

Predictors and outcomes of different types of violent and cyclical relationships: A latent profile analysis

by

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B.S., University of Minnesota, 2017  
M.S., Kansas State University, 2020

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

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Department of Applied Human Sciences  
College of Health and Human Sciences

KANSAS STATE UNIVERSITY  
Manhattan, Kansas

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## **Abstract**

Despite awareness that intimate partner violence (IPV) and relationship cycling (RC) often co-occur, limited research has examined the ways in which these dynamics interact. Using the Dyadic Power-Social Influence Model (DPSIM) as a framework, this study aimed to identify typologies of violent and cyclical relationships, along with predictors and outcomes that were associated with these different types of relationships. A latent profile analysis with predictors and distal outcomes was performed using two rounds of data collected from Prolific, an online survey platform. From our analysis, five distinct profiles were identified with varying levels of RC and physical, psychological, sexual, and cyber IPV, including a high psychological IPV/ medium RC profile, a high IPV victimization/ high RC profile, a low IPV/ medium RC profile, a high sexual IPV/ low RC profile, and a high mutual IPV/ low RC profile. Once these distinct profile were identified, predictors (ties to relationship, interpersonal dependency, self-esteem, and powerlessness) of profile membership probability and associated outcomes (anxiety and depression, relationship satisfaction, and identity loss) of profiles membership were examined. These analyses identified profile-specific predictors and differing outcomes across the five types of violent and cyclical relationships, further distinguishing these profiles from one another. Awareness of these different relationship types and their relevant predictors and outcomes may aid in violence prevention and treatment efforts. Clinical and research implications are discussed below.

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# Table of Contents

List of Figures .....	viii
List of Tables .....	ix
Acknowledgements .....	x
Dedication .....	xi
Chapter 1 - Introduction.....	1
Chapter 2 - Literature Review.....	4
Intimate Partner Violence .....	4
<i>RC Within IPV Research</i> .....	5
<i>Typologies of Violence</i> .....	7
Relationship Cycling.....	9
<i>Typologies of Cyclers</i> .....	10
Theory .....	11
<i>Power Bases</i> .....	13
<i>Influence Strategies</i> .....	14
<i>Outcomes</i> .....	16
Present study .....	18
Chapter 3 - Method .....	20
Participants.....	20
Measures of Violent and Cyclical Typologies.....	24
<i>IPV</i> .....	24
<i>Cyber Aggression</i> .....	24
<i>Relationship Cycling</i> .....	24
Predictor Measures .....	25
<i>Self-esteem</i> .....	25
<i>Ties to the Relationship</i> .....	25
<i>Dependency</i> .....	26
<i>Powerlessness</i> .....	26
<i>Communication patterns</i> .....	26
Outcome Measures .....	27

<i>Mental Health</i> .....	27
<i>Relationship Satisfaction</i> .....	27
<i>Identity Loss</i> .....	28
Analysis Plan .....	28
Chapter 4 - Results .....	30
<i>Profile Demographics</i> .....	32
Predictors .....	36
<i>Self Esteem</i> .....	39
Ties to One's Relationships .....	39
<i>Financial Problems</i> .....	39
<i>Poor Social Support</i> .....	39
<i>Fear of Harm</i> .....	39
<i>Hope Things Change</i> .....	40
<i>Fear of Loneliness and Social Embarrassment</i> .....	40
<i>Powerlessness</i> .....	40
<i>Dependency</i> .....	40
<i>Pursue/Withdrawal Patterns</i> .....	41
Outcomes .....	41
<i>Mental Health</i> .....	41
<i>Identity Loss</i> .....	42
<i>Relationship Satisfaction</i> .....	43
Chapter 5 - Discussion .....	45
Predictors of IPV and RC Profiles .....	47
Patterns Across Predictors .....	50
Outcomes .....	52
Clinical Implications .....	52
Research Implications, Limitations, and Future Steps .....	54
Chapter 6 - Conclusion .....	57
References .....	58

# List of Figures

Figure 1 Profile Analysis Classes Standardized Means..... 32



## List of Tables

Table 1 Sample Demographics .....	21
Table 2 Model Fit Statistics for the Latent Profile Analysis .....	30
Table 3 Latent Profile Analysis Classes .....	31
Table 4 Profile Demographics .....	33
Table 5 Multinomial Logistic Regression Examining Profile Predictors .....	37
Table 6 Chi-Square Test Comparing Depression and Anxiety Score Across Profiles .....	42
Table 7 Chi-Square Test Comparing Identity Loss Score Across Profiles.....	43
Table 8 Chi-Square Test Comparing Relationship Satisfaction Scores Across Profiles .....	44

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## **Dedication**

This is dedicated to the victim/survivors of domestic violence. Through helpline calls, support groups, and therapy, I have had the privilege of working with such resilient individuals and families who have experienced so much hurt. These experiences have shaped my understanding of violence and have driven my passion to stop it.

## Chapter 1 - Introduction

Intimate partner violence (IPV; the act of causing harm to one's current or former partner), and relationship cycling (RC; the process of ending and renewing one's romantic relationship), are relationship experiences that have been found to be associated with one another and indicative of relational instability and distress. Specifically, IPV and RC have been found to have similar consequences (e.g., higher conflict and lower relationship satisfaction), with increased frequency of both dynamics associated with increased severity of outcomes (Dutton, 2011; Vennun, 2011). Additionally, both dynamics have been conceptualized as serving as an intentional or unintentional attempt to create change within one's relationship (Dailey, 2020; Halpern-Meekin & Turney, 2021; Wagers et al., 2015). As potential relationship influencing strategies, both are informed by partners' access to power and resources in the relationship, which partially accounts for partners' ability and success in using these tactics to create partner or relationship change (Caldwell et al., 2011; Simpson et al., 2015; Washburn-Busk et al., 2020).

Despite the overlap of these phenomena, there is limited research examining how these relational dynamics interact. Within IPV literature, RC has primarily been conceptualized as an outcome of violence. In this framework, researchers highlight victims' struggle to leave their abusive partner and, often, leaving one's abusive relationship becomes a cyclical process consisting of attempts to leave the relationship and then returning to the relationship (Barrios et al., 2021). In contrast, some IPV researchers have conceptualized RC as another method of causing harm or distress to one's partner, thus serving as another method of violence or control (Sebastián et al., 2014). In these instances, leaving or threatening to leave is done with the intention of being malicious or gaining control in the relationship. These different conceptualizations

highlight the potential that RC is experienced or used differently across different violent relationships.

The field of RC literature is much more nascent, and thus, limited compared to IPV, but it is gaining increased research attention. Although RC literature has identified increased conflict and distress in cyclical relationships (Dailey, 2020), few RC-focused studies have specifically examined association with IPV. One study confirmed that those experiencing RC, where partners have experienced at least one break up and resolution, were more prone to violence and aggression compared to those in non-cyclical relationships (Halpern-Meekin et al., 2013; Perez, 2015). Additionally, an attempt to capture different types of cyclical relationships identified a “controlling/persistent” subgroup, where one or both partners were manipulative or controlling (Dailey et al., 2013), but the study did not address whether IPV occurred in any other types of cyclical relationships.

One common route in attempting to understand the phenomenon of IPV and RC has been to identify typologies of cyclical or violent relationships. Several types of cyclers have been identified, where RC has been found to serve a varying function within different relationship, creating unique relationship outcomes and trajectories (Dailey, 2020). Similarly, different typologies of violent relationships have been identified, which have been found to influence the experience, outcomes, and treatment needs within different types of violent relationships (Ali et al., 2013; Johnson, 2008; Karakurt et al., 2016). Yet, no existing typologies account for both phenomena or have explored whether different types of violent and cyclical relationships exist. This dissertation aims to examine whether there are different typologies of violent and cyclical relationships in effort to gain insight to whether there are different ways these dynamics exist within intimate relationships, and if so, what individual and relational factors are associated with

these typologies. Differentiating these typologies can increase accuracy in screening, prevention, and intervention efforts by facilitating the development of more specific treatment approaches to better fit the different factors influencing different types of violent and cyclical relationships.

## Chapter 2 - Literature Review

### Intimate Partner Violence

IPV can include physical abuse (e.g., kicking, pushing, hitting), sexual abuse (e.g., sexual coercion, forced rape), emotional abuse (e.g., name-calling, constant criticism), psychological abuse (e.g., isolation, threatening harm), economic abuse (e.g., restricting access to economic resources or limiting one's ability to attain them), and cyber abuse (e.g., cyber-stalking, revenge porn), with different types of IPV resulting in various forms and degrees of influence or power over one's partner. IPV has been found to impact couples across all socioeconomic statuses (SES), religions, races, gender identities, sexual orientations, and education/employment statuses (Department of Justice, n.d.). According to the National Intimate Partner and Sexual Violence Survey, approximately 1 in 5 women and 1 in 7 men report experiencing severe physical abuse, and nearly 40% of both men and women report experiencing psychological abuse in their lifetime (Smith et al., 2018). The health impacts of IPV victimization are far reaching, creating short- and long-term impacts on many facets of life, including mental and physical health (Afifi et al., 2009; Iverson et al., 2017; Yim & Kofman, 2019); employment status/stability (Crowne et al., 2011); connection to family, friends, and community (Herman, 2015; Hui & Constantino, 2021); and overall life satisfaction (Hui & Constantino, 2021; Zlotnick et al., 2006).

Further, marginalized populations have been found to experience IPV at higher rates, or experience greater and more severe outcomes, than their privileged counterparts. For example, although some scholars support the idea of gender symmetry, or the idea that men and women perpetrate violence at similar rates, evidence suggests that men perpetrate IPV more severely than women and women experience greater consequences related to IPV victimization than men (Dutton, 2006). Furthermore, transgender individuals are 2.2 times more likely to experience

physical IPV victimization and 2.5 times more likely to experience sexual IPV victimization than cisgender individuals (Peitzmeier et al., 2020). In addition to gender identity, people holding racially marginalized identities, specifically Black women, experience higher rates of IPV victimization and greater IPV related health problems than white women (Iverson et al., 2013). Researchers in these areas often highlight minority stress theory, or the idea that those holding marginalized identities experience unique situations with additional stressors compared to their privileged counterparts, as a framework for understanding why and how these factors influence victims' experiences and outcomes related to IPV.

