focuses on the measurement of trauma bonding and introduces the Trauma Bonding Scale for Adults (TBSA; Reid, 2023) as the central instrument of the present study. The chapter first explains why systematic assessment is needed, particularly because emotional attachment to harmful or abusive partners may be misunderstood, overlooked, or interpreted as passivity, poor judgment, or lack of motivation. It then reviews existing measures related to trauma bonding, including their contributions and limitations, in order to clarify why previous approaches have not fully captured trauma bonding as a distinct construct. Following this, the chapter presents the TBSA, with attention to its development, structure, and validation evidence. Finally, the chapter explains the rationale for adapting and validating the scale in intimate relationship contexts across Italian and Turkish samples[1], emphasizing the need for a context-sensitive and cross-cultural assessment of trauma bonding.

## 2.1. The Importance of Measuring Trauma Bonding

The assessment of trauma bonding is important because this phenomenon may shape both interpersonal relationship dynamics and individuals' psychological functioning. By sustaining emotional attachment to a harmful or abusive partner, trauma bonding may influence survivors' decision-making processes, help-seeking behaviors, and responses to professional support, thereby contributing to the persistence of abusive relationships (Dutton & Painter, 1981; Reid et al., 2013; Casassa et al., 2022). Accordingly, the accurate

[1] The terms "Turkish" and "Italian" are used in this thesis to refer to participants in the samples from Türkiye and Italy, respectively; they do not imply that all participants identified ethnically as Turkish or Italian. These samples may include participants from diverse ethnic and cultural backgrounds.

identification of trauma bonding is necessary for understanding survivors' experiences and for informing appropriate, individualized, and survivor-centered responses.

As discussed in Chapter 1, this is particularly important in cases where abuse is less visible, such as those involving psychological manipulation, coercive control, and emotional dependency, rather than overt physical violence alone (Stark, 2007; Stark & Hester, 2019). In the absence of clear physical indicators, the relational dynamics associated with trauma bonding may be more likely to go unrecognized or to be misinterpreted by professionals (Reid, 2010; Reid et al., 2013; Casassa et al., 2022, 2023). For example, survivors may remain in the relationship, return to the abusive partner, resist external support, or express emotional attachment toward the perpetrator. Although these responses may appear contradictory or counterintuitive, they can reflect underlying trauma-related and relational processes rather than a simple lack of motivation or willingness to change (Dutton & Painter, 1993; Reid et al., 2013; Reid, 2024).

Failure to recognize trauma bonding may also have implications across clinical, legal, and social service contexts. In clinical settings, misunderstanding survivors' attachment to the abusive partner may lead to incomplete case formulation, weaken the therapeutic alliance, and reduce engagement in support or treatment (Reid et al., 2013; Casassa et al., 2022, 2023). In legal and social service contexts, similar misunderstandings may lead professionals to underestimate survivors' needs, overlook signs of ongoing coercion, or interpret hesitation toward services as a lack of readiness or cooperation (Reid, 2010; Reid et al., 2013; Overstreet & Quinn, 2013). Overall, these challenges indicate that trauma bonding is a clinically relevant construct that warrants systematic assessment to better understand and respond to survivors' experiences.

### 2.2. Measurements of Trauma Bonding

To date, the measurement of trauma bonding remains limited by conceptual ambiguity and overlap with related constructs, such as Stockholm syndrome, emotional dependency,

and attachment-related processes. These challenges have limited both conceptual clarity and the development of reliable measurement approaches. In this context, existing review studies play a crucial role in synthesizing the field and identifying key gaps. One of the earliest and most comprehensive reviews was conducted by Reid et al. (2013), who examined trauma bonding across various forms of interpersonal violence and identified only one specialized measure alongside a small number of related subscales. Similarly, although Casassa et al. (2022) focused specifically on sex trafficking, their review found no studies that developed or validated instruments specifically designed to assess trauma bonding in that context. Together, these findings suggest that trauma bonding measurement remains underdeveloped across interpersonal violence contexts. Therefore, the following sections review existing instruments that have been used either to assess trauma bonding directly or to capture closely related psychological and relational processes.

### 2.2.1. The Stockholm Syndrome Scale

The Stockholm Syndrome Scale, developed by Graham et al. (1994, 1995), represents one of the earliest attempts to operationalize paradoxical attachment to an abusive partner in romantic relationship contexts. Although the scale was framed through the concept of Stockholm syndrome, it is relevant to trauma bonding because it captures cognitive, emotional, and relational responses that may occur when fear, dependence, and attachment coexist in an abusive relationship. As summarized by Reid (2024), Graham et al. (1995) administered a 127-item pool to 764 college women in heterosexual dating relationships, yielding a 49-item measure with three subscales: Core Stockholm Syndrome ($\alpha = .94$), reflecting minimization or rationalization of abuse, self-blame, and ambivalent feelings of fear and love toward the partner; Psychological Damage ($\alpha = .90$), reflecting the negative psychological impact of abuse, such as reduced self-esteem and depressive responses; and Love-Dependence ($\alpha = .89$), reflecting idealization of the abusive partner and dependence on the partner's love or approval.

Despite these promising initial findings, the scale received limited attention for many years after its development. As Reid (2024) noted, Demarest (2009) was among the few early studies to use the scale, examining its association with PTSD among women seeking support from domestic violence shelters. George (2015) subsequently examined a shortened version of the Stockholm Syndrome Scale using confirmatory factor analysis and reported support for a three-factor structure; however, Reid (2024) noted that the psychometric evidence for the modified scale remained limited. Later studies applied the scale across different cultural contexts and generally supported its relevance to intimate partner violence, although its factor structure varied across samples (Ahmad et al., 2018; Obeid & Hallit, 2018; Rahme et al., 2021; Tamaddoni et al., 2020).

Although the Stockholm Syndrome Scale (Graham et al., 1994, 1995) represents an important early attempt to assess trauma bonding dynamics, it was developed within a Stockholm syndrome framework rather than to measure trauma bonding directly. Moreover, variability in its factor structure across studies highlights the need for instruments that assess trauma bonding more directly and consistently across diverse relational and cultural contexts.

### 2.2.2. Index of Post-Traumatic Stress

Another instrument used to assess trauma bonding is the trauma bonding subscale of the Post-Traumatic Stress Index developed by Carnes (1997). The broader index consists of nine subscales, one of which is an 18-item trauma bonding subscale designed to identify harmful attachment to individuals perceived as dangerous, exploitative, or shaming (Carnes, 1997). In this respect, the subscale is directly relevant to trauma bonding because it focuses on maladaptive attachment to harmful relational figures.

However, the Post-Traumatic Stress Index was not developed primarily as a standardized research instrument. Rather, it appears to function as a clinically oriented self-assessment tool intended to help individuals reflect on traumatic experiences and relational patterns. Its scoring framework is also more intervention-guiding than psychometrically

diagnostic, as score ranges are used to identify areas that may require therapeutic attention (Carnes, 1997).

Therefore, although the trauma bonding subscale is conceptually relevant, its empirical use remains limited. Indeed, Reid (2024) notes that neither the full Post-Traumatic Stress Index nor its trauma bonding subscale has undergone systematic psychometric evaluation. As a result, the subscale may be useful for clinical reflection, but its lack of validation and standardization limits its suitability as a primary measure of trauma bonding in empirical research.

### 2.2.3. Trauma Symptom Inventory-2

The Trauma Symptom Inventory-2 is a 136-item adult self-report measure designed to assess posttraumatic stress and broader psychological sequelae of traumatic and stressful experiences (Briere, 2011). Although it was not developed to assess trauma bonding directly, Reid (2024) discusses it as relevant because its Impaired Self-Reference subscale captures trauma-related disturbances in self-concept and interpersonal functioning. This subscale assesses difficulties such as reduced awareness of one's own needs and emotions, heightened orientation toward others, weakened personal boundaries, and problems with self-determination (Briere, 2011). These features may overlap with trauma-bonding-related processes, as individuals in abusive or exploitative relationships may become highly attuned to the perpetrator's emotions, expectations, and potential reactions in order to anticipate or reduce harm. Similarly, Hopper (2017) describes how exploited individuals may become hypervigilant to perpetrator cues and gradually interpret the situation through the perpetrator's perspective.

The Trauma Symptom Inventory-2 has strong psychometric support as a measure of trauma-related symptoms (Briere, 2011; Ales & Erdodi, 2022). However, it does not directly assess trauma bonding as a distinct relational attachment construct. Rather, its Impaired Self-Reference subscale may capture self-related and interpersonal disturbances that are

conceptually related to trauma bonding, but it cannot replace a measure specifically designed to assess trauma bonding.

### 2.3. Trauma Bonding Scale for Adults

The measures reviewed above suggest that trauma bonding has been approached through diverse conceptual and methodological lenses, ranging from Stockholm-syndrome-based responses to related constructs such as trauma symptoms, emotional dependency, impaired self-reference, and maladaptive attachment to harmful individuals (Graham et al., 1995; Carnes, 1997; Briere, 2011; Reid, 2024). Although these instruments have contributed to understanding processes associated with trauma bonding, they often assess selected aspects of the phenomenon rather than operationalizing trauma bonding as a distinct and integrated relational attachment process. In addition, some measures do not assess trauma bonding directly, lack systematic psychometric validation, or show inconsistencies in factor structure and conceptual scope across studies (Reid et al., 2013; Reid, 2024). This measurement gap limits comparability across studies and highlights the need for an instrument specifically designed to assess trauma bonding. The TBSA was developed in response to this need by measuring trauma bonding more directly through dimensions such as emotional attachment, loyalty, self-blame, secrecy, difficulty disengaging, and continued orientation toward a harmful person (Reid, 2023).