### ***RC Within IPV Research***

Within the IPV literature, RC is commonly conceptualized through the lens of the cycle of violence, which highlights a common abusive pattern that begins with tension building up, followed by an explosion of anger or abuse that may lead to distancing or separation, which is then followed by a honeymoon phase or remorse from the perpetrator that may lead to reconciliation (Dutton, 2006; Walker, 2016). Throughout these phases, the intra- and interpersonal dynamics between the perpetrator and victim greatly shift. As couples continue to go through the cycle, some researchers have noted a speeding up between cycle components with less time between violent episodes, leading to more severe tension, violence, and remorse seeking over time (Dutton, 2006). Additionally, going through this cycle may lead to victims becoming "trauma-bonded" with their abuser, which consists of a strong emotional bond developed in situations of intermittent good/bad treatment that creates an inaccurate sense of control and sense of self within the relationship that leads to victims remaining with or returning to their partner (Dutton, 2006; Dutton & Painter, 1993; Painter & Dutton, 1985). Key factors related to trauma bonding include self-blame for the abuse, low self-esteem, power imbalance



between partners, and alternating periods of good and bad treatment from one's abuser (Painter & Dutton, 1985).

In effort to understand why victims return to their abusive partners, researchers have identified several barriers to permanently leaving and fully separating from one's abusive partner, including lack of awareness of the abuse, challenges accessing available resources (e.g. language barriers), consequences of disclosure (e.g., fear of escalating partner's abuse), lack of material resources (e.g., fear of losing partner financial and emotional support), personal barriers (e.g., self-blame or embarrassment), and system failures (e.g., fear of not being believed; Robinson et al., 2021). Within these explanations, returning to a violent relationship (i.e., relationship cycling) ultimately becomes an issue of power and resources, where victims are unable to establish the internal or external resources necessary to establish separation from, and stability without, the abuser.

Unfortunately, much of the research examining RC in the context of IPV, like the cycle of violence and barriers to leaving, comes from a specific subgroup of victims. These samples typically consist of women living at domestic violence shelters who were likely experiencing more extreme IPV, or a type of IPV commonly referred to as intimate partner terrorism (IPT), which will be explored more in depth in a later section. IPT is less common and varies greatly in its presentation and victim experience compared to other types of violence, leading to potential lack of fit in how this research conceptualizes RC for couples experiencing relationship violence that is not IPT. More information is needed on if, and how, RC is experienced within relationships with different types and levels of violence.

Another way RC has been examined within IPV research is the use of threatening to end one's relationship to influence or cause distress to one's partner. Sebastián and colleagues (2014)

found that boys were significantly more likely to use these breakup threats as a form of sexual coercion compared to girls, yet there was no significant gender difference in the likelihood of using the threat of dissolution as psychological violence. Although limited research has examined the actual act of breaking up as psychological IPV, it can be assumed some individuals may at least temporarily follow through as an effort to prompt change in their partner, contributing to some experiences of RC in the context of IPV. Yet one major limitation in this research is that it has typically been examined in teen dating relationships, limiting our awareness of the ways this dynamic shows up for adult relationships.

### ***Typologies of Violence***

Research on IPV has identified that there are different types of violent relationships, which are often differentiated from one another based on frequency, severity, motive, and impact. One of the more commonly used frameworks is Michael Johnson's (2008) typologies of violence which originally identified intimate partner terrorism (IPT), situation couple's violence (SCV), violent resistance, and mutual control. Research utilizing these typologies has focused less on violent resistant and mutual control, and instead recognizes SCV and IPT as the most common typologies (Gulliver & Fanslow, 2015). SCV includes context-specific, reactive violence that is used for short-term influence or control, and can consist of unidirectional or bidirectional IPV. Conversely, IPT consists of more severe IPV and coercive control tactics used for short- and long-term control. Other key factors that differentiate IPT from other SCV include the presence of unequal power dynamics (e.g., perpetrator high power, victim low power), victim's fear of their partner, and the perpetrators use of non-violent coercive control tactics (Johnson, 2008).

Since this distinction of IPV, research has identified different predictors, relationship experiences, and outcomes associated with IPT compared to SCV. A meta-analysis aiming to differentiate risk correlates of between these two forms of violence found controlling behaviors, jealousy, patriarchal beliefs, and perpetrator's power in the relationship were all significantly stronger risk factors of IPT compared to SCV (Love et al., 2020). Some of these risk correlates directly align with Johnson's indicators of IPT, yet the finding highlights these factors, though more weakly related, are also present in situations of SCV. When it comes to help seeking, women experiencing IPT have been found to be more likely to seek help compared to victims experiencing SCV, which some relate to the higher risk and injury within IPT relationships (Leone et al., 2007). For those who don't seek help, IPT victims are more likely to report that it was due to fear of the perpetrator, compared to SCV victims who may not have sought help because they didn't feel they needed it (Leone et al., 2014). When couples or individuals seek help through mental health or clinical resources, research has indicated the value in conceptualizing and treating IPV based on typology. For example, couple-based treatment is only recommended (Stith et al., 2011), and has been found successful in treating SV couples (Karakurt et al., 2016) and is not appropriate treatment for IPT. As for outcomes, IPT has been linked to more severe injury and higher levels of depression and PTSD for victims compared to SCV (Tiwari et al., 2015).

The differentiating of IPV typologies has greatly increased our understanding of IPV and the nuances within violent couple relationships, in addition to guiding research and clinical practice. Yet within existing IPV typologies, to the author's knowledge, there has been no typologies that account for the common cyclical pattern within many relationships experiencing IPV. Within Johnson's (2008) typologies, though, there is evidence for different perceptions of

violence and different levels of control, both which would likely influence someone's desire and ability to leave and experience of coming back to their abusive partner. But the specific consideration for the co-occurrence of the dynamics within IPV models is limited.

### **Relationship Cycling**

Although the research on violent relationships experiencing RC is sparse, increased research focus has been brought to a similar relationship dynamic of ending and renewing a relationship in the romantic relationship development literature. Research indicates approximately 60% of emerging adults have been in a cyclical relationship (that may or may not be characterized by violence) in their lifetime (Dailey et al., 2009), and 30% through 45% of adults are currently in a cyclical relationship with at least one dissolution and renewal (Dailey et al., 2009; Waters, 2015). Although relationship cycling has been predominantly studied within the context of dating and with emerging adults, it is present in married and cohabiting relationships as well (Vennum, 2014).

Partners that have experienced cycling report lower relationship satisfaction and commitment with higher relationship uncertainty, distress, conflict, and violence compared to partners in non-cyclical relationships (Dailey, 2020; Dailey et al., 2009; Perez, 2015). Additionally, these adverse outcomes increase in severity with each subsequent breakup and renewal a couple experiences (Vennum, 2011). As awareness of the negative outcomes of cycling have grown, researchers have attempted to understand what makes individuals and their relationships more susceptible to cycling and have found initial indications that these factors may be similar to partners who return to violent relationships. Compared to non-cyclical partners, cyclical partners are more likely to experience inconsistent relationship maintenance behaviors coupled with barriers to leaving such as financial and material constraints or lack of viable

alternatives to the relationship (Dailey, 2020; Vennum et al., 2013). Further, qualitative data suggests these dynamics may play out in the context of power disparities in the relationship that limit partners' perceived options for improving the relationship or permanently ending it (Washburn-Busk et al., 2020).

### ***Typologies of Cyclers***

Current understanding of the function of RC may be best understood by considering the different types of cyclical relationships. Although the majority of research has been comparative, focusing on cyclers versus non-cyclers, a qualitative study identified five types of cyclers: (a) habituals: those who fall back into the relationship due to desire for companionship or convenience (b) mismatched: those with different internal or external characteristics whom struggle to manage incompatibilities (c) capitalized on transitions: those who used renewals to ignite relational change and success (d) gradual separators: those who made efforts to make the relationship work but ultimately concluded the relationship wouldn't work (e) controlling/persistent: where one or both partners were manipulative or controlling (Dailey et al., 2013). The different types of cyclers have been found to vary in their breakup and renewal experiences and trajectories, which creates breakups and renewals that potentially serve different functions for different relationships (Dailey, 2020). Though the author highlights the increased susceptibility of violence or aggression for the controlling/persistent type due to the nature of the relationship and existence of risk correlates, the types do not account for presence of violence or whether risk of violence varies between the typologies. Additionally, research has not accounted for the different types and forms of violence experienced by cyclers. Despite theory development for each of these research areas and acknowledgement of the co-occurrence of relationship cycling and IPV, no current theory accounts for how these dynamics co-exist and function together

within intimate relationships. Within existing research, IPV and RC are treated as associated dynamics, or predictor and outcome variables, and not interacting dynamics that are mutually informing one another and influencing individual and relational outcomes. This current conceptualization restricts our understanding of violent and cyclical relationships, limiting prevention and intervention efforts. Because research on these dynamics has identified power and resources as relevant factors for both, recognizing the influential nature of these dynamics on individual and relational outcomes, power theories may be helpful in our efforts to understand relationships where these dynamics are co-occurring.

### **Theory**

The Dyadic Power and Social Interaction model (DPSIM) argues that power is present and central to organizing all interactions, thus providing a framework for understanding how power and influence is developed and maintained within intimate relationships, as well as the personal and relational predictors and impacts of such experiences (Simpson et al., 2015). The model borrows from a host of power and control theories, such as interdependence theory, resource theory, and power within relationships theory, in effort to explain the dyadic experience of control. According to DPSIM, there are four constructs that help us understand processes of power and influence within relationships: (a) individual characteristics of each partner, as well as the interaction of these characteristics, (b) each partner's capacity for power, (c) the influence strategies used, and (d) the outcome following the use of influence strategies. These constructs influence one another, and over time, the outcomes of influence strategies may alter individual characteristics and power bases, promoting a feedback loop and enhancing the severity of the dynamics (Simpson et al., 2015; Simpson et al., 2019). The current study aims to differentiate individual and relational experiences between different typologies of cyclical and violent

relationships based on factors within DPSIM's four constructs. Within this model IPV and RC would be conceptualized as influence tactics, which is not a new conceptualization of these dynamics (Halpern-Meehin & Turney, 2021; Wagers et al., 2015). And according to the model, individual characteristics and power determine influence strategies used, which inform the outcomes related to the relationship, suggesting couples who vary in their experience of IPV and RC, will likely vary among these factors as well.