Reid (2023) initially developed and validated the TBSA within the context of sex trafficking, where trauma bonding had been identified as a relevant process in exploitative relationships. The scale development process followed a multi-stage psychometric procedure. Item development was informed by prior literature, existing measures related to trauma bonding, and feedback from practitioners and survivor-practitioners with expertise in sex trafficking. The initial item pool was reviewed for relevance, representativeness, clarity, and potential victim-blaming tone, and was then pretested with 40 young adults. Following this process, the final TBSA consisted of 30 items rated on a 5-point Likert-type scale ranging

from 1 (not at all) to 5 (extremely), with respondents indicating how much or how often each reaction applied to them during the past month in response to a very stressful experience or stressful relationship (Reid, 2023).

In the original validation study, Reid (2023) administered the TBSA to 619 young adults aged 18 to 29 years in the United States, including an oversampling of individuals considered to be at higher risk for sex trafficking. Both exploratory and confirmatory factor analyses supported a one-factor structure, and the scale demonstrated excellent internal consistency and strong associations with theoretically relevant trauma-related constructs, including impaired self-reference and PTSD symptoms. Subsequent validation studies extended this evidence beyond the original U.S. context. Chenneville et al. (2024) examined the TBSA in a Kenyan sample and found support for a 29-item version after removing one weak item, while Chenneville et al. (2025) further showed broad similarity in total TBSA scores across the U.S. and Kenyan samples, alongside several item-level differences. These findings support the reliability, structural validity, concurrent validity, and cross-cultural relevance of the TBSA, while also indicating that some item meanings and endorsement patterns may vary across cultural contexts (see Table 1).

**Table 1**

*Summary of Trauma Bonding Scale for Adults (TBSA) Validation Studies*

| Study | Context and Sample | Main Findings |
|---|---|---|
| Reid (2023) | United States; 619 young adults aged 18-29; sex-trafficking risk groups oversampled | Supported a one-factor, 30-item structure; excellent internal consistency, $\alpha = .97$; strong associations with impaired self-reference, $r = .90$, and PTSD symptoms, $r = .91$ |

**Table 1** (continued)

| Study | Context and Sample | Main Findings |
|---|---|---|
| Chenneville et al. (2024) | Kenya; 538 young adults | Supported a 29-item version after removing one weak item; high internal consistency, α = .93; strong association with PTSD symptoms, *r* = .81 |
| Chenneville et al. (2025) | United States and Kenya comparison | Total TBSA scores did not significantly differ across samples, although 14 item-level differences emerged; PTSD symptoms were strongly associated with TBSA scores in both samples |

*Note.* PTSD = posttraumatic stress disorder.

Taken together, the existing validation evidence suggests that the TBSA is one of the most direct and psychometrically supported measures of trauma bonding currently available. However, its original development in the context of sex trafficking also points to the need for further validation in other relational contexts. Reid (2023) emphasized that trauma bonding may occur across different exploited and abused groups and called for additional validation of the scale beyond sex trafficking, including intimate relationship contexts. This recommendation is particularly relevant because, in intimate relationships, the harmful figure may also be an attachment partner embedded in closeness, interdependence, relational expectations, and everyday emotional routines. Therefore, extending the TBSA to intimate relationship contexts is not merely a matter of changing item wording; rather, it represents an important step toward a more context-sensitive assessment of trauma bonding beyond the original sex trafficking framework.

## 2.4. Rationale for Validating the Trauma Bonding Scale for Adults in Intimate Relationship Contexts in Italy and Türkiye

The rationale for validating the TBSA in intimate relationship contexts in Italy and Türkiye rests on both measurement-related and context-related considerations. As discussed above, the TBSA was originally developed and validated in the context of sex trafficking, and Reid (2023) explicitly called for further validation of the scale with populations exposed to other forms of interpersonal violence, including survivors of IPV. This recommendation is directly relevant to the present study because intimate relationships represent a theoretically related but empirically distinct context in which trauma-bonding-related processes may emerge. Therefore, the extension of the TBSA to intimate relationship contexts addresses a gap already identified in the original scale-development literature.

As discussed above, extending the TBSA to intimate relationship contexts requires attention to item wording and to whether the construct retains its intended meaning when the harmful figure is an intimate partner. This makes empirical validation necessary, especially because test adaptation guidelines emphasize that construct meaning, item content, and score interpretations should be evaluated across cultural and linguistic groups (International Test Commission, 2017). Building on this rationale, the selection of Italy and Türkiye is meaningful for both empirical and cultural reasons.

As discussed in Chapter 1, IPV (especially psychological IPV because of its invisible nature) provides an important relational context for understanding why trauma-bonding-related processes may become relevant. The focus here, however, is on why Italy and Türkiye provide meaningful national contexts for validating the TBSA in intimate relationships. Country-level evidence indicates that psychological forms of victimization are particularly relevant in both countries. In Türkiye, the 2014 National Research on Domestic Violence against Women reported that 44% of ever-married women had experienced lifetime psychological violence, followed by lifetime physical and/or sexual violence at 38%, and

psychological violence in the past 12 months at 26% (Hacettepe University Institute of Population Studies, 2015). In Italy, findings from Istat (2025) indicate that among women who currently have or previously had a partner, psychological violence was the most frequently reported form among the indicators considered here, at 17.9%, followed by physical or sexual violence within the couple at 12.6% and economic violence at 6.6%. These data do not estimate trauma bonding itself, but they indicate that psychological and relational forms of victimization are salient in both Italy and Türkiye, supporting the relevance of examining trauma-bonding-related processes in intimate relationships in these contexts.

Beyond the empirical relevance of psychological victimization, Italy and Türkiye also provide meaningful contexts for considering how cultural meanings surrounding intimate relationships may be connected to trauma bonding. Both contexts can be discussed in relation to Mediterranean or Mediterranean-related themes such as honor, reputation, family privacy, shame, and relational endurance. However, this connection should be framed cautiously. Vignoles et al. (2026) found that a cultural logic of honor plays a role in Mediterranean societies; however, they cautioned against labeling Mediterranean societies uniformly as "honor cultures," as honor-related values and concerns vary across regions and groups. Therefore, honor is not treated here as a fixed national characteristic of either Italy or Türkiye, but as a cultural lens that may be relevant for understanding how relational experiences are interpreted. From this perspective, experiences such as secrecy, loyalty, shame, defending a harmful person, remaining in a harmful relationship, and difficulty disengaging may be shaped not only by trauma-related attachment processes but also by culturally embedded meanings of privacy, reputation, family expectations, and relational endurance (Uskul & Cross, 2019; Vignoles et al., 2026).

This framework is relevant because trauma bonding can be understood as both an individual psychological process and a relational experience shaped by social and cultural meanings. Honor-related concerns often connect personal conduct to social evaluation, family

reputation, moral judgment, and shame (Uskul & Cross, 2019). In such contexts, relationship difficulties may not be experienced solely as private emotional problems; they may also be interpreted in relation to how the individual, the couple, or the family is evaluated by others. This is directly relevant to the TBSA because several items refer to secrecy, loyalty despite harm, protecting or defending harmful others, remaining in unhealthy relationships, and difficulty detaching from harmful relationships. Such responses may reflect trauma bonding processes, but their expression and endorsement may also be shaped by culturally embedded expectations about privacy, endurance, forgiveness, gender roles, and separation (Uskul & Cross, 2019; Vignoles et al., 2026).

Türkiye provides a particularly relevant context for considering the intersection of honor, shame, and psychological victimization. Uskul and Cross (2019) reviewed research on honor in Türkiye and showed that honor-related concerns are connected to social image, family reputation, moral conduct, humiliation, shame, and gendered expectations. Glick et al. (2016) also found that benevolent sexism and religiosity predicted women's endorsement of honor beliefs in Türkiye. More directly related to the present study, Oflaz et al. (2023) found among college women in Türkiye that psychological dating violence victimization was associated with guilt and shame, and that sexism played an additional role in this relationship. These findings support the relevance of shame and psychological IPV victimization as culturally meaningful correlates when validating the TBSA in an intimate relationship context in Türkiye.

In the context of Italy, honor-related concerns should be framed more cautiously and with attention to regional variation. Italy should not be treated as a homogeneous honor culture. Nevertheless, research suggests that honor-related reputational concerns may remain relevant in some contexts, particularly in southern Italy. Travaglino et al. (2024), in a three-wave longitudinal study in southern Italy, examined the association between regional identification and honor-related reputational concerns and described southern Italy as a

relatively understudied culture of honor. This literature supports the inclusion of Italy as a meaningful context for examining whether relational experiences involving secrecy, loyalty, defending relationships, staying too long, and difficulty disengaging retain their intended meaning across cultural settings.

Overall, validating the TBSA in intimate relationship contexts in Italy and Türkiye is justified by the convergence of three considerations. First, Reid (2023) explicitly identified the need to validate the TBSA beyond sex trafficking, including among groups exposed to IPV. Second, intimate relationships provide a distinct relational context in which the harmful figure may also be an attachment partner, making it necessary to examine whether trauma-bonding-related items retain their intended meaning. Third, Italy and Türkiye offer two relevant contexts in which psychological victimization, shame, relationship privacy, honor-related meanings, and separation-related concerns may be relevant to how trauma bonding is experienced and reported. For these reasons, validating the TBSA with participants recruited in Italy and Türkiye contributes to a more context-sensitive and cross-cultural assessment of trauma bonding in intimate relationships.

### 2.5. The Present Study

Building on the rationale presented above, the present study aimed to adapt and validate the TBSA for use in current romantic relationship contexts across Turkish and Italian samples. The study focused on evaluating whether an adaptation of the TBSA to intimate relationships, denoted Intimate Relationships TBSA (IRTBSA) scale, provides a reliable and valid assessment of trauma bonding when the relational referent is a current romantic partner. Specifically, the study examined the structural validity, internal consistency, and convergent validity of the IRTBSA.

Based on previous validation evidence and the theoretical relevance of restrictive engulfment victimization, shame, depression, and PTSD symptoms to trauma bonding, the following hypotheses were formulated:

Hypothesis 1: The IRTBSA was expected to show a one-factor structure in both the Turkish and Italian samples.

Hypothesis 2: The IRTBSA was expected to demonstrate adequate internal consistency in both samples.