### ***Partners' Individual Characteristics***

The first construct, the individual characteristics of each partner and interaction of these characteristics, focuses specifically on the core attributes both partners bring to the relationship, their personality traits, and their general feelings towards the relationship (Simpson et al., 2015). These individual characteristics then interact to create unique relational characteristics. The combination of these individual and relational characteristics informs each partner's level of power, or access to power bases, within the relationship impacting one's ability to create or resist influence within a relationship (Simpson et al., 2015; Simpson et al., 2019).

Evidence has identified many factors that keep individuals committed or tied to their relationship which vary across individual and relational differences (Joel et al., 2017), suggesting these factors will vary across different across different types of violence and cyclical relationships. For example, financial and material constraints, in addition to low or relationship contingent self-esteem have been found to be important factors influencing whether partners stay in their current violent and/or cyclical relationship (Dailey, 2020; Dutton, 2006; Meyers, 2012; Vennum & Fincham, 2011). For individuals experiencing RC, one study identified lingering feelings as the top motivation for seeking renewal, followed by companionship, familiarity, report that the partner is "the one", wanting it to work, or that their perceptions of the

relationship or their partner changed (Dailey et al., 2011). For victims experiencing IPV, some reasons for remaining within their violent relationship include investment (e.g., marriage, keeping family together), entrapment (e.g., cultural expectations, learned helplessness, economic dependence), and love (Heron et al., 2022). Additionally, psychological factors, like fear of harm and locus of control, are relevant factors for victims deciding whether to stay in their abusive relationship (Kim & Gray, 2008). Yet as noted earlier, one limitation in this area of IPV research is that it primary comes from victims experiencing more severe situations of violence.

Information on ties to the relationship for individuals experiencing violence outside of IPT is sparse. The current study is examining self-esteem and ties to one's relationship as individual and relational characteristics.

### ***Power Bases***

The second construct, the power bases, are based on French and Raven's (1959) work that identified five types of power within dyadic experiences, (a) reward power: one's ability to reward partner change, (b) coercive power: one's ability to punish partner resistance, (c) legitimate power: the internalized norms or values related to one's social positions that enable or restrict behaviors, (d) expert power: one's ability to influence due to greater knowledge on a given topic, and (e) referent power: one's ability to influence due to partner's willingness to conform for the purpose of "one-ness" or desire for shared identity. These power bases ultimately inform how much influence each partner has, and the methods used to create or resist change (Simpson et al., 2015). Yet according to DPSIM, access to these power bases and willingness to use the power base to influence one's partner is ultimately determined by the degree of dependence on the relationship, quality of alternative partners, and level of relationship satisfaction (Simpson et al., 2019).



Although these five types of power have not been studied in relation to IPV, IPV's relationship with power has been extensively studied and relational power differences, particularly degree of perpetrator's power, has been found to be predictive and/or outcome of IPV (Spencer et al., 2020) and a motivator for perpetration (Langhinrichsen-Rohling et al., 2012). Existing research on power and relationship cycling is scarce, but power imbalances have been found to influence individuals' perceptions of the relationship and their ability to leave, contributing to more self-doubt related to relationship decisions, like deciding to end the relationship (Washburn-Busk et al., 2020). Additionally, all the determinate factors of power usage (dependence, alternative partners, and relationship satisfaction) have all been studied and found relevant in the context of IPV (Manning et al., 2018; Tirone et al., 2014) and RC (Dailey et al., 2009; Dailey, 2020; Vennum et al., 2014). The current study is examining powerlessness and interpersonal dependency as indicators of power.

### ***Influence Strategies***

The third construct, influence strategies, are direct and indirect attempts to persuade or change one's partner in effort to achieve a personal goal. The ability to use influence strategies, the specific strategies or tactics used, and the successfulness of the strategy in altering partner behaviors or attitudes, are all directly tied to one's core power bases. One's core power bases not only influence one's own use of power to influence a partner, but also determine one's ability to resist influence attempts by one's partner. Along with differing degrees of direct-ness, influence strategies also can differ in their valence, with some strategies being more positive (e.g., rewards) and others being more negative (e.g., threats or punishment; Simpson et al., 2015). Within the model's framework, IPV and cycling would be categorized as direct-negative influence strategies.

The current study aims to examine the more commonly studied forms of IPV (physical abuse, sexual abuse, and psychological abuse) as forms of influence strategies, in addition to cyber aggression. The behaviors that make up cyber aggression (e.g., monitoring posts, posting hurtful or private information about one's partner) are typically less direct but often still can indicate a potential of aggression and/or desired control over one's partner (Duerksen, 2018; Watkins et al., 2018). Cyber aggression has not been studied in relation to cycling but it may be relevant, particularly during "off" periods or breakups. Research findings have indicated that cyber surveillance or monitoring is often used post-break up for individuals who may still desire connection with or control over their ex-partner (Tong, 2013).

The different forms of IPV likely serve as different forms of influence strategies, and different typologies of IPV (e.g., situation couples violence vs intimate partner terrorism), create varying levels of influence and power discrepancies. Different types of IPV have been found to have different outcomes, and this can result in unique consequences across different violent relationships, in addition to varying levels of severity for consequences that are more universal across violent relationships (Panuzio & DiLillo, 2010). This gives evidence to the idea that different types of influence strategies used will create different outcomes.

Although the phenomenon of cycling is less understood, recent research has indicated that the process of breaking up and renewing often serves the function of creating change within the relationship (Dailey, 2020; Halpern-Meehin & Turney, 2021). Some partners in cyclical relationships appear to use the transition from "off" to "on" to intentionally create relational change and improve relational dynamics, yet even those using break-ups and renewals less intentionally have been found to experience changes, both good and bad (Dailey, 2020). Although the current study primary conceptualizes RC as a negative relational experience

indicative of instability, it is important to note that some researchers have highlighted the potential for RC to result in positive outcomes (Dailey et al., 2011).

Because IPV and cycling would be categorized as more extreme types of influence strategies, it is valuable to consider other influence strategies occurring with these behaviors, giving potential insight to strategies that potentially built up to and may predict these extremes. The other influence strategy this study aims to examine as a predictor of different types of violent and cyclical relationships include communication patterns. Communication patterns, particularly the pattern of pursue/withdraw has been studied and connected in relation to IPV (Keilholtz et al., 2023; Spencer et al., 2016) and some have identified the most extreme versions of pursuing and withdrawing may serve as forms of abuse and create harm to one's partner (O'Leary, 2004). As for cycling, some have conceptualized the process of breaking up and renewing as another extreme, or large-scale version of a pursue/withdraw pattern (Dailey et al., 2020). When in its most extreme forms, the pursue/withdraw dynamic potentially contributes relationship cycling and IPV, suggesting that the presence and severity of this dynamic may precede and vary among different types of violent and cycling relationships.

### ***Outcomes***

Lastly, the fourth construct entails the degree to which the targeted behavior or attitude is changed in response to the influence attempt, in addition to the direct or indirect individual and relational outcomes associated with shifting influence, perception, and power within the relationship (Simpson et al., 2019). The theory suggests that different influence tactics used will inform outcomes, suggesting that different types of violent and cyclical relationships may lead to differing individual and relational outcomes.

The literature on outcomes associated with IPV is dense and has identified a host of negative individual, relational, and family short- and long-term consequences. The current study aims to compare some of the more commonly identified outcomes of IPV, across types of violent and cyclical relationships, including mental health (Spencer et al., 2022), relationship satisfaction (Keilholtz et al., 2023), and identity loss (O'Doherty et al., 2016; Matheson et al., 2015). RC researchers have also identified poor mental health (Monk et al., 2018), lack of identity development (Washburn-Busk et al., 2020), and low relationship satisfaction (Vennum, 2011; Vennum & Johnson, 2014) as outcomes of relationship cycling. Because DPSIM's model suggests the type and severity of influence tactics informs the outcomes, our study is examining these common associates of IPV and RC (mental health, identity loss, relationship satisfaction), as outcomes to the model, assuming relationships with varying IPV and RC experiences will vary in their association to these outcomes.

Simpson and colleagues (2015) highlight how over time, each partner's personal and relational outcomes may loop back to influence some of their personal characteristics. Because of this, many predictors may serve as outcomes, and vice versa, especially for those in longer relationships or who experience higher levels of violence and/or cycling. Furthermore, some IPV related outcomes (e.g., poor mental health, relationship uncertainty), also serve as risk factors for IPV, enhancing one's risk of future and continued violence. In addition to the four constructs, DPSIM recognizes the potential impact of one's social and physical environment on their individual characteristics brought to the relationship, inherently impacting their power bases, influence strategies, and outcomes (Simpson et al., 2015), creating the need to account for factors related to one's social location when utilizing the model. The current study examines several demographic factors across profile membership.

## **Present study**

Although both violent and cyclical relationships have identified typologies (Ali et al., 2016; Dailey, 2013) and research indicates that IPV and RC have a high likelihood of co-occurring (Dailey, 2020; Dutton, 2008; Halpern-Meekin et al., 2013; Perez, 2015), no existing violence typologies accounts for cycling, and the one existing cycling typology does not adequately account for violence. It is understood that IPV and RC can both vary greatly in frequency, function, and impact on the relationship, and understanding different types of violent and cyclical relationships can provide insight on the different ways these phenomena interact and manifest in relationships. Accordingly, this exploratory study aimed to understand characteristics that define different typologies, or profiles, of violent cyclical relationships, and which predictor and outcome variables would differentiate these different profiles. Identifying different types of violent and cyclical relationships can increase our understanding of how these phenomena co-exist within relationships, allowing us to differentiate between uniform and distinguishing characteristics of these dynamics, enhancing prevention and treatment efforts. Research has highlighted the relevance of type of IPV to treatment needs and outcome (Karakurt et al., 2016), suggesting that if there are different typologies of violent and cyclical relationships, treatment needs would likely vary.

Based on DPSIM's core factors, predictors of violent and cyclical typologies in the present study included individual and relational characteristics related to self-esteem and a person's ties to their relationship in addition to powerlessness in the relationship and interpersonal dependency (which the theory identifies as an important determinate in how power and influence strategies are used). The communication pattern of pursue/withdrawal was examined a precursor influence strategy potentially associated with different typologies of

violent and cyclical relationships. Lastly, based on the extant violence IPV and RC literature, outcomes included mental health (depression and anxiety), identity loss, and relationship satisfaction. Understanding these factors and their relationship with different types of violent and cyclical relationships will give further insight to the similarities and differences across and between experiences of IPV and RC. Specifically, I sought to understand:

RQ1: What are the characteristics and prevalence of different types of violent and cyclical relationships?

RQ2: What predictors are differentially associated with the different types of violent and cyclical relationships?

RQ3: What are the outcomes of the different types of violent and cyclical relationships?

## Chapter 3 - Method

The present study used data from a larger study aimed at collecting information on IPV and a range of topics that may be informative to our understanding of the issue, such as pet abuse, affect regulation, and experiences within the COVID-19 pandemic. Cross-sectional data for the study was collected in two rounds (June 2022 and October 2022) through Prolific, an online survey platform. Survey respondents are randomly chosen based on certain demographic information previously provided to the platform, allowing for a nationally representative sample. Participants were included in the study if they were over 18, English speaking, and living in the United States. All participants were informed about the study, provided written consent prior to completing the survey, and were adequately compensated for completing the survey. The study was approved by Kansas State University's institutional review board.

### Participants

The total sample comprised 1259 participants. The current study used a subsample of 647 who reported one or more experiences of: IPV victimization, IPV perpetration, or relationship break-up and renewal in their current or most recent relationship. Participant's average age was 44.64 ( $SD = 15.02$ ) and their partner's average age was 43.56 ( $SD = 15.10$ ). Majority of participants were currently in a relationship 73% ( $n = 471$ ), while 27% ( $n = 174$ ) were single and less than 1% ( $n = 2$ ) widowed. Of those in relationships, 38.18% ( $n = 247$ ) of the sample reported being in married relationships, 28% ( $n = 182$ ) in committed monogamous relationship, 2% ( $n = 10$ ) in committed open relationships, and less than 1% ( $n = 4$ ) in committed polygamous relationships. Majority of participants identified as heterosexual 84% ( $n = 546$ ), and 9% ( $n = 61$ ) as bisexual, 3% ( $n = 22$ ) as gay or lesbian, 2% ( $n = 10$ ) pansexual, and less than one percent identifying other ( $n = 4$ ) or queer ( $n = 2$ ). In regard to gender identity, 53% ( $n = 340$ ) of

participants identified as female, 46% ( $n = 296$ ) as male, 1% as non-binary ( $n = 7$ ), and less than 1% as transgender ( $n = 3$ ). For racial and ethnic background, choosing all that applied, 75% ( $n = 488$ ) participants identified themselves as White, 15% ( $n = 99$ ) as Black or African American, 8% ( $n = 49$ ) as Hispanic or Latino, 6% ( $n = 40$ ) as Asian, 2% ( $n = 14$ ) as American Indian, and less than 1% ( $n = 6$ ) as other. Majority of participants were employed either full or part time ( $n = 437$ ). For household income, 3% ( $n = 20$ ) participants reported earning more than \$200,000, 18% ( $n = 115$ ) reporting \$100,000 - \$200,000, 34% ( $n = 219$ ) reporting \$50,000 - \$100,000, 29% ( $n = 188$ ) reporting \$25,000 - \$50,000, 15% ( $n = 100$ ) reporting less than \$25,000, and less than 1% ( $n = 5$ ) preferring not to say. Additionally, 37.4% ( $n = 242$ ) of relationships reported at least one break up and renewal within their current relationship. And 88.6% ( $n = 573$ ) of participants reported one or more act of violence perpetration or victimization in their relationship over the previous year, with 73.8% ( $n = 423$ ) of these violent relationships experiencing bi-directional violence. See table 1 for participant demographics.

Table 1 Sample Demographics

**Table 1**

*Sample Demographics*

	<i>N/M</i>	<i>%/SD</i>
Respondent's Age	44.46	15.02
Partner's Age	43.56	15.10
Race		
White	488	75
Black	99	15
American Indian	14	2
Asian	40	6
Hispanic	49	8



SW Asian	3	0
Other	6	1
Partner Race		
White	449	69
Black	99	15
American Indian	16	2
Asian	39	6
Pacific Islander	6	1
Hispanic	57	9
SW Asian	9	1
Other	8	1
Relationship Status		
Married	247	38
Committed monogamous	182	28
CNM	10	2
Committed poly	4	1
Single	174	27
Widowed	2	0
Sexual Orientation		
Heterosexual	546	84
Gay/Lesbian	22	3
Bisexual	61	9
Pansexual	10	2
Queer	2	0
Other	4	1
Gender Identity		
Male	297	46
Female	340	53
Non-Binary	7	1
Transgender	3	0
Employment		
Employed Full-time	326	50
Employed Part-time	111	17
Unemployed by choice	38	6

Unemployed not by choice	57	9
Retired	83	13
Full Time Student	23	4
Prefer not to say	9	1
Partner Employment		
Employed Full-time	398	62
Employed Part-time	76	12
Unemployed by choice	42	6
Unemployed not by choice	24	4
Retired	61	9
Full Time Student	23	4
Prefer not to say	10	2
Education		
Some High School	11	2
High School Diploma or GED	241	37
Trade School	34	5
Bachelor's Degree	259	40
Master's Degree or higher	102	16
Partner Education		
Some High School	23	4
High School Diploma or GED	271	42
Trade School	21	3
Bachelor's Degree	240	37
Master's Degree or higher	90	14
Household Income		
Less \$25,000	100	15
\$25,000 - \$50,000	188	29
\$50,000 - \$100,000	219	34
\$100,000 - \$200,000	115	18
More than \$200,000	20	3
Prefer not to say	5	1

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*Note.* N = 647.

## **Measures of Violent and Cyclical Typologies**

### ***IPV***

The Conflict Tactics Scale (CTS-2), developed by Stauss and colleagues (1996) is one of these most used measures in IPV research. It consists of 78 items, assessing perpetration and victimization across five subscales: physical IPV, sexual IPV, psychological IPV, injury, and negotiation. Participants scale, from 0 (*this has never happened*) to x (*more than 20 times in the past year*), how often certain of conflict tactics were used by and against one's partner (e.g., "kicked", "swore or cursed"). A total score for each subscale, in addition to an overall total score, were created for both perpetration and victimization. The internal consistency of the measure was acceptable ( $\alpha = .89$ ).

### ***Cyber Aggression***

Cyber Aggression in Relationships Scale (CARS), developed by Watkins and colleagues (2018), is a 34-item measure of technological IPV with a perpetration and victimization subscale. Participants rated how often within the last six months, on a scale from 0 (*this has never happened*) to 5 (*11-20 times in the last 6 months*), they or their partner participated in behaviors such as: "I used social media to put down or insult my partner" and "My partner send repeated online messages or text asking about my location or activities". Total scores were computed for perpetration and victimization, with higher scores indicating higher levels of cyber aggression. Internal consistency for the measure was .84 for victimization and .85 for perpetration.

### ***Relationship Cycling***

Dynamics related to relationship cycling were measured through multiple questions. Participants reported whether their current or previous relationship had experienced relationship

cycling (“yes” = 1 or “no” = 0), and if so, how many times the relationship has ended and renewed.

## **Predictor Measures**

### ***Self-esteem***

Rosenberg’s Self-Esteem Scale (RSES), developed by Rosenberg (1965), is a 10-item measure of self-esteem. Participants rated, from 0 (*strongly disagree*) to 4 (*strongly agree*), how much they agreed with statements assessing their perception of themselves like: “I feel like I have a number of good qualities” and “I feel that I am a person of worth”. The average of these items was computed with a higher score indicating higher self-esteem. The internal consistency of the measure was high ( $\alpha = .95$ ).

### ***Ties to the Relationship***

The Decision to Leave Scale (DLS), developed by Hendy and colleagues (2003) assesses victim’s ties to, or reasons for remaining in, their abusive relationship. The measure consists of 30-items and 7 subscales, including fear of loneliness (e.g., “I fear I would not find another partner”), financial problems (e.g., “I fear loss of income”), social embarrassment (e.g., “I fear what people would say”), poor social support (e.g., “I have little support from my family”), fear of harm (e.g., “I fear harm to myself”), and hope for things to change (e.g., “I believe they love me and want to change”). The seventh subscale, childcare needs, was not used in the current study due to majority of the sample not having children or having children that lived outside of the home. The scale asks participants to rate, from 0 (*not at all important*) to 5 (*very important*), how important different factors were when deciding to leave or stay in their current relationship. Sum variables were created for each subscale. Internal consistency was strong for all subscales, with the alphas ranging from .77 to .85.

### ***Dependency***

The Interpersonal Dependency Inventory – short form (IDI-SF), developed by McInktock and colleagues (2017), is a 6-item questionnaire designed to measure interpersonal dependency in adults. The measure contains 2 subscales: emotional dependency (e.g., “I would be completely lost if I didn’t have someone special”) and functional dependency (e.g., “I feel better when I know someone else is in command”). Participants reported, with scores ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), how much they agreed with each statement. Mean scores were computed for each subscale with higher scores indicating higher levels of interpersonal dependency. Internal consistency was acceptable for the emotional dependence ( $\alpha = .82$ ) and functional dependence ( $\alpha = .80$ ) subscales.

### ***Powerlessness***

A 15-item subscale, from a larger scale measuring trauma bonding (Palmer et al., in progress), was developed to measure a person’s perception of their power within their intimate relationship. Participants rated, on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*), how much they agreed with statements regarding their power, such as “my partner makes the decisions about what we do” and “when I set boundaries, they aren’t respected by my partner”. Exploratory factor analysis with oblique rotation revealed one factor that accounted for approximately 45% of the variance in the items (eigenvalue = 6.75). A variable was created using the average score from all questions with a higher score indicating lower levels of relational power. The internal consistency of the measure was high ( $\alpha = .91$ ).

### ***Communication patterns***

The Communication Patterns Questionnaire – short form (CPQ – SF), developed by Futris and colleagues (2010) is a 10-item scale measuring communication patterns within

intimate relationships consisting of a positive interaction and demand/withdraw subscale.