Hypothesis 3: IRTBSA scores were expected to be positively associated with restrictive engulfment victimization, shame, depressive symptoms, and PTSD symptoms in both samples.

In addition, the study explored whether the magnitude of these associations differed between the Turkish and Italian samples. Because prior evidence is limited regarding cross-sample differences in these associations, these comparisons were treated as exploratory.

# CHAPTER 3

# METHOD

This chapter presents the methodological procedures followed in the present study. A quantitative, cross-sectional psychometric validation design was used to adapt the original TBSA for use in current romantic relationship contexts and to evaluate the resulting IRTBSA across the Turkish and Italian samples. Before data collection began, ethical approval was obtained from the MEF University Ethics Committee, and the study was approved as a single cross-cultural research protocol covering both countries (Approval No. E-47749665-050.04-246; January 19, 2026). The chapter then presents the sample characteristics and inclusion criteria for both countries. It then describes the translation and adaptation process of the original TBSA, including forward-backward translation, contextual adaptation, expert review, and cognitive pretesting. Next, the data collection materials are introduced, with attention to their purpose, scoring, and relevant psychometric properties. Subsequently, the data collection procedures and ethical considerations are described. Finally, the data analysis strategy is outlined, including data screening, confirmatory factor analyses, reliability analyses, Pearson correlation analyses, and Fisher's *z* comparisons between the two samples.

## 3.1. Participants

The initial dataset included responses from 635 Turkish participants and 464 Italian participants. Participants were required to meet two inclusion criteria: (a) being at least 18 years old and (b) currently being involved in a romantic relationship, such as dating, cohabiting, being engaged, or being married. A single attention-check item ("If you are reading this item, please select option number four") was embedded within the IRTBSA section to identify inattentive responding, and this item was not included in the IRTBSA scoring. Following data screening, 152 responses from the Turkish sample and 8 responses from the Italian sample were excluded because participants either failed the attention-check

item or did not meet the inclusion criteria. The final analytic sample consisted of 483 Turkish participants and 456 Italian participants.

As shown in Table 2, the Turkish sample consisted of 483 participants, of whom 307 were women (63.6%), and 176 were men (36.4%). Most participants reported congruence between their gender identity and sex assigned at birth (98.6%), whereas a small proportion described this relationship as complex (1.0%) or incongruent (0.4%). The majority of participants identified as heterosexual (90.3%), followed by bisexual+ participants (including bisexual, pansexual, bi-/panromantic, and other nonmonosexual identities or attractions) (4.6%), and participants who were unsure or preferred not to indicate their sexual orientation (4.3%). Participants' ages ranged from 18 to 72 years ($M$ = 32.47, $SD$ = 9.25). More than half had completed undergraduate education (60.2%), followed by graduate education (20.7%). Most participants were employed full-time (58.2%), followed by students (13.3%). Regarding relationship status, the majority were married (51.1%), followed by those who reported having a partner or being in a dating relationship (32.7%). Relationship duration ranged from 1 to 720 months ($M$ = 76.10, $SD$ = 98.44).

**Table 2**

*Sociodemographic Characteristics of Turkish Participants*

| Sample Characteristics | *N* | % |
|---|---|---|
| Gender identity | | |
| Woman | 307 | 63.6 |
| Man | 176 | 36.4 |
| Nonbinary/intersex | - | - |

**Table 2** (continued)

| Sample Characteristics | *N* | % |
|---|---|---|
| Gender identity congruence with sex assigned at birth | | |
| Congruent | 476 | 98.6 |
| Incongruent | 2 | 0.4 |
| Complex | 5 | 1.0 |
| Sexual orientation | | |
| Heterosexual | 436 | 90.3 |
| Bisexual+ | 22 | 4.6 |
| Gay | 1 | 0.2 |
| Lesbian | 1 | 0.2 |
| Asexual/aromantic | 2 | 0.4 |
| Not sure/Prefer not to say | 21 | 4.3 |
| Other | - | - |
| Educational status (highest completed) | | |
| Primary education | 2 | 0.4 |
| Lower secondary education | 5 | 1.0 |
| Upper secondary education | 85 | 17.6 |
| Associate/bachelor's degree | 291 | 60.2 |
| Postgraduate degree | 100 | 20.7 |
| Employment status | | |
| Full-time employed | 281 | 58.2 |
| Part-time employed | 22 | 4.6 |
| Self-employed | 23 | 4.8 |
| Student | 64 | 13.3 |

**Table 2** (continued)

| Sample Characteristics | *N* | % |
|---|---|---|
| Employment status (continued) | | |
| Student and employed | 13 | 2.7 |
| Unemployed | 23 | 4.8 |
| Homemaker | 43 | 8.9 |
| Retired | 9 | 1.9 |
| Other | 5 | 1.0 |
| Current romantic relationship status | | |
| Dating/in a relationship | 158 | 32.7 |
| Cohabiting | 23 | 4.8 |
| Long-distance relationship | 39 | 8.1 |
| Engaged | 15 | 3.1 |
| Married | 247 | 51.1 |
| Other | 1 | 0.2 |

*Note*. Although no participants in the Turkish sample selected the nonbinary/intersex gender identity category or the other sexual orientation category, these categories were retained in the table to facilitate comparison with the Italian sample.

As shown in Table 3, the Italian sample consisted of 456 participants, of whom 234 were men (51.3%), 215 were women (47.1%), and 7 identified as nonbinary/intersex (1.5%). Most participants reported congruence between their gender identity and sex assigned at birth (96.1%), whereas a small proportion described this relationship as complex (3.5%) or incongruent (0.4%). Most participants identified as heterosexual (81.8%), followed by bisexual+ participants, using the same inclusive category described above (13.8%). Participants' ages ranged from 18 to 68 years ($M$ = 33.44, $SD$ = 10.97). The most frequently reported educational levels were postgraduate education (36.4%) and upper secondary

education (36.0%), followed by undergraduate education (26.3%). Most participants were employed full-time (38.6%), followed by students (20.8%). Regarding relationship status, the highest proportions of participants reported having a partner or being in a dating relationship (26.3%), cohabiting (25.2%), or being married (23.0%). Relationship duration ranged from 2 to 612 months ($M$ = 89.36, $SD$ = 98.93).

**Table 3**

*Sociodemographic Characteristics of Italian Participants*

| Sample Characteristics | *N* | % |
|---|---|---|
| Gender identity | | |
| Woman | 215 | 47.1 |
| Man | 234 | 51.3 |
| Nonbinary/intersex | 7 | 1.5 |
| Gender identity congruence with sex assigned at birth | | |
| Congruent | 438 | 96.1 |
| Incongruent | 2 | 0.4 |
| Complex | 16 | 3.5 |
| Sexual orientation | | |
| Heterosexual | 373 | 81.8 |
| Bisexual+ | 63 | 13.8 |
| Gay | 10 | 2.2 |
| Lesbian | 6 | 1.3 |
| Asexual/aromantic | 1 | 0.2 |
| Not sure/Prefer not to say | 1 | 0.2 |
| Other | 2 | 0.4 |

**Table 3** (continued)

| Sample Characteristics | *N* | % |
|---|---|---|
| Educational status (highest completed) | | |
| Primary education | - | - |
| Lower secondary education | 6 | 1.3 |
| Upper secondary education | 164 | 36.0 |
| Associate/bachelor's degree | 120 | 26.3 |
| Postgraduate degree | 166 | 36.4 |
| Employment status | | |
| Full-time employed | 176 | 38.6 |
| Part-time employed | 49 | 10.7 |
| Self-employed | 50 | 11.0 |
| Student | 95 | 20.8 |
| Student and employed | 33 | 7.2 |
| Unemployed | 32 | 7.0 |
| Homemaker | 11 | 2.4 |
| Retired | 5 | 1.1 |
| Other | 5 | 1.1 |

**Table 3** (continued)

| Sample Characteristics | *N* | % |
|---|---|---|
| Current romantic relationship status | | |
| Dating/in a relationship | 120 | 26.3 |
| Cohabiting | 115 | 25.2 |
| Long-distance relationship | 50 | 11.0 |
| Engaged | 65 | 14.3 |
| Married | 105 | 23.0 |
| Other | 1 | 0.2 |

*Note.* Primary education was retained despite having no observations to facilitate comparison with the Turkish sample. In the Italian sample, postgraduate degrees refer to master's, single-cycle, and other postgraduate qualifications, reflecting the Italian higher education system.

### 3.2. Translation and Adaptation of the Trauma Bonding Scale for Adults to Intimate Relationships

The translation and adaptation of the original TBSA for use in intimate relationship contexts followed a systematic cross-cultural adaptation procedure. The process was guided by Brislin's (1970) forward-backward translation approach and the cross-cultural adaptation guidelines proposed by Beaton et al. (2000). The procedure included forward translation, synthesis and contextual adaptation, backward translation, expert review, and cognitive pretesting. These stages were conducted for both the Turkish and Italian language versions.

#### 3.2.1. Translation Procedure

For each language version, three bilingual translators/researchers independently translated the original English version of the TBSA into the target language. Thus, three independent forward translations were produced for the Turkish version and three for the Italian version. The translators were fluent in English and the relevant target language. During the forward translation stage, attention was given to linguistic accuracy while

ensuring that the core meaning of the items was preserved and adapted appropriately to the intimate relationship context. In line with Brislin's (1970) approach, the aim was to achieve semantic equivalence rather than word-for-word translation. Therefore, where necessary, minor wording adjustments were made to improve clarity, naturalness, and contextual appropriateness in each language version.

Following the forward translations, the translated items were reviewed and synthesized into preliminary Turkish and Italian versions. These preliminary versions were then back-translated into English by independent bilingual translators who were blind to the original version of the scale. The back-translated versions were compared with the original English items to identify possible inconsistencies, shifts in meaning, or ambiguities. Revisions were made when needed to improve semantic and conceptual equivalence across the original and translated versions.