Participants rated, on a scale from 1 (*very unlikely*) to 9 (*very likely*), how likely it was for certain communication patterns to arise in the relationship, such as “Both my partner and I suggest possible solutions and compromises” and “My partner tries to start a discussion while I try to avoid a discussion”. Total scores were computed for the positive interaction subscale (range 3-27,  $\alpha = .69$ ) and the demand/withdraw subscale (range 5-45,  $\alpha = .84$ ), with higher scores indicating higher reporting of these dynamics.

## **Outcome Measures**

### ***Mental Health***

Two scales were used to measure anxiety and depression. For depression, the Patient Health Questionnaire (PHQ-9) was used (Kroenke et al., 2001). Participants rated how often in the last two weeks, from 1 (*not at all*) to 4 (*nearly every day*), they experienced different problems, such as “little interest or pleasure doing things” and “poor appetite or overeating”. A total score was computed with higher scores indicating higher levels of anxiety. The internal consistency of the measure was acceptable ( $\alpha = .90$ ). For anxiety, the Generalized Anxiety Disorder (GAD-7) was used (Löwe et al., 2008). Participants rated how often in the last two weeks, from 1 (*not at all*) to 4 (*nearly every day*), they experienced different problems, such as “worrying too much about different things” and “becoming easily annoyed or irritated”. A total score was computed with higher score indicating higher levels of anxiety. The internal consistency of the measure was acceptable ( $\alpha = .93$ ). Due to high multicollinearity ( $r = .81$ ) of the sample’s depression and anxiety scores, a mean variable was created averaging their depression and anxiety scores.

### ***Relationship Satisfaction***

The Relationship Assessment Scale (RAS), developed by Henrick (1988), is a 7-item measure of relationship satisfaction. Participants assessed several relationship areas (e.g., “how often does your partner meet your needs?” and “how much do you love your partner?”) on a 5-point scale, ranging from 1 (*never/not at all*) to 5 (*very often/very much*). A variable was created using the average score from all questions with a higher score indicating higher relationship satisfaction. The internal consistency of the measure was high ( $\alpha = .92$ ).

### ***Identity Loss***

A 17-item subscale from a larger scale aimed to measure trauma bonding (Palmer et al., in progress) was developed to measure one’s perception of identity loss within their intimate relationship. Participants rated, on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*), how much they agreed with statements such as “I often have to hide parts of myself from my partner” and “my relationship has totally changed who I am”. Exploratory factor analysis with oblique rotation revealed one factor that accounted for about 38% of the variance in the items (eigenvalue = 4.973). A variable was created using the average score from all questions with a higher score indicating higher levels of identity loss. The internal consistency of the measure was acceptable ( $\alpha = .84$ ).

### **Analysis Plan**

A latent profile analysis (LPA; Lanza et al., 2003) was conducted in *Mplus* (Muthén & Muthén, 1998/2023) using maximum likelihood estimation to determine the number of homogenous groups based on data from several variables assessing IPV (amount of physical, psychological, sexual, and cyber IPV victimization and perpetration) and relationship cycling (number of cycles). To account for more severe levels of IPV that research indicates are likely accurate reports of one’s experiences (Johnson, 2008), outliers were winsorized (their scores

were adjusted to one score above a z-score of 3) to keep extreme data points yet give them less weight within the analysis (Ghosh & Vogt, 2012). After winsoring the data, all data had acceptable skewness and kurtosis.

Once adequate variation in the sample on the LPA indicator variables was confirmed, the two profile model was compared to the one profile model, and each subsequent model was compared until a relatively best fitting model was determined based on theory, and whether the model converged and met the following standards: has a entropy higher than .80 (Clark & Muthén, 2009), smaller log-likelihood, lower adjusted Bayesian information criterion (aBIC), a significant Lo–Mendell–Rubin adjusted LRT (likelihood ratio test) compared with the previous model (Lo, Mendell, & Rubin, 2001), and significant bootstrapped LRT test (Arminger, Stein, & Wittenburg, 1999). Once profiles were established, predictors (ties to relationship, interpersonal dependency, self-esteem, and powerlessness) were added using an auxiliary command to implement the three-step approach outlined by Wickrama et al. (2022) which holds class membership constant. After predictors of class membership were assessed, outcomes (anxiety and depression, relationship satisfaction, and identity loss) were then assessed using the outcome-specific three-step auxiliary command (Wickrama et al., 2022).



## Chapter 4 - Results

In the review of fit indices, the two-profile model and five-profile model provided the best model fit (see Table 2). The five-class model was selected for further analysis due to good model fit and theoretically sound classes. Specifically, the two-profile model consisted of a low/no violence profile and a violent profile, but research indicates that multiple violent relationships exist that range in the amount and severity of IPV, as well as it's dynamic within the relationship (Ali et al., 2016; Johnson, 2008). The five-profile model still contained a low/no violence profile yet also provided multiple violent profiles that ranged in the form, severity, and direction of IPV.

Table 2 Model Fit Statistics for the Latent Profile Analysis

**Table 2**

*Model Fit Statistics for the Latent Profile Analysis*

Classes	Log						% of sample						
	Likelihood	AIC	BIC	Entropy	LMR	BLRT	1	2	3	4	5	6	7
1	-18767.28	37570.56	37651.06				100						
2	-17690.12	35436.24	35561.46	0.997	<.001	<.001	11	89					
3	-17060.09	34196.18	34366.13	0.997	.204	<.001	3	10	87				
4	-16590.45	33276.89	33491.57	0.997	.268	<.001	9	2	4	85			
5	-16322.51	32761.02	33020.43	0.978	.074	<.001	11	3	74	9	2		
6	-16090.33	32316.67	32620.79	0.978	.242	<.001	4	72	11	3	8	2	
7	-15931.64	32019.28	32368.12	0.977	.516	<.001	71	5	2	9	10	1	2

*Note.* AIC = Akaike Information Criteria. BIC = Bayesian Information Criteria. LMR =

BLRT = Bootstrap Likelihood Ratio Test.

Based on the indicator means in Table 3, these five classes were labeled based on their most predominant form of IPV and level of cycling: (a) high psychological IPV/ medium RC, (b) high IPV victimization/ high RC, (c) low IPV/ medium RC, (d) high sexual IPV/ low RC, and (e) high mutual IPV/ low RC. Although some classes were labeled just one type of violence, most profiles experienced medium to low levels of other forms of violence as well.

Table 3 Latent Profile Analysis Classes

**Table 3**

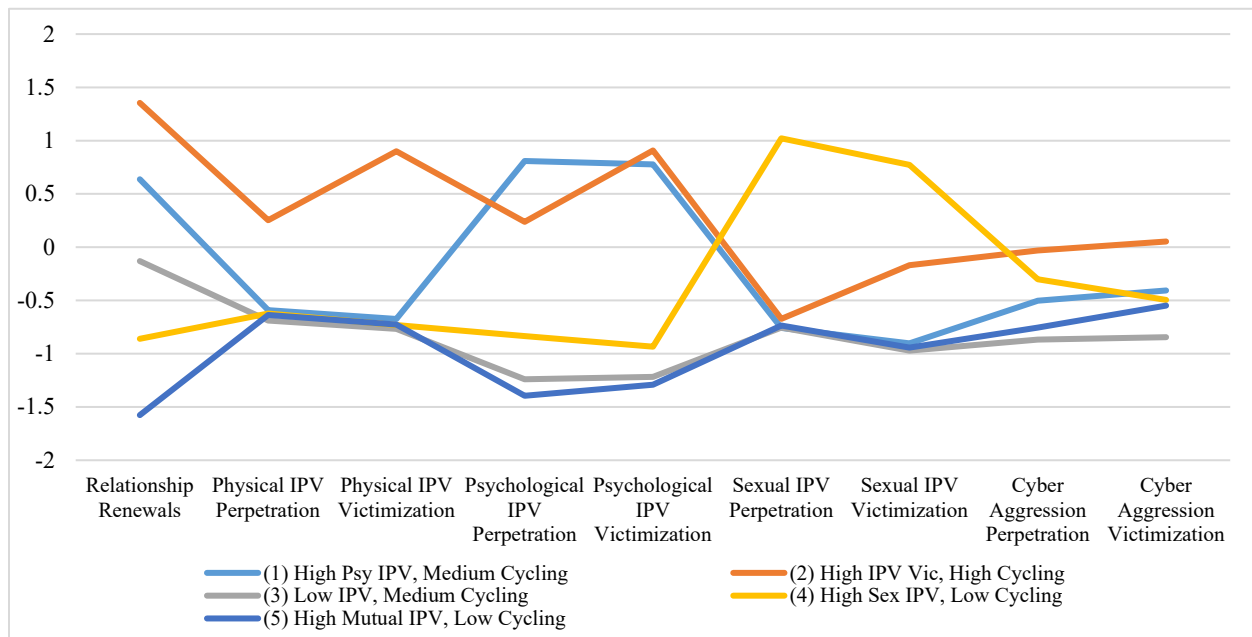
*Latent Profile Analysis Classes*

Class Variables	High Psy IPV/ Med RC <i>n</i> = 73		High IPV Vic/ High RC <i>n</i> = 21		Low IPV/ Med RC <i>n</i> = 480		High Sex IPV/ Low RC <i>n</i> = 59		High Mutual IPV/ Low RC <i>n</i> = 14	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Relationship Renewals	0.98	0.20	1.21	0.30	0.72	0.05	0.48	0.11	0.43	0.24
Physical IPV Perpetration	1.54	0.54	11.84	3.03	0.36	0.08	1.16	0.40	28.86	1.01
Physical IPV Victimization	2.38	0.60	35.44	2.06	0.41	0.07	1.18	0.49	43.25	1.26
Psychological IPV Perpetration	31.98	2.46	24.71	4.50	5.86	0.52	11.03	1.89	34.77	3.89
Psychological IPV Victimization	47.25	4.13	49.93	5.46	6.35	0.43	12.16	1.06	40.84	4.83
Sexual IPV Perpetration	0.46	0.28	1.62	0.57	0.50	0.08	24.62	0.44	26.57	0.76
Sexual IPV Victimization	1.63	0.65	10.07	2.51	0.84	0.14	20.92	1.27	26.64	1.17
Cyber Aggression Perpetration	3.00	1.16	4.89	1.34	1.53	0.21	3.81	0.68	11.85	1.99

Cyber Aggression	4.28	1.08	6.89	1.52	1.78	0.20	3.77	0.78	16.21	3.47
Victimization										

The mean scale scores were then standardized to visually compare them (see Figure 1).

Figure 1 Profile Analysis Classes Standardized Means



### Profile Demographics

Demographic information of the profiles are provided in Table 4. Percentages for demographic factors were calculated within profile membership to assist in examining the demographic make-up of each profile. All profiles had the majority white participants and partner's, those heterosexual relationships, and individuals who were employed full or part-time. Profiles appeared to vary in their gender makeup, with the high psychological IPV/ medium RC profile and the high IPV victimization/ high RC profile having more females than other gender identities and the sexual IPV/low RC profile having more males, while the profiles had similar

amounts of females and males within the profiles. In addition to gender, there also appeared to be variations in profile's make-up of relationship types and the length of the relationships, as well as household income level. Additionally, while some profiles remained close to the sample's mean age, the high mutual IPV/ low RC profile and the high IPV victimization/ high RC profile's mean ages were approximately 11 and 8 years below, respectively.

Table 4 Profile Demographics

**Table 4**

*Profile Demographics*

	High Psy IPV, Med RC <i>n</i> = 73		High IPV Vic, High RC <i>n</i> = 21		Low IPV, Med RC <i>n</i> = 480		High Sex IPV, Low RC <i>n</i> = 59		High Mut IPV, Low RC <i>n</i> = 14	
	<i>N/M</i>	<i>%/SD</i>	<i>N/M</i>	<i>%/SD</i>	<i>N/M</i>	<i>%/SD</i>	<i>N/M</i>	<i>%/SD</i>	<i>N/M</i>	<i>%/SD</i>
Respondent's Age	43.55	14.06	36.48	12.02	45.24	15.29	46.69	14.46	33.36	7.97
Partner's Age	44.88	14.28	37.33	12.46	43.83	15.59	44.00	13.19	34.63	8.67
Race										
White	59	81	13	62	365	76	40	68	11	79
Black	13	18	4	19	62	13	17	29	3	21
American Indian	3	4	2	10	7	1	2	3	0	0
Asian	1	1	2	10	34	7	3	5	0	0
Hispanic	7	10	2	10	37	8	2	3	1	7
SW Asian	0	0	0	0	2	0	1	2	0	0
Other	1	1	0	0	5	1	0	0	0	0
Partner Race										
White	48	66	11	52	342	71	37	63	11	79
Black	16	22	7	33	61	13	13	22	2	14
American Indian	2	3	0	0	12	3	13	22	0	0
Asian	3	4	1	5	31	6	4	7	0	0
Pacific Islander	0	0	0	0	6	1	0	0	0	0
Hispanic	9	12	3	14	41	9	3	5	1	7

SW Asian	0	0	0	0	9	2	0	0	0	0
Other	1	1	0	0	6	1	1	2	0	0
Relationship Status										
Married	30	41	3	14	202	42	35	59	4	29
Committed monogamous	22	30	10	48	131	27	15	25	4	29
CNM	4	5	0	0	5	1	0	0	1	7
Committed poly	0	0	0	0	3	1	1	2	0	0
Single	17	23	8	38	138	29	6	10	5	36
Widowed	0	0	0	0	1	0	1	2	0	0
Sexual Orientation										
Heterosexual	60	82	14	67	407	85	53	90	12	86
Gay/Lesbian	5	7	1	5	13	3	2	3	1	7
Bisexual	6	8	5	24	46	10	3	5	1	7
Pansexual	2	3	0	0	8	2	0	0	0	0
Queer	0	0	0	0	2	0	0	0	0	0
Other	0	0	1	5	3	1	0	0	0	0
Gender Identity										
Male	21	29	7	33	224	47	38	64	7	50
Female	50	68	14	67	249	52	20	34	7	50
Non-Binary	1	1	0	0	5	1	1	2	0	0
Transgender	1	1	0	0	2	0	0	0	0	0
Employment										
Employed Full-time	35	48	7	33	239	50	36	61	9	64
Employed Part-time	15	21	3	14	80	17	10	17	3	21
Unemployed by choice	3	4	1	5	32	7	2	3	0	0
Unemployed not by choice	12	16	7	33	36	8	2	3	0	0
Retired	7	10	2	10	67	14	7	12	0	0
Full Time Student	0	0	1	5	20	4	1	2	1	7
Prefer not to say	1	1	0	0	6	1	1	2	1	7

Partner Employment

Employed Full-time	48	66	11	52	295	61	43	73	11	79
Employed Part-time	10	14	3	14	60	13	12	20	1	7
Unemployed by choice	4	5	3	14	31	6	3	5	1	7
Unemployed not by choice	3	4	1	5	19	4	1	2	0	0
Retired	6	8	1	5	47	10	7	12	0	0
Full Time Student	2	3	2	10	17	4	2	3	0	0
Prefer not to say	0	0	0	0	8	2	1	2	1	7

Education

Some High School	0	0	3	14	5	1	2	3	1	7
High School Diploma or GED	36	49	10	48	175	36	19	32	1	7
Trade School	6	8	0	0	26	5	2	3	0	0
Bachelor's Degree	22	30	5	24	199	41	25	42	8	57
Master's Degree or higher	9	12	3	14	75	16	11	19	4	29

Partner Education

Some High School	3	4	3	14	16	3	0	0	1	7
High School Diploma or GED	34	47	10	48	204	43	17	29	3	21
Trade School	3	4	1	5	17	4	0	0	0	0
Bachelor's Degree	26	36	5	24	174	36	31	53	3	21
Master's Degree or higher	7	10	2	10	68	14	7	12	7	50

Household Income

Less \$25,000	10	14	9	43	74	15	7	12	3	21
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\$25,000 - \$50,000	22	30	6	29	143	30	14	24	5	36
\$50,000 - \$100,000	35	48	2	10	151	31	25	42	5	36
\$100,000 - \$200,000	5	7	4	19	89	19	12	20	0	0
More than \$200,000	0	0	0	0	19	4	1	2	0	0
Prefer not to say	1	1	0	0	4	1	0	0	0	0

### **Predictors**

To assess differences in the odds of class membership by predictors, the automatic three-step procedure of Mplus (R3STEP) was used to conduct a multinomial regression. Ties to the relationship (fear of loneliness, financial problems, social embarrassment, poor social support, fear of harm, and hope for things to change), interpersonal dependency (emotional and functional dependency), self-esteem, pursue/withdrawal patterns, and powerlessness were examined as predictors for the different classes. Table 5 presents the results of the multinomial regressions, with the low violence and medium cycling class as the reference group. Due to missing data, 53 participants were dropped from the analysis, leaving a total sample of 594.

Table 5 Multinomial Logistic Regression Examining Profile Predictors

**Table 5**

*Multinomial Logistic Regression Examining Class Predictors*

Measure	High IPV Vic/ High RC		Low IPV/ Medium RC		High Sex IPV/ Low RC		High Mutual IPV/ Low RC		
	<i>B</i>	OR [95% CI]	<i>B</i>	OR [95% CI]	<i>B</i>	OR [95% CI]	<i>B</i>	OR [95% CI]	
Self-esteem	-0.096	0.909 [0.192, 4.306]	0.098	1.103 [0.559, 2.177]	-0.668	0.513 [0.212, 1.243]	0.721	2.056 [0.658, 6.426]	
DLS Fear of Loneliness	0.069	1.072 [0.980, 1.171]	-0.005	0.995 [0.954, 1.038]	0.016	1.016 [0.957, 1.079]	0.005	1.005 [0.921, 1.096]	
DLS Financial Problems	<b>-0.148*</b>	0.862 [0.767, 0.969]	<b>-0.093*</b>	0.911 [0.845, 0.982]	-0.038	0.963 [0.877, 1.057]	-0.067	0.936 [0.838, 1.044]	
High Psy IPV/ Medium RC (ref)	DLS Social Embarrassment	0.075	1.078 [0.904, 1.287]	-0.015	0.986 [0.880, 1.103]	-0.099	0.906 [0.783, 1.049]	-0.063	0.939 [0.770, 1.145]
	DLS Poor Social Support	0.053	1.054 [0.876, 1.269]	0.095	1.100 [0.963, 1.256]	<b>0.159*</b>	1.172 [1.003, 1.371]	<b>0.344**</b>	1.411 [1.107, 1.799]
	DLS Fear of Harm	<b>0.204*</b>	1.226 [1.032, 1.456]	0.033	1.034 [0.919, 1.162]	0.033	1.033 [0.859, 1.243]	0.048	1.050 [0.874, 1.260]
	DLS Hope Things Change	0.027	1.028 [0.786, 1.344]	-0.029	0.972 [0.872, 1.083]	0.064	1.066 [0.925, 1.230]	<b>0.399*</b>	1.491 [1.026, 2.166]
	Powerlessness	<b>0.851*</b>	2.342 [1.014, 5.407]	<b>-0.785**</b>	0.457 [0.261, 0.798]	<b>-0.958**</b>	0.383 [0.201, 0.730]	-0.569	0.566 [0.170, 1.887]
	Emotional Dependence	0.621	1.861 [0.621, 5.576]	0.095	1.100 [0.574, 2.107]	0.038	1.039 [0.429, 2.519]	<b>1.053*</b>	2.866 [1.032, 7.954]
	Functional Dependence	-0.640	0.527 [0.126, 2.212]	-0.380	0.684 [0.406, 1.155]	0.207	1.230 [0.640, 2.364]	<b>-0.988*</b>	0.372 [0.164, 0.843]
	Pursue/Withdraw	<b>-0.111**</b>	0.895 [0.830, 0.965]	-0.081	0.922 [0.878, 0.968]	<b>-0.084*</b>	0.920 [0.861, 0.983]	0.005	1.005 [0.910, 1.109]
	Self-esteem			0.194	1.214 [0.274, 5.373]	-0.572	0.564 [0.112, 2.831]	0.816	2.262 [0.400, 12.798]
	DLS Fear of Loneliness			-0.074^	0.928 [0.851, 1.013]	-0.053	0.948 [0.861, 1.044]	-0.064	0.938 [0.848, 1.037]
	DLS Financial Problems			0.055	1.056 [0.947, 1.178]	0.11^	1.117 [0.988, 1.262]	0.082	1.085 [0.948, 1.242]
	DLS Social Embarrassment			-0.090	0.914 [0.785, 1.065]	-0.174^	0.840 [0.703, 1.004]	-0.138	0.871 [0.704, 1.078]
	DLS Poor Social Support			0.043	1.043 [0.889, 1.225]	0.106	1.112 [0.927, 1.334]	<b>0.292*</b>	1.339 [1.032, 1.736]
	DLS Fear of Harm			<b>-0.171*</b>	0.843 [0.727, 0.978]	-0.171	0.843 [0.090, 0.684]	-0.155	0.856 [0.700, 1.047]
	DLS Hope Things Change			-0.056	0.945 [0.735, 1.216]	0.037	1.038 [0.794, 1.356]	0.372^	1.450 [0.950, 2.214]
High IPV Vic/ High RC (ref)	Powerlessness			<b>-1.635***</b>	0.195 [0.094, 0.406]	<b>-1.810***</b>	0.164 [0.073, 0.365]	<b>-1.420*</b>	0.242 [0.073, 0.805]
	Emotional Dependence			-0.526	0.591 [0.222, 1.576]	-0.583	0.558 [0.168, 1.857]	0.431	1.539 [0.485, 4.882]
	Functional Dependence			0.261	1.298 [0.323, 5.211]	0.848	2.334 [0.544, 10.022]	-0.348	0.706 [0.169, 2.955]
	Pursue/Withdraw			0.03	1.030 [0.967, 1.098]	0.027	1.028 [0.949, 1.113]	<b>0.115*</b>	1.122 [1.010, 1.247]
	Self-esteem					<b>-0.766*</b>	0.465 [0.242, 0.893]	0.623	1.864 [0.677, 5.123]