### 3.2.2. Adaptation Procedure

Following the translation stages, the items were evaluated with respect to semantic, idiomatic, experiential, and conceptual equivalence, as recommended by Beaton et al. (2000). Because the original TBSA was developed in the context of sex trafficking, the present adaptation required contextual realignment for intimate relationships. Specifically, the relational referent was revised so that participants would respond with reference to their current romantic partner rather than to a broader harmful or exploitative person. Accordingly, references to "people" were replaced with "partner" where appropriate, and general references to "relationships" were specified as "romantic relationships." These modifications were intended to provide a consistent relational frame while preserving the trauma-bonding construct assessed by the original scale.

The wording of the items was further refined to enhance readability and clarity across educational backgrounds. Particular attention was paid to avoiding ambiguous wording,

preserving the intended psychological meaning of each item, and ensuring that the items were understandable within the cultural and linguistic context of each language version.

### 3.2.3. Expert Review and Cognitive Pretesting

The adapted items were reviewed by a small group of eight individuals to evaluate linguistic clarity, contextual suitability, and comprehensibility. Feedback was obtained from individuals with relevant backgrounds in language, psychology, and assessment/evaluation, as well as from undergraduate students and acquaintances in the researcher's academic and social network. They were asked to read the adapted items and indicate whether any wording was unclear, unnatural, or difficult to understand. Based on the feedback received, minor wording revisions were made. No major comprehension difficulties were identified, and the Turkish and Italian versions of the IRTBSA were considered suitable for use in the main data collection phase.

## 3.3. Data Collection Materials

The present study employed a set of self-report instruments to assess trauma bonding and theoretically related psychological and relational constructs. The measures were selected based on their theoretical relevance to trauma bonding and their previous psychometric support. In addition, a demographic information form was used to collect data on participants' socio-demographic and relationship-related characteristics. Participants recruited in Türkiye completed the Turkish-language materials, whereas participants recruited in Italy completed the Italian-language materials.

The survey battery included the IRTBSA, the Restrictive Engulfment Victimization subscale of the Multidimensional Measure of Emotional Abuse-Short Form (MMEA-SF), the Depression subscale of the Depression Anxiety Stress Scales-21 (DASS-21), the Shame subscale of the State Shame and Guilt Scale (SSGS), and selected items from the PTSD Checklist for DSM-5 (PCL-5). Because some measures assess general psychological symptoms rather than relationship-specific experiences, participants were instructed to

respond to the DASS-21 Depression subscale, the SSGS Shame subscale, and the PCL-5 with reference to their current romantic relationship. This additional contextualization was not applied to the MMEA-SF because its items are already partner-focused, whereas the original TBSA items had been directly adapted to the current romantic relationship context as described in the previous section. Detailed information regarding each measure is presented below.

### 3.3.1. Demographic Information Form

A brief demographic information form was used to collect data on participants' socio-demographic characteristics, including gender-related variables, sexual orientation, age, educational level, and occupational status. It also assessed relationship-related characteristics, such as relationship duration, current relationship status, and type of current relationship.

### 3.3.2. Trauma Bonding Scale for Adults

Trauma bonding in current romantic relationships was assessed using the IRTBSA, which was developed for the present study by adapting Reid's (2023) original TBSA. The IRTBSA was based on Reid's original 30-item TBSA, but the items were translated into Turkish and Italian and contextually reframed for use in current romantic relationships, as described in Section 3.2. Specifically, item wording was revised where necessary so that participants responded with reference to their current romantic partner and current romantic relationship.

The administered adapted form consisted of 30 items (e.g., "Continuing to stay in a romantic relationship longer than you should") rated on a 5-point Likert-type scale ranging from 1 (*not at all*) to 5 (*extremely*). Participants were asked to indicate how much or how often each reaction applied to them during the previous month in relation to their current romantic relationship. Higher scores indicated greater trauma bonding. In the present study, the initially adapted 30-item form was first examined through confirmatory factor analysis.

Following item-level statistical and conceptual evaluation, the final retained 25-item version and its internal consistency estimates are reported in Chapter 4.

### 3.3.3. Restrictive Engulfment Victimization Subscale of the Multidimensional Measure of Emotional Abuse Short Form

Controlling partner behaviors were assessed using the Restrictive Engulfment (RE) subscale of the victimization dimension of the MMEA-SF (Maldonado et al., 2022). This subscale consists of four items (e.g., “Tried to stop you from seeing certain friends or family members”) that capture behaviors aimed at restricting a partner’s autonomy, including limiting social interactions, inducing jealousy, and exerting controlling or possessive influence. Responses are provided on a 7-point frequency scale ranging from 0 (*never happened*) to 6 (*more than 20 times*). Subscale scores were computed by summing the item responses, yielding a possible range of 0 to 24, with higher scores indicating greater exposure to controlling behaviors within the relationship.

For the Turkish sample, the four Restrictive Engulfment items were drawn from the Turkish adaptation of the full MMEA by Toplu-Demirtaş et al. (2018). In that validation study, the full MMEA Victimization dimension showed support for the expected four-factor structure, RMSEA = .07, SRMR = .07, and CFI = .81. Within this model, all Restrictive Engulfment victimization items loaded significantly on their intended factor, with standardized loadings ranging from .46 to .62. The Restrictive Engulfment victimization subscale demonstrated acceptable internal consistency, $\alpha = .73$. Criterion-related validity was supported by a positive association between RE victimization and physical assault victimization, $r = .21$, $p = .001$.

For the Italian sample, the four Restrictive Engulfment items were drawn from the Italian adaptation of the full MMEA by Bonechi and Tani (2011). In their validation study, the full MMEA Victimization dimension, in which Restrictive Engulfment is one of four subscales together with Denigration, Hostile Withdrawal, and Dominance/Intimidation,

showed acceptable fit to the expected four-factor structure, CFI = .92, TLI = .91, RMSEA = .03, and SRMR = .05. The Restrictive Engulfment victimization subscale showed satisfactory reliability, with a rho coefficient of .77. Evidence for validity was also supported by theoretically consistent associations with communication patterns and relationship satisfaction; specifically, Restrictive Engulfment victimization was negatively associated with relationship satisfaction, $r$ = -.48.

In the present study, the Restrictive Engulfment subscale demonstrated relatively modest internal consistency in the Turkish sample (α = .69) and the Italian sample (α = .65)

### 3.3.4. Depression Subscale of the Depression, Anxiety, and Stress Scale

Depressive symptoms were assessed using the Depression subscale of the DASS-21 (Lovibond & Lovibond, 1995). The subscale consists of seven items designed to assess depressive symptomatology, including low positive affect, dysphoria, hopelessness, and loss of interest. An example item is "I couldn't seem to experience any positive feeling at all." Responses are provided on a 4-point Likert-type scale ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*). In the present study, raw item scores were summed to obtain a Depression subscale score ranging from 0 to 21, with higher scores indicating greater depressive symptom severity.

The DASS-21 has demonstrated strong psychometric properties in previous research. The Depression subscale has shown strong convergence with established measures of depression, including the Beck Depression Inventory, $r$ = .74 (Lovibond & Lovibond, 1995). Research on the DASS-21 has also supported the use of its Depression, Anxiety, and Stress subscales, while indicating that the subscales may reflect both domain-specific symptom dimensions and a broader general distress factor (Henry & Crawford, 2005).

For the Turkish sample, the Turkish adaptation and validation of the DASS-21 by Yılmaz et al. (2017) was used. In the Turkish validation study, the original three-factor structure of the scale was supported, with fit indices indicating acceptable model fit,

including the Goodness-of-Fit Index (GFI = .985), Adjusted Goodness-of-Fit Index (AGFI = .982), Root Mean Square Residual (RMR = .028), and Root Mean Square Error of Approximation (RMSEA = .049-.051). The Depression subscale demonstrated strong internal consistency, α = .82, and McDonald's omega, ω = .82.

For the Italian sample, the Italian adaptation of the DASS-21 by Bottesi et al. (2015) was used. In their validation study, confirmatory factor analysis supported the three-factor oblique model, CFI = .968, and RMSEA = .046. A bifactor model showed even better fit, CFI = .980, and RMSEA = .038, supporting the presence of both a general distress factor and domain-specific symptom dimensions. The Depression subscale demonstrated good internal consistency in the community sample, α = .82, and excellent internal consistency in the clinical sample, α = .91.

In the present study, the Depression subscale demonstrated good internal consistency in the Turkish sample (α = .93), and the Italian sample (α = .91).

**3.3.5. Shame Subscale of the State Shame and Guilt Scale**

State shame was assessed using a four-item Shame subscale based on the SSGS framework (Marschall et al., 1994). In the present study, the same four-item Shame subscale was administered in both language versions. The items assess momentary shame-related affect, such as wanting to disappear, feeling humiliated, or feeling small. An example item is "I want to sink to the floor and disappear." Responses are provided on a 5-point Likert-type scale ranging from 1 (*totally disagree*) to 5 (*totally agree*). Item scores were summed to yield a total score ranging from 4 to 20, with higher scores indicating greater state shame.

For the Turkish sample, the Turkish wording of the same four Shame items was used, drawing on the available Turkish adaptation of shame-related items derived from the SSGS framework (Bugay & Demir, 2011). In the Turkish validation study, the Shame subscale showed high internal consistency, α = .83 in Study 1 and α = .84 in Study 2, and was

negatively associated with life satisfaction, $r = -.48$, $p < .01$, supporting its criterion-related validity.

For the Italian sample, item wording was based on the Italian short version of the State Shame and Guilt Scale (Cavalera et al., 2017), which includes four Shame items and four Guilt items derived from the original SSGS. In the Italian validation study, confirmatory factor analysis supported the expected two-factor structure, corresponding to Shame and Guilt, with good model fit, CFI = .98, RMSEA = .067, and SRMR = .045. The Shame items loaded significantly on their factor, with standardized loadings ranging from .73 to .77, and the Shame subscale demonstrated good internal consistency, $\alpha = .82$.

In the present study, the Shame subscale demonstrated good internal consistency in the Turkish sample ($\alpha = .94$) and the Italian sample ($\alpha = .87$).