	DLS Fear of Loneliness	0.021	1.022 [0.972, 1.137]	0.01	1.010 [0.927, 1.100]
	DLS Financial Problems	0.056	1.057 [0.983, 1.137]	0.027	1.027 [0.931, 1.133]
	DLS Social Embarrassment	-0.084	0.919 [0.827, 1.022]	-0.048	0.953 [0.082, 0.854]
Low IPV/ Medium	DLS Poor Social Support	0.064	1.066 [0.956, 1.188]	<b>0.249*</b>	1.283 [1.035, 1.590]
RC	DLS Fear of Harm	0.00	1.000 [0.858, 1.165]	0.015	1.016 [0.854, 1.207]
(ref)	DLS Hope Things Change	0.093^	1.098 [0.986, 1.221]	<b>0.428*</b>	1.534 [1.069, 2.201]
	Powerlessness	-0.175	0.839 [0.559, 1.260]	0.215	1.239 [0.420, 3.654]
	Emotional Dependence	-0.057	0.945 [0.479, 1.864]	<b>0.957*</b>	2.605 [1.078, 6.239]
	Functional Dependence	<b>0.587*</b>	1.799 [1.108, 2.919]	-0.608^	0.544 [0.264, 1.120]
	Pursue/Withdraw	-0.003	0.465 [0.242, 0.893]	0.086^	1.089 [0.992, 1.196]
	Self-esteem			<b>1.388*</b>	4.008 [1.289, 12.460]
	DLS Fear of Loneliness			-0.011	0.989 [0.900, 1.087]
	DLS Financial Problems			-0.029	0.972 [0.867, 1.089]
	DLS Social Embarrassment			0.036	1.036 [0.856, 1.255]
High Sex IPV/ Low	DLS Poor Social Support			0.185	1.204 [0.961, 1.508]
RC	DLS Fear of Harm			0.016	1.016 [0.806, 1.281]
(ref)	DLS Hope Things Change			0.335^	1.398 [0.964, 2.026]
	Powerlessness			0.39	1.477 [0.488, 4.469]
	Emotional Dependence			1.014^	2.757 [0.953, 7.979]
	Functional Dependence			<b>-1.195*</b>	0.303 [0.134, 0.682]
	Pursue/Withdraw			0.088	1.092 [0.983, 1.213]

Note. ^p < .10, \* p < .05, \*\* p < .01, \*\*\* p < .001

### ***Self Esteem***

Individuals with higher self-esteem were significantly more likely to be in the low IPV/ medium RC profile ( $OR = 2.151$ , 95% CI = [1.120, 4.129]) or the high mutual IPV/ low RC profile ( $OR = 4.008$ , 95% CI = [1.289, 12.460]) compared to the high sexual IPV/ low RC profile.

### **Ties to One's Relationships**

#### ***Financial Problems***

Those with higher levels of financial problems as a tie to their relationship were significantly more likely to be in the high psychological IPV/ medium RC profile than the high IPV victimization/ high RC profile ( $OR = 1.160$ , 95% CI = [1.032, 1.303]) or the low IPV/ medium RC profile ( $OR = 1.098$ , 95% CI = [1.018, 1.184]).

#### ***Poor Social Support***

Those with higher levels of poor social support as a tie to their relationship were significantly more likely to be in the high mutual IPV/ low RC profile than the high psychological IPV/ medium RC profile ( $OR = 1.411$ , 95% CI = [1.107, 1.799]), the high IPV victimization/ high RC profile ( $OR = 1.399$ , 95% CI = [1.032, 1.736]), the low IPV/ medium RC profile ( $OR = 1.283$ , 95% CI = [1.035, 1.590]), and the high sexual IPV/ low RC profile ( $OR = 1.204$ , 95% CI = [0.961, 1.505]). Additionally, those with higher levels of poor social support as a tie to their relationship were significantly more likely to be in the high sexual IPV/ low RC than the high psychological IPV/ medium RC ( $OR = 1.066$ , 95% CI = [0.956, 1.188])

#### ***Fear of Harm***

Those with higher levels of fear of harm as a tie to their relationship were significantly more likely to be in the high IPV victimization/ high RC than the high psychological IPV/

medium RC profile ( $OR = 1.226$ , 95% CI = [1.032, 1.456]) and the low IPV/ medium RC profile ( $OR = 1.186$ , 95% CI = [1.023, 1.375]).

### ***Hope Things Change***

Those with higher levels of hope that things change within their relationship were significantly more likely to be in the high mutual IPV/ low RC profile than the high psychological IPV/ medium RC ( $OR = 1.411$ , 95% CI = [1.107, 1.799]) and the low IPV/ medium RC profile ( $OR = 1.534$ , 95% CI = [1.069, 2.201]).

### ***Fear of Loneliness and Social Embarrassment***

Fear of loneliness and social embarrassment were not significant predictors for class membership across any class comparisons.

### ***Powerlessness***

Those with higher levels of powerlessness were significantly more likely to be in the high IPV victimization/ high RC profile than the high psychological IPV/ medium RC profile ( $OR = 2.342$ , 95% CI = [1.014, 5.576]), the low IPV/ medium RC profile ( $OR = 5.126$ , 95% CI = [2.464, 10.672]), high sexual IPV/ low RC profile ( $OR = 6.109$ , 95% CI = [2.736, 13.639]), and high mutual IPV/ low RC profile ( $OR = 1.477$ , 95% CI = [0.488, 4.469]). Additionally, those with higher levels of powerlessness were significantly more likely to be in the high psychological IPV/ medium RC profile than the low IPV/ medium RC group ( $OR = 2.190$ , 95% CI = [1.253, 3.826]) and the high sexual IPV/ low RC profile ( $OR = 2.609$ , 95% CI = [1.370, 4.969]).

### ***Dependency***

Those with higher levels of emotional dependency were significantly more likely to be in the high mutual IPV/ low RC profile than the high psychological IPV/ medium RC profile ( $OR =$

2.866, 95% CI = [1.032, 7.954]) and the low IPV/ medium RC profile ( $OR = 2.605$ , 95% CI = [1.078, 6.239]). Yet, those with higher functional dependence were significantly more likely to be in the high sexual IPV/ low RC profile ( $OR = 3.304$ , 95% CI = [1.466, 7.446]) and high psychological IPV/ medium RC profile ( $OR = 2.686$ , 95% CI = [1.186, 6.085]) compared to the high mutual IPV/ low RC profile. Additionally, individuals with higher functional dependence were significantly more likely to be in the high sexual IPV/ low RC profile ( $OR = 1.799$ , 95% CI = [1.108, 2.191]) than the low IPV/ medium RC profile.

### ***Pursue/Withdrawal Patterns***

Those who reported higher levels of pursue/withdrawal patterns were significantly more likely to be in the high psychological IPV/ medium RC profile ( $OR = 1.117$ , 95% CI = [1.036, 1.205];  $OR = 1.087$ , 95% CI = [1.017, 1.162]) and the high mutual IPV/ low RC profile ( $OR = 1.122$ , 95% CI = [1.010, 1.247];  $OR = 1.092$ , 95% CI = [0.983, 1.213]) compared to those in the high IPV victimization/ high RC profile and the high sexual IPV/ low RC profile, respectively.

### **Outcomes**

Like the procedure for predictors, the automatic three-step procedure of *Mplus* was used to examine distal outcomes of the classes. Our findings indicate that profile membership significantly related to depression and anxiety, identity loss, and relationship satisfaction as outcomes.

### ***Mental Health***

Table 6 provides means for the depression and anxiety distal outcome across the profiles as well as chi-square tests of pairwise comparisons across between profiles. Nearly all profiles significantly differed from the other profiles in their level of depression and anxiety. The only exception was that no significant difference was found between the high IPV victimization/ high

RC profile and the high mutual IPV/ low RC profile in their level of depression and anxiety, yet these two profiles had the highest depression and anxiety score, respectively.