### 3.3.6. Posttraumatic Stress Disorder Checklist for DSM-5

PTSD symptoms were assessed using 12 selected items from the PCL-5 (Weathers et al., 2013), consistent with the item set used in Reid's (2023) validation study of the TBSA. The full PCL-5 is a 20-item self-report measure of PTSD symptoms; however, the present study used the same 12-item PTSD symptom set to assess posttraumatic stress symptoms as a theoretically relevant correlate of trauma bonding. An example item is "Repeated, disturbing, and unwanted memories of the stressful experience?" Responses are provided on a 5-point Likert-type scale ranging from 0 (*not at all*) to 4 (*extremely*). Item scores were summed to obtain a total score ranging from 0 to 48, with higher scores indicating greater PTSD symptom severity. Because the present study used a 12-item subset rather than the full PCL-5, scores were interpreted as an index of PTSD symptoms rather than as a basis for provisional PTSD diagnosis.

The full PCL-5 has demonstrated strong psychometric properties in previous research. The measure assesses the 20 DSM-5 PTSD symptoms and yields a total symptom severity score ranging from 0 to 80 when all items are administered (Weathers et al., 2013). Prior

research has supported the reliability and validity of the full scale, with high internal consistency for total scores and evidence of convergent validity with theoretically related trauma and distress measures (Blevins et al., 2015; Weathers et al., 2013). In the context of TBSA validation, Reid (2023) used 12 PTSD items as a criterion-related measure of trauma-related symptoms.

For the Turkish sample, the wording of the selected items was drawn from the Turkish adaptation of the full PCL-5 by Boysan et al. (2017). In the Turkish validation study, the full PCL-5 demonstrated high internal consistency, $\alpha = .94$, and two-week test-retest reliability, $r = .80$. Convergent validity was supported by significant associations with trauma-related symptoms, $r = .75$, dissociation, $r = .53$, anxiety, $r = .66$, depression, $r = .64$, and posttraumatic cognitions, $r = .61$; all associations were statistically significant, $p < .01$.

For the Italian sample, the wording of the selected items was drawn from the Italian adaptation of the full PCL-5 by Di Tella et al. (2022). The Italian validation study supported the psychometric quality of the full PCL-5, with excellent internal consistency for the total scale, $\alpha = .95$. Convergent validity was supported by positive associations with depressive symptoms, $r = .67$, intrusive rumination, $r = .62$, and deliberate rumination, $r = .54$, as well as a negative association with life satisfaction, $r = -.46$.

In the present study, the 12-item PCL-5 demonstrated good internal consistency in the Turkish sample ($\alpha = .96$) and the Italian sample ($\alpha = .93$).

### 3.4. Procedure

Participants recruited in Türkiye and Italy were reached through online recruitment platforms using a non-probability convenience sampling method. Different recruitment platforms were used for both countries due to contextual and practical considerations. Prolific was used for recruitment in the Italian sample because of its accessibility and established use in online behavioral research (Peer et al., 2022; Prolific, n.d.). YouReply was used for recruitment in the Turkish sample because it is a Türkiye-based online research platform that

enables targeted recruitment through socio-demographic and location-based filters and provides participant compensation in Turkish lira (YouReply, n.d.). This was considered more appropriate for the Turkish sample than platforms relying on PayPal-based GBP/USD payments, given PayPal-related availability and currency-conversion issues in Türkiye (Prolific, 2025; PayPal, n.d.).

Participants who met the eligibility criteria were invited to take part in the study and were directed to an online survey administered via Google Forms. The survey took approximately 10 minutes to complete. Before beginning the survey, participants were presented with an informed consent form explaining the purpose of the study, the voluntary nature of participation, the study procedure, confidentiality, and their right to withdraw. Only participants who provided informed consent were allowed to proceed to the survey.

Upon completion of the survey, participants received compensation through their respective recruitment platforms in accordance with the platforms' payment procedures and the study's estimated completion time. No personally identifiable information was collected through the survey. Given the potentially sensitive nature of the study, participants were provided with information about accessible and free psychological support services at the end of the survey.

### 3.5. Data Analysis

Data were screened before the main analyses. Participants who failed the attention-check item or did not meet the inclusion criteria were excluded from the analytic dataset. Descriptive statistics were then computed to summarize the demographic and relationship-related characteristics of the Turkish and Italian samples. Frequencies and percentages were reported for categorical variables, whereas means, standard deviations, and ranges were reported for continuous variables.

To examine the structural validity of the IRTBSA, confirmatory factor analyses (CFA) were conducted separately for the Turkish and Italian samples. All CFA models were

estimated using the robust maximum likelihood estimator (MLM). The originally proposed 30-item one-factor model was tested first in both samples. Model fit was evaluated using multiple fit indices, including the CFI, TLI, RMSEA, and SRMR. Because model evaluation should not rely on a single fit index, the overall adequacy of the model was assessed by considering model fit indices together with factor loadings and the conceptual relevance of the items.

When the original 30-item model did not demonstrate optimal fit, item-level results were examined to identify items that showed weaker psychometric performance or reduced suitability for the intimate relationship context. Item retention decisions were based on a combination of statistical and conceptual considerations, including standardized factor loadings, contribution to overall model fit, theoretical relevance to trauma bonding, and clarity within the intimate relationships context. Based on this evaluation, a 25-item version of the IRTBSA (IRTBSA-25) was tested separately in both samples.

Internal consistency of the IRTBSA-25 was evaluated separately for the Turkish and Italian samples. Convergent validity was examined using Pearson correlation analyses between IRTBSA-25 scores and theoretically related constructs, including restrictive engulfment victimization, PTSD symptoms, shame, and depressive symptoms. Following literature on the TBSA, these associations were interpreted as evidence of convergent validity (Reid, 2023; Chenneville et al., 2024). Finally, Fisher's *z* transformations were used as exploratory analyses to examine whether the magnitude of these correlations differed between the Turkish and Italian samples.

# CHAPTER 4

# RESULTS

This chapter presents the results of the statistical analyses conducted to evaluate the Intimate Relationships Trauma Bonding Scale for Adults (IRTBSA). First, the factor structure of the initial 30-item one-factor model is examined separately in the samples from Türkiye and Italy. Next, the item-reduction process is reported, including the statistical and conceptual considerations used to identify items for removal. The chapter then presents the confirmatory factor analysis results for the retained 25-item form that emerged from this process. Finally, internal consistency estimates and correlations with theoretically related constructs are reported, together with Fisher's z tests comparing these associations across samples.

## 4.1. Confirmatory Factor Analyses With the Intimate Relationships Trauma Bonding Scale for Adults

As a first step, using the MLM estimator, the original 30-item one-factor structure of the IRTBSA was tested separately in the Italian and Turkish samples, consistent with the structure proposed in the original validation study. In this model, all 30 items were specified to load onto a single latent trauma bonding factor.

The one-factor model estimated for the original 30-item IRTBSA did not show adequate fit in either sample. In the Italian sample, the model fit indices were CFI = .837, TLI = .825, RMSEA = .083, 90% CI [.077, .089], and SRMR = .064. In the Turkish sample, the model also showed inadequate fit, CFI = .860, TLI = .850, RMSEA = .081, 90% CI [.076, .087], and SRMR = .054.

## 4.2. Item Reduction for the Intimate Relationships Trauma Bonding Scale for Adults

Given the limited support for the original 30-item one-factor model, item-level CFA results were examined before estimating a revised model. Item retention was evaluated through an iterative process combining empirical and conceptual criteria. First, standardized

factor loadings and local areas of misfit were reviewed. Item pairs with correlated residuals were then examined to determine whether one item should be removed due to potential redundancy or content overlap. Finally, the content of these items was considered in relation to the adapted intimate relationship framework, including their semantic clarity, experiential relevance, and theoretical fit. This approach is consistent with cross-cultural scale-adaptation guidelines emphasizing semantic, experiential, and conceptual equivalence (Beaton et al., 2000; International Test Commission, 2017), as well as response-process perspectives on validity, which highlight how participants interpret item wording and content (Padilla & Benítez, 2014).

On the basis of this evaluation, Items 2, 5, 10, 24, and 26 were removed in both language versions of the scale. The remaining 25 items were retained and used to estimate the one-factor model of the IRTBSA-25 in both countries.

### 4.3. Confirmatory Factor Analyses With the Intimate Relationships Trauma Bonding Scale for Adults-25

The one-factor model estimated on the IRTBSA-25 showed satisfactory fit in the Italian sample, CFI = .901, TLI = .892, RMSEA = .052, 90% CI [.046, .057], and SRMR = .048. Although the chi-square test remained statistically significant, this result was interpreted cautiously because chi-square is highly sensitive to sample size and may become significant even when approximate fit indices indicate acceptable model fit. The combined pattern of fit indices suggested that the one-factor model provided an adequate, although not optimal, representation of the data in the Italian sample.

As shown in Table 4, standardized factor loadings in the Italian sample ranged from .456 to .798, and all retained items loaded significantly on the latent factor. Most loadings were moderate to strong. Item 30 and Item 9 showed relatively lower loadings compared with the other retained items.

**Table 4**

*Standardized Factor Loadings for the IRTBSA-25 in the Italian Sample*

| **Item** | **λ** | ***SE*** | ***z*** |
|---|---|---|---|
| Item 1 | .705 | 0.028 | 24.755 |
| Item 3 | .728 | 0.024 | 30.734 |
| Item 4 | .638 | 0.037 | 17.433 |
| Item 6 | .530 | 0.043 | 12.316 |
| Item 7 | .691 | 0.030 | 23.351 |
| Item 8 | .764 | 0.029 | 26.080 |
| Item 9 | .458 | 0.070 | 6.500 |
| Item 11 | .767 | 0.026 | 30.068 |
| Item 12 | .686 | 0.034 | 19.909 |
| Item 13 | .631 | 0.042 | 15.045 |
| Item 14 | .758 | 0.027 | 27.678 |
| Item 15 | .758 | 0.029 | 25.972 |
| Item 16 | .750 | 0.031 | 24.348 |
| Item 17 | .641 | 0.039 | 16.424 |
| Item 18 | .489 | 0.044 | 11.071 |
| Item 19 | .781 | 0.026 | 29.582 |
| Item 20 | .798 | 0.024 | 33.280 |
| Item 21 | .750 | 0.030 | 24.985 |
| Item 22 | .716 | 0.035 | 20.695 |
| Item 23 | .694 | 0.037 | 18.512 |
| Item 25 | .528 | 0.039 | 13.544 |

**Table 4** (continued)

| **Item** | **λ** | ***SE*** | ***z*** |
|---|---|---|---|
| Item 27 | .699 | 0.031 | 22.754 |
| Item 28 | .714 | 0.036 | 19.660 |
| Item 29 | .604 | 0.052 | 11.545 |
| Item 30 | .456 | 0.043 | 10.636 |

*Note.* λ = standardized factor loading; *SE* = standard error. Values are based on the STDYX standardized solution from the one-factor CFA model of the IRTBSA-25. Items 2, 5, 10, 24, and 26 were excluded from the IRTBSA-25 model. All factor loadings were statistically significant at $p < .001$.

The one-factor model estimated for the IRTBSA-25 also showed satisfactory fit in the Turkish sample, CFI = .919, TLI = .912, RMSEA = .054, 90% CI [.049, .059], and SRMR = .041. As in the Italian sample, although the chi-square test was statistically significant, this result was interpreted cautiously due to the sensitivity of chi-square to sample size. Overall, the approximate fit indices supported the adequacy of the one-factor structure in this sample.

As shown in Table 5, standardized factor loadings in the Turkish sample ranged from .399 to .837, and all retained items loaded significantly on the latent factor. Most retained items showed moderate to strong loadings. As in the Italian sample, Item 9 showed a relatively lower loading compared with the other retained items.

**Table 5**

*Standardized Factor Loadings for the IRTBSA-25 in the Turkish Sample*

| **Item** | **λ** | ***SE*** | ***z*** |
|---|---|---|---|
| Item 1 | .597 | 0.030 | 20.064 |
| Item 3 | .626 | 0.031 | 20.348 |

**Table 5** (continued)

| **Item** | **λ** | ***SE*** | ***z*** |
|---|---|---|---|
| Item 4 | .529 | 0.031 | 16.914 |
| Item 6 | .534 | 0.042 | 12.640 |
| Item 7 | .733 | 0.025 | 29.202 |
| Item 8 | .702 | 0.030 | 23.710 |
| Item 9 | .399 | 0.059 | 6.709 |
| Item 11 | .798 | 0.020 | 40.161 |
| Item 12 | .730 | 0.033 | 22.285 |
| Item 13 | .613 | 0.038 | 15.972 |
| Item 14 | .798 | 0.023 | 34.289 |
| Item 15 | .780 | 0.022 | 35.144 |
| Item 16 | .837 | 0.015 | 55.782 |
| Item 17 | .719 | 0.027 | 26.577 |
| Item 18 | .569 | 0.039 | 14.735 |
| Item 19 | .750 | 0.026 | 29.287 |
| Item 20 | .767 | 0.023 | 33.671 |
| Item 21 | .783 | 0.023 | 34.416 |
| Item 22 | .753 | 0.029 | 25.866 |
| Item 23 | .669 | 0.032 | 20.825 |
| Item 25 | .703 | 0.028 | 24.803 |
| Item 27 | .752 | 0.023 | 33.164 |

**Table 5** (continued)

| Item | λ | *SE* | *z* |
|---|---|---|---|
| Item 28 | .799 | 0.022 | 36.378 |
| Item 29 | .705 | 0.034 | 21.012 |
| Item 30 | .688 | 0.031 | 22.294 |

*Note*. λ = standardized factor loading; *SE* = standard error. Values are based on the STDYX standardized solution from the one-factor CFA model of the IRTBSA-25. Items 2, 5, 10, 24, and 26 were excluded from the IRTBSA-25 model. All factor loadings were statistically significant at $p < .001$.

Table 6 presents the model fit indices for the one-factor models estimated for the original 30-item IRTBSA and the IRTBSA-25 across both samples. The one-factor model estimated for the original 30-item IRTBSA did not show adequate fit in either sample, whereas the one-factor model estimated for the IRTBSA-25 showed satisfactory fit in both samples.

**Table 6**

*Model Fit Indices for the 30-Item IRTBSA and IRTBSA-25 Across Samples*

| Model | Sample | CFI | TLI | RMSEA [90% CI] | SRMR |
|---|---|---|---|---|---|
| 30-Item IRTBSA | Italy | .837 | .825 | .083 [.077, .089] | .064 |
| | Türkiye | .860 | .850 | .081 [.076, .087] | .054 |
| IRTBSA-25 | Italy | .901 | .892 | .052 [.046, .057] | .048 |
| | Türkiye | .919 | .912 | .054 [.049, .059] | .041 |

*Note*. CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; CI = confidence interval; SRMR = standardized root mean square

residual; MLM = robust maximum likelihood estimator. All CFA models were estimated using MLM.

### 4.4. Internal Consistency of the Intimate Relationships Trauma Bonding Scale for Adults-25

Internal consistency analyses showed that the IRTBSA-25 demonstrated high internal consistency in both samples. Cronbach's alpha was .96 in the Turkish sample and .95 in the Italian sample.

### 4.5. Associations With Theoretically Related Constructs

Pearson correlation analyses were conducted to examine the associations between IRTBSA-25 scores and theoretically related constructs. As shown in Table 7, IRTBSA-25 scores were positively and significantly correlated with Restrictive Engulfment victimization in both the Italian sample, $r = .39$, $p < .001$, and the Turkish sample, $r = .43$, $p < .001$. Both associations were moderate in strength. Fisher's $z$ transformation indicated that these correlations did not significantly differ between samples, $z = 0.73$, $p = .463$.

IRTBSA-25 scores were positively and significantly correlated with shame in both the Italian sample, $r = .60$, $p < .001$, and the Turkish sample, $r = .70$, $p < .001$. Both associations were strong. Fisher's $z$ transformation indicated that the association was significantly stronger in the Turkish sample than in the Italian sample, $z = 2.66$, $p = .008$.

IRTBSA-25 scores were positively and significantly correlated with depressive symptoms in both the Italian sample, $r = .61$, $p < .001$, and the Turkish sample, $r = .68$, $p < .001$. Both associations were strong. Fisher's $z$ transformation indicated that these correlations did not significantly differ between samples, $z = 1.83$, $p = .067$.

IRTBSA-25 scores were positively and significantly correlated with PTSD symptoms in both the Italian sample, $r = .74$, $p < .001$, and the Turkish sample, $r = .73$, $p < .001$. Both associations were strong. Fisher's $z$ transformation indicated that these correlations did not significantly differ between samples, $z = -0.33$, $p = .740$.

Overall, all correlations were positive and statistically significant. The correlations were moderate for Restrictive Engulfment victimization and strong for shame, depressive symptoms, and PTSD symptoms. Cross-sample comparisons showed a significant difference only for shame, with a stronger association in the Turkish sample.

**Table 7**

*Correlations Between IRTBSA-25 and Theoretically Related Constructs Across Samples*

| Construct | Italian Sample | Turkish Sample |
|---|---|---|
| Restrictive Engulfment | .39 | .43 |
| Shame | .60 | .70 |
| Depressive Symptoms | .61 | .68 |
| PTSD Symptoms | .74 | .73 |

*Note.* Values represent Pearson correlation coefficients between IRTBSA-25 scores and theoretically related constructs. All correlations were statistically significant at $p < .001$. IRTBSA-25 = 25-item Intimate Relationships Trauma Bonding Scale for Adults; PTSD = posttraumatic stress disorder.

# CHAPTER 5

# DISCUSSION AND CONCLUSION

This chapter discusses the findings of the present study in relation to trauma bonding, intimate relationships, and scale-adaptation literature. It first interprets the CFA and item-level findings, followed by the internal consistency results and associations with theoretically related constructs. The chapter then presents the study's limitations, directions for future research, implications for practice, and overall conclusion.

## 5.1. Discussion of Confirmatory Factor Analyses and Item-Level Findings

The present study examined the psychometric performance of the IRTBSA, an adaptation of the TBSA for current romantic relationships, in assessing trauma bonding with reference to a current romantic partner across Turkish and Italian samples. The CFA findings did not fully support the initially hypothesized 30-item one-factor structure of the IRTBSA. However, after item-level evaluation, the one-factor model estimated for the IRTBSA-25 showed satisfactory fit in both countries.

This pattern is consistent with Reid's (2023) original conceptualization of the TBSA as a one-factor measure, while also indicating that the original item pool required contextual refinement before being used in intimate relationship contexts. This is theoretically important because the present study shifted the relational referent of the TBSA from broader harmful or exploitative relationships to current romantic relationships. In such contexts, meanings attached to loyalty, secrecy, self-blame, emotional dependence, and difficulty disengaging may be shaped by romantic commitment, relationship history, family expectations, cultural norms, and post-separation ties.

Because the item-reduction procedure was reported in Section 4.2, this section does not discuss that process again. Instead, it offers possible interpretations of what the excluded item content may suggest about adapting the TBSA to current romantic relationship contexts, rather than definitive explanations for each item's weaker performance.

Item 2 ("Feeling stuck in an unhealthy romantic relationship") may illustrate a potential boundary between trauma bonding and broader relational entrapment. This item combines two appraisals: recognizing the relationship as unhealthy and feeling unable to leave it. In current romantic relationships, it is possible that some participants may feel unable to detach without explicitly labeling the relationship as unhealthy. Conversely, others may describe a relationship as unhealthy because of general dissatisfaction, lack of alternatives, or external constraints rather than trauma-bonding processes specifically. Therefore, although the content is relevant to the intimate relationship adaptation, it may have reflected a broader sense of relational entrapment that overlaps with, but is not identical to, retained items assessing staying longer than one should, being unable to end a harmful relationship, or struggling to detach from the partner.

Item 5 ("Trying hard to help a partner who has hurt you") may point to another conceptual boundary, namely the distinction between trauma bonding and caregiving or rescuing responses. Attempts to help, repair, or change a harmful partner may occur in trauma-bonded relationships, especially when harm is followed by hope, apology, or promises of change. However, this content could also capture empathy, perceived responsibility, caregiving, rescuing tendencies, or the belief that the partner can be changed. Compared with retained items that more directly assess continued attachment, loyalty, contact, secrecy, or tolerance of harm, Item 5 may represent a specific interpersonal response that can accompany trauma bonding without necessarily constituting its central attachment process.

Item 10 ("Being attracted to a dangerous [hurtful, threatening, or violent] partner") may highlight the distinction between attachment to a harmful partner and attraction to danger or risk. Although danger, threat, and unpredictability are theoretically relevant to trauma bonding, the wording of this item may have directed attention toward the partner's dangerousness, excitement, unpredictability, or risk-related characteristics. This emphasis is

somewhat different from retained items that focus more directly on emotional attachment, loyalty, inability to detach, or continued involvement despite harm. Thus, one possible interpretation is that attraction to danger may be conceptually close to trauma bonding but potentially separable from the core relational attachment process assessed by the IRTBSA-25.

Item 24 ("Feeling that life is not worth living without a relationship with the partner") may raise a related but distinct issue concerning global separation distress. Intense distress at the thought of losing the partner may occur in trauma-bonded relationships, particularly when the partner has become central to emotional regulation, identity, or perceived safety. However, this item could also shift the focus from attachment to a harmful partner toward the perceived meaning of life after relationship loss. As a result, it may have captured broader relationship centrality, abandonment fear, romantic idealization, depressive distress, or culturally shaped meanings attached to separation. Compared with retained items that more directly assess difficulty leaving, attachment despite harm, and distress when considering ending the relationship, Item 24 may reflect a more extreme and global appraisal of separation.

Item 26 ("Risking your life for your romantic relationship") may mark the boundary between trauma bonding and extreme life-threatening risk. Risk and danger are relevant to trauma bonding, particularly in abusive or controlling relationships. However, participants may have interpreted “risking your life” as referring only to concrete, life-threatening physical danger. Individuals experiencing psychological control, fear, dependency, emotional harm, or difficulty leaving may not necessarily describe their experience in such extreme terms. Conversely, endorsing this item may require a level of perceived danger that is more severe than the broader harm tolerance captured by the retained items. This could suggest that life-threatening risk may represent an extreme manifestation of harm rather than a core feature required to assess trauma bonding across current romantic relationship contexts.

Taken together, the content pattern of the excluded items may suggest that these items captured experiences adjacent to trauma bonding rather than the most central indicators of the construct in current romantic relationships. These experiences included general relational entrapment, caregiving or rescuing tendencies, attraction to danger, global separation distress, and extreme life-threatening risk. The resulting IRTBSA-25 can therefore be interpreted cautiously not merely as a statistically shortened version of the original scale, but as a context-sensitive adapted form that may more specifically represent trauma bonding in current romantic relationships. This interpretation is consistent with previous TBSA validation work showing both support for a one-factor structure and the need for careful item-level evaluation when the measure is applied in new cultural and relational contexts (Chenneville et al., 2024, 2025; Reid, 2023).

The retained items also showed meaningful but somewhat variable item-level performance across samples. As reported in Chapter 4, Item 30 and Item 9 showed relatively lower loadings in the Italian sample, with loadings of $\lambda = .456$ and $\lambda = .458$, respectively. This suggests that although these items were still relevant to the overall construct, the specific experiences they capture may have been less central, less frequently endorsed, or more difficult for participants to recognize within the context of their current romantic relationships. This pattern does not undermine the revised one-factor structure, but it indicates that some expressions of trauma bonding may vary in strength across item content and relational context.

A similar pattern was observed for Item 9 in the Turkish sample, where it had the weakest loading among the retained items, $\lambda = .399$. This pattern is noteworthy because a similar item-level issue was reported in the Kenyan validation of the TBSA, in which the item assessing ignoring destructive, exploitative, or degrading behavior showed weak item-level performance and was removed from subsequent analyses (Chenneville et al., 2024). Therefore, the comparatively weaker performance of Item 9 may reflect the contextual

sensitivity of this item rather than a sample-specific anomaly. Participants may have been less likely to recognize or report the tendency to ignore destructive or degrading partner behavior, particularly when such experiences were difficult to label as abusive. Although Item 9 was retained because it remained statistically significant and conceptually relevant, its weaker loading suggests that it should be interpreted with caution and examined further in future validation studies.

### 5.2. Internal Consistency of the Intimate Relationships Trauma Bonding Scale for Adults-25

As reported in Chapter 4, the IRTBSA-25 showed high internal consistency in both samples. These findings supported Hypothesis 2, indicating that the retained items formed an internally consistent measure of trauma bonding. The reliability estimates were also broadly consistent with previous TBSA validation studies, which reported high internal consistency for the original scale and across subsequent TBSA validation studies (Chenneville et al., 2024; Reid, 2023).

The internal consistency estimates indicated high reliability for the IRTBSA-25 scores in both samples. Given the 25-item length of the scale, these high coefficients were interpreted as evidence of strong internal coherence among the retained items.

### 5.3. Associations With Theoretically Related Constructs

As presented in Chapter 4 and Table 7, Pearson correlation analyses supported the expected associations between IRTBSA-25 scores and theoretically related constructs in both samples. IRTBSA-25 scores were positively and significantly associated with Restrictive Engulfment victimization, shame, depressive symptoms, and PTSD symptoms. Thus, the results were consistent with Hypothesis 3. Because the data were cross-sectional, these associations should not be interpreted as evidence that trauma bonding causes these psychological symptoms, or that these symptoms cause trauma bonding.

The moderate association between IRTBSA-25 scores and Restrictive Engulfment victimization is consistent with theoretical accounts emphasizing power imbalance, control, dependency, and relational uncertainty as central to trauma bonding (Dutton & Painter, 1993; Reid, 2024; Stark, 2007; Stark & Hester, 2019). Given that the Restrictive Engulfment subscale was used as an indicator of psychologically controlling and autonomy-restricting partner behaviors, this finding suggests that trauma-bonding experiences were related to controlling, intrusive, and autonomy-restricting dynamics in the relationship.

At the same time, the moderate size of this association indicates that trauma bonding and Restrictive Engulfment victimization are related but not redundant. Restrictive Engulfment reflects partner behaviors, such as limiting autonomy or interfering with social connections, whereas trauma bonding captures the survivor's emotional attachment, loyalty, self-blame, secrecy, and difficulty disengaging from a harmful partner. As reported in Chapter 4, this association did not significantly differ between the two samples, suggesting that the link between trauma bonding and psychologically controlling partner behaviors was comparable across samples.

The strong association between IRTBSA-25 scores and shame is consistent with the conceptualization of shame as an important affective correlate of trauma bonding. In abusive intimate relationships, relational harm may be internalized as self-blame, negative self-evaluation, and feelings of defectiveness or personal failure (Tangney & Dearing, 2002). This interpretation also aligns with evidence linking shame to PTSD symptoms and broader psychological distress among trauma-exposed individuals (DeCou et al., 2023; López-Castro et al., 2019), as well as IPV research showing that shame-related cognitions are particularly relevant when psychological violence targets self-worth, autonomy, and social connectedness (Beck et al., 2011).

Unlike the other associations, the association between IRTBSA-25 scores and shame differed significantly between the two samples, as reported in Chapter 4. This difference may

suggest that shame-related self-evaluation was more closely connected to trauma-bonding experiences in the Turkish sample. One possible interpretation is that, for participants in this sample, remaining emotionally attached to a harmful partner or experiencing difficulty disengaging from the relationship may have been more strongly accompanied by self-blame, perceived personal failure, or shame about the relationship itself. However, because the present study did not directly measure cultural beliefs, stigma, family expectations, or gender-role attitudes, this interpretation should remain tentative. Importantly, shame was strongly associated with IRTBSA-25 scores in both samples, indicating that shame was a consistent affective correlate of trauma bonding across both samples.

The strong association between IRTBSA-25 scores and depressive symptoms is consistent with the view that depressive symptoms are a meaningful psychological correlate of trauma bonding in intimate relationships. As discussed in Chapter 1, depressive symptoms may reflect the emotional consequences of repeated invalidation, relational instability, social isolation, hopelessness, and reduced perceived agency in harmful relationships. This interpretation is also consistent with meta-analytic and longitudinal evidence showing that IPV exposure is associated with elevated risk of depression (Watson & Bitsika, 2025; White et al., 2024).

As reported in Chapter 4, the association between IRTBSA-25 scores and depressive symptoms did not significantly differ between the Turkish and Italian samples. This suggests that depressive symptoms were strongly and comparably related to trauma-bonding experiences across both samples. Importantly, this association should not be interpreted as indicating that trauma bonding and depression are the same construct. Depressive symptoms may reflect reduced hope, emotional exhaustion, and diminished perceived agency, whereas trauma bonding captures the relational attachment process through which individuals may remain emotionally connected to a harmful partner.

The strong association between IRTBSA-25 scores and PTSD symptoms is consistent with previous TBSA validation studies showing strong associations between trauma bonding and PTSD symptoms (Chenneville et al., 2024, 2025; Reid, 2023), as well as research indicating that trauma bonding is closely linked to trauma-related symptomatology in abusive romantic relationships (Shaughnessy et al., 2023). This finding suggests that trauma bonding in intimate relationships is closely connected to PTSD-related responses, including fear, hypervigilance, avoidance, negative trauma-related cognitions, and emotional dysregulation.

This association is theoretically meaningful because, in trauma-bonded relationships, the partner may function as both a source of threat and a source of temporary relief. As a result, trauma-related distress may become closely intertwined with attachment processes. At the same time, the strong association does not suggest that trauma bonding and PTSD symptoms are identical constructs. PTSD symptoms reflect trauma-related distress, whereas trauma bonding captures the relational attachment process through which individuals may remain emotionally connected to a harmful partner. As reported in Chapter 4, this association did not significantly differ between samples, suggesting that PTSD symptoms were a highly consistent trauma-related correlate of IRTBSA-25 scores across both samples.

Overall, the pattern of correlations supported the convergent validity of the IRTBSA-25. The scale was moderately related to psychologically controlling partner behaviors and strongly related to shame, depressive symptoms, and PTSD symptoms, as theoretically expected. These findings support the conceptualization of trauma bonding as a relational attachment process that is embedded in abusive or controlling relationship dynamics and closely associated with psychological distress, but not reducible to any single correlate. The results also suggest that the IRTBSA-25 may be useful for assessing trauma bonding in intimate relationship contexts across the Turkish and Italian samples, while underscoring the need for further research on measurement invariance, longitudinal associations, and clinically diverse samples.

### 5.4. Limitations and Implications for Further Research

The present study is not without limitations. First, data were collected through self-report measures and non-probability online sampling. This approach was appropriate for reaching participants efficiently across both countries; however, as in most online survey research, the findings may not be fully generalizable to the broader populations in Türkiye and Italy. In addition, different recruitment platforms were used across samples: YouReply for the Turkish sample and Prolific for the Italian sample. Although both platforms are suitable for online data collection, possible platform-related differences in participant pools, response styles, or survey-taking behavior should be considered when interpreting cross-sample comparisons. Future studies may extend the present findings by examining whether the results replicate across additional recruitment settings, including community-based, clinical, and service-seeking samples.

Second, the use of self-report measures may have introduced several forms of response bias. Because the study focused on sensitive relational and psychological experiences, participants' responses may have been influenced by social desirability, recall difficulties, minimization of harmful relationship dynamics, or discomfort with disclosing experiences related to shame, psychological distress, and partner-related harm. These concerns are particularly relevant in the assessment of trauma bonding because some individuals may have difficulty recognizing, labeling, or reporting attachment to a harmful partner. Future research may benefit from incorporating multi-method approaches, such as clinical interviews, qualitative interviews, partner-violence history assessments, or longitudinal diary methods, in order to obtain a more nuanced understanding of trauma-bonding experiences.

Third, the cross-sectional design of the study prevents causal or temporal interpretations. Therefore, it cannot be determined whether trauma bonding contributes to higher levels of psychological IPV victimization, PTSD symptoms, shame, and depression;

whether these experiences increase vulnerability to trauma bonding; or whether these processes mutually reinforce each other over time. Given the relational and trauma-related nature of trauma bonding, future research should use longitudinal designs to examine the temporal and potentially bidirectional relationships between trauma bonding and its theoretically related constructs. Longitudinal studies would also help clarify whether TBSA-25 scores change across relationship stages, separation attempts, post-separation periods, or intervention processes.

Fourth, the development and evaluation of the IRTBSA-25 were conducted within the same study samples. Although the removal of five items was guided by both statistical and conceptual considerations, the revised 25-item structure may partly reflect sample-specific characteristics. Therefore, the present findings should be interpreted as initial validation evidence rather than as definitive confirmation of the final structure of the scale. Future studies should replicate the IRTBSA-25 in independent samples and, ideally, use cross-validation procedures to examine whether the revised one-factor structure remains stable across different populations, recruitment contexts, and relationship types.

Fifth, the demographic composition of the samples should be considered when interpreting cross-sample findings. The Turkish sample consisted predominantly of women, whereas the Italian sample consisted predominantly of men; therefore, some differences between samples may partly reflect differences in gender composition rather than country-related factors alone. Moreover, the study was not specifically designed to examine trauma bonding across diverse sexual orientation and gender identity groups. Future research should test the TBSA-25 in more gender-balanced and LGBTQIA+-inclusive samples to examine whether the scale functions similarly across gender identities and sexual orientations.

Sixth, the sample sizes of the Turkish and Italian samples were not equal. Although the analyses provided meaningful preliminary evidence, unequal sample sizes may affect the precision of standardized factor loadings, residual variance estimates, and correlation

coefficients used in cross-sample comparisons. In addition, formal measurement invariance was not tested in the present study. Therefore, cross-sample comparisons should be interpreted cautiously. Future research should examine configural, metric, and scalar invariance across language, country, gender, and sexual orientation groups before the IRTBSA-25 is used for stronger comparative interpretations.

Seventh, the present study focused only on individuals who were currently in romantic relationships. As a result, the findings may not fully apply to individuals who have already left abusive relationships or who are in post-separation contexts. This is important because trauma bonding may persist after separation through longing, guilt, fear, continued contact, difficulty maintaining distance from the former partner, or repeated attempts to re-establish the relationship. Future studies should examine whether the IRTBSA-25 is also valid among individuals who have ended abusive relationships or are experiencing post-separation abuse, coercive control, or continued emotional attachment to a former partner.

Finally, the present samples were recruited from individuals currently involved in romantic relationships rather than from clinical, shelter-based, or confirmed IPV survivor populations. Therefore, although the findings provide initial evidence for the IRTBSA-25 in intimate relationship contexts, its clinical utility among individuals experiencing severe abuse, coercive control, help-seeking IPV-related difficulties, or ongoing safety risks requires further examination. Future research should evaluate the IRTBSA-25 in clinically diverse and IPV-specific samples and examine whether the scale is useful for identifying trauma-bonding dynamics in applied settings. Such research should also investigate whether clinically meaningful cut-off scores, predictive validity, and sensitivity to change can be established.

### 5.5. Implications for Practice

Although further clinical validation is needed, the findings may have preliminary practical implications specifically for the use of the adapted IRTBSA-25 in current romantic relationship contexts. For mental health professionals working with individuals in harmful,

controlling, or psychologically abusive intimate relationships, the IRTBSA-25 may help identify trauma-bonding dynamics that are not always visible in standard assessments, such as emotional attachment to a harmful partner, ambivalence about leaving, self-blame, secrecy, loyalty, continued contact, and repeated relational involvement despite harm. In clinical and counseling settings, the scale may support case formulation by helping practitioners understand how attachment, fear, shame, hope, psychological distress, and perceived dependence may jointly maintain the relationship.

The IRTBSA-25 may also guide psychoeducation by helping individuals make sense of their responses in a non-blaming way. This is important because survivors' emotional attachment to a harmful partner, difficulty disengaging, or return to the relationship may be misinterpreted as lack of insight, poor judgment, or unwillingness to receive help. A trauma-informed interpretation of these responses may reduce blame and support more empathic professional engagement. In this sense, the scale may help professionals frame trauma bonding as a relational and trauma-related process rather than as an individual weakness or failure.

The IRTBSA-25 may also be useful for practitioners working in NGOs, shelters, crisis centers, and IPV support services when assessing trauma-bonding dynamics in intimate relationship contexts. In these settings, the scale may help identify individuals who experience difficulty disengaging from a harmful partner, minimize or conceal the abuse, feel emotionally responsible for the partner, or struggle with loyalty and self-blame despite recognizing relational harm. Recognizing these dynamics may help professionals avoid interpreting such responses as lack of motivation or resistance to support. Instead, the IRTBSA-25 may contribute to more trauma-informed safety planning, referral decisions, and individualized support strategies.

However, the IRTBSA-25 should not be used as a diagnostic tool or as an independent risk assessment instrument. Until further validation establishes clinical cut-off

scores, predictive utility, and sensitivity to change, it should be used only as an assessment aid within a broader evaluation of IPV, coercive control, safety, trauma symptoms, shame, depression, social support, available resources, and immediate risk. Therefore, its practical value lies not in replacing clinical judgment or structured risk assessment, but in helping professionals better recognize and conceptualize trauma-bonding dynamics within a comprehensive, survivor-centered assessment process.

### 5.6. Conclusion

The present study aimed to adapt and validate the TBSA for use in intimate relationship contexts across Turkish and Italian samples. The findings showed that the original 30-item one-factor model did not provide optimal fit in either sample. Following item-level evaluation based on both statistical and conceptual considerations, a revised 25-item version of the scale, the IRTBSA-25, was tested. The IRTBSA-25 showed evidence of a unidimensional structure and provided initial support for assessing trauma bonding in current romantic relationship contexts.

The findings also supported the reliability and convergent validity of the IRTBSA-25. The scale showed strong internal consistency in both samples and was positively associated with theoretically related constructs, including psychologically controlling partner behaviors, shame, depressive symptoms, and PTSD symptoms. These associations were consistent with the conceptualization of trauma bonding as a relational attachment process that may develop or persist in harmful, controlling, or abusive intimate relationships. At the same time, the pattern of associations also indicated that trauma bonding is related to, but not reducible to, restrictive engulfment, shame, depression, or PTSD symptoms.

Despite its limitations, the present study makes several contributions to the trauma bonding and intimate relationship literature. First, it extends the TBSA beyond its original focus on exploitative relationships by adapting it to the context of current romantic relationships. Second, it provides initial validation evidence for Turkish and Italian versions

of the IRTBSA-25, thereby contributing to trauma bonding research beyond predominantly English-speaking contexts. Third, it offers a context-sensitive operationalization of trauma bonding by showing how items originally developed for exploitative contexts can be meaningfully reframed for intimate partner relationships. Fourth, it supports the conceptualization of trauma bonding as a relational attachment process associated with psychological IPV victimization, PTSD symptoms, shame, and depression, while remaining conceptually distinct from these constructs.

To the best of our knowledge, the IRTBSA-25 represents one of the first brief TBSA-based measures specifically adapted to assess trauma bonding in intimate relationship contexts. In this sense, the present study does not merely translate an existing measure but contributes to the conceptual and empirical development of trauma bonding research across different linguistic, relational, and national contexts. Future studies should replicate the IRTBSA-25 in independent samples, test measurement invariance across relevant groups, examine its clinical utility, and investigate how trauma bonding develops, persists, decreases, or changes over time in harmful intimate relationships.

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