Table 6 Chi-Square Test Comparing Depression and Anxiety Score Across Profiles

**Table 6**

*Chi-Square Test Comparing Depression and Anxiety Scores Across Profiles*

	<i>M (SD)</i>	1	2	3	4
1) High Psy IPV/ Med RC	7.72 (.70)				
2) High IPV Vic/ High RC	11.45 (1.37)	5.795*			
3) Low IPV/ Med RC	5.82 (.25)	8.945**	28.574***		
4) High Sex IPV/ Low RC	3.59 (.54)	21.680***	16.358***	14.252***	
5) High Mutual IPV/ Low RC	11.04 (1.01)	7.317*	0.054	25.459***	21.680***

*Note.* ^ p < .10, \* p < .05, \*\* p < .01, \*\*\* p < .001

### ***Identity Loss***

Table 7 provides means for the identity loss distal outcome across the profiles as well as chi-square tests of pairwise comparisons across between profiles. The majority of profiles significantly differed from the other profiles in their level of identity loss, and all profiles were significantly different than at least three other profiles. There was no significant difference between the two profiles with the highest levels of identity loss (the high IPV victimization/ high RC profile and the high mutual IPV/ low RC profile), as well as no difference between the profiles with the lowest levels of identity loss (the low IPV/ medium RC profile and the high sexual IPV/ low RC profile). Additionally, there was no significant difference between the high IPV victimization/ high RC profile and the high psychological IPV/ medium RC profile, though it was approaching significance.

Table 7 Chi-Square Test Comparing Identity Loss Score Across Profiles

**Table 7**

*Chi-Square Test Comparing Identity Loss Scores Across Profiles*

	<i>M (SD)</i>	1	2	3	4
1) High Psy IPV/ Med RC	2.43 (.10)				
2) High IPV Vic/ High RC	2.79 (.18)	3.007 <sup>^</sup>			
3) Low IPV/ Med RC	2.12 (.03)	<b>8.945**</b>	<b>13.515***</b>		
4) High Sex IPV/ Low RC	2.15 (.08)	<b>5.226*</b>	<b>10.839**</b>	0.095	
5) High Mutual IPV/ Low RC	2.95 (.08)	<b>16.084***</b>	0.654	<b>88.022***</b>	<b>49.956***</b>

*Note.* <sup>^</sup>  $p < .10$ , \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

### ***Relationship Satisfaction***

Table 8 provides means for the relationship satisfaction distal outcome across the profiles as well as chi-square tests of pairwise comparisons across between profiles. The majority of profiles significantly differed from the other profiles in their level of relationship satisfaction and all profiles were significantly different than at least one other profile. There was no significant difference between the two profiles with the lowest levels of relationship satisfaction (the high IPV victimization/ high RC profile and the high psychological IPV/ medium RC profile). Additionally, the high mutual IPV/ low RC profile was not significantly different from the low IPV/ medium RC profile, the high IPV victimization/ high RC, or the high psychological IPV/ medium RC profile (though this difference was approaching significance). The high sexual IPV/ low RC profile had the highest level of relationship satisfaction and was the only profile to significantly differ from all profiles in level of relationship satisfaction.

Table 8 Chi-Square Test Comparing Relationship Satisfaction Scores Across Profiles

**Table 8**

*Chi-Square Test Comparing Relationship Satisfaction Scores Across Profiles*

	<i>M (SD)</i>	1	2	3	4
1) High Psy IPV/ Med RC	3.09 (.13)				
2) High IPV Vic/ High RC	3.07 (.18)	0.003			
3) Low IPV/ Med RC	3.70 (.05)	<b>19.29***</b>	<b>10.77***</b>		
4) High Sex IPV/ Low RC	4.09 (.09)	<b>42.18***</b>	<b>24.81***</b>	<b>16.021**</b>	
5) High Mutual IPV/ Low RC	3.53 (.21)	3.28 <sup>^</sup>	2.69	0.596	<b>6.00*</b>

*Note.* <sup>^</sup> p < .10, \* p < .05, \*\* p < .01, \*\*\* p < .001

## Chapter 5 - Discussion

Though research has confirmed the association between IPV and RC (Dailey, 2020; Perez, 2015), limited studies have examined the different ways these dynamics interact within relationships. This study aimed to understand whether different types of violent and cyclical relationships exist, and if so, what predictors and outcomes are associated with the varying types. Within our sample, five distinct types of violent and cyclical relationships were identified that significantly varied in their levels of RC and across the different forms of IPV. These five types of violent and cyclical relationships consisted of a high mutual psychological IPV/medium RC profile, a high IPV victimization /high RC profile, a low IPV/ medium RC profile, a high mutual sexual IPV/low RC profile, and a high mutual IPV/low RC profile. Additionally, we found class-specific predictors and differing outcomes across these five types of violent and cyclical relationships. Awareness of these different types and their relevant predictors and outcomes may aid in violence prevention and treatment efforts. Clinical and research implications are discussed below.

These results provide evidence for the DPSM model, which conceptualizes IPV and RC as influence tactics, and claims the use of these influence tactics are informed by individual and relational predictors, and the form and severity of influence tactics used will create unique outcomes (Simpson et al., 2015). Across the different profiles, rates of RC and the different forms of IPV varied greatly. The largest profile was the low IPV/medium RC profile, followed by the high psychological IPV/ medium RC profile, the high sexual IPV/ low RC profile, the high IPV victimization/ high RC profile, and the high mutual IPV and low RC profile, respectively. Most profiles consist of bidirectional IPV, where individuals reported both perpetrating and being a victim of IPV within their relationship. Additionally, profiles with



higher levels of IPV appeared to experience multiple forms of it. Two profiles experienced high levels of all forms, but were differentiated by mutual IPV versus primarily victimization, and two profile experienced higher levels of one form of IPV and medium to low levels of the other forms of IPV. This finding suggests that when one form of IPV is used as an influence tactic, there is a potential other forms of IPV may be used as well.

RC did not appear to trend with any specific forms or amounts of violence. In fact, the two groups that had the highest levels of all forms of IPV, reported the highest and lowest rates of cycling, highlighting the nuance in the relationship between IPV and RC. It was unsurprising that the profile with the highest level of RC mirrored dynamics of intimate partner terrorism. As noted earlier, existing IPV research exploring RC has primarily focused on violence of this nature and has identified a cyclical dynamic and multi-attempt leaving process for victims who are experiencing more severe and controlling forms of IPV (Johnson, 2010). Yet this study highlights that although rates of RC may be higher in these situations of IPV, it is present in varying rates across different types of violent relationships as well.

According to the DPSM, one's use, as well as their partner use, of these different influence tactics are informed by individual and relational characteristics, as well as one's power within their relationship, suggesting these factors should vary across these different violent and cyclical relationship profiles. All profiles had at least one significant predictor, many of which were unique predictors to that one profile, further supporting these profiles as distinct types. Although some were predictors were significant for profiles across all class comparisons (e.g., powerlessness as a predictor for the high IPV victimization/high RC profile), heavily supporting that as a unique characteristic of that profile, most of predictors were not significant across all profile comparisons. This suggests certain factors or experiences may overlap between some IPV

and RC profiles yet distinguish some from others. Because different forms of IPV have been found to have different predictors (Holmes et al., 2019), and our profiles overlapped in the forms of IPV used yet varied in their severity, the relevance or strength of predictors may vary as well. Looking at predictors and outcomes that varied between profiles, as well as the patterns that emerged across predictors and outcomes with varying levels of IPV and RC, will best serve us in understanding the interaction between violence and cycling and provide next steps for this area of research.

### **Predictors of IPV and RC Profiles**

The high psychological IPV/ medium RC profile was second largest profile, followed by the low IPV profile, aligning with research that has highlighted psychological IPV to be the most common form of IPV, along with the idea that it is commonly experienced bi-directionally (Basil et al., 2011). This profile's significant predictors were financial problems as a tie to the relationship, along with higher levels of functional dependency and powerlessness, and pursue/withdraw patterns within their relationship. Financial problems, dependency, and pursue/withdraw patterns have been previously linked with psychological IPV (Foran et al., 2012; Keilholtz et al., 2023; O'Leary, 2004) and RC (Dailey, 2020), supporting these as predictors for the profile consisting of predominately psychological IPV and the second highest rate of RC. The predictor of powerlessness was slightly surprising due to the mutual dynamic of the violence but contextualizing the comparison group may give more insight. Powerlessness was only a predictor for this profile when compared to the low IPV and medium RC group and high sexual IPV and low RC profiles, which had much lower rates of psychological IPV. Additionally, our study did not examine the context or motive of IPV, so IPV may have been

perpetrated in an act of self-defense or retaliation in response to partner's prior abuse (Langhinrichsen-Rohling et al., 2012).

The high IPV victimization and high cycling profile's significant predictors were fear as a tie to the relationship and higher levels of powerlessness. As noted earlier, these predictors and outcomes, along with the violence characteristics – high levels of all forms of victimization, far lower rates of perpetration, and high cycling – align with aspects of intimate terrorism.

Additionally, the low sample size mirrors the lower rate of this dynamic compared to situational couple's violence, highlighted at the most common type of IPV in Johnson's (2008) framework.

This was the only profile that demonstrated primarily victimization. Although this profile also perpetrated IPV, if it is a case of intimate partner terrorism, this violence would likely be a form of "violent resistance", a form of self-defense (Johnson, 2008). Due this profiles alignment with intimate partner terrorism, it would be expected that this profile would differ in more distinct ways due to previous research findings that individuals who are primarily victims are typically distinctly different from perpetrators and perpetrator-victims, far more so than these two groups differ from one another (Tillyer & Wright, 2014). Another interesting aspect of this profile is that a third of it consisted of men. Although men have been found to be victims of intimate terrorism (Hines & Douglas, 2018), some speculate it's rare for them and that their intra- and interpersonal experiences within an intimate terrorism dynamic would differ from women's (Johnson, 2008), yet our findings support that men can also experience dynamics that mirror intimate terrorism.

The high sexual IPV and low RC profile's significant predictors were low levels of self-esteem, poor social support as a tie to the relationship, and higher levels of functional dependency. There is very limited information on this profile's dynamic of high mutual sexual

violence. One potential explanation for this profile's high mutual sexual IPV is lack of awareness of what constitutes as sexual IPV. This profile had the oldest average age and consisted of mostly men, both of which are linked with rape myth acceptance (Walfield, 2021) and traditional sexual scripts (Wiederman, 2008). Traditional sexual scripts and rape myth acceptance may lead to sexually coercive and aggressive behaviors being rationalized as normal or acceptable (Bohner et al., 2009; Wiederman, 2008). Yet even those who may be aware of the violent or problematic nature of their sexual dynamics, the combination of low self-esteem, poor social support, and high dependency may lead to individuals staying in their relationship despite the IPV occurring (Heron et al., 2022), also providing potential explanation for the low levels of cycling of this profile.

The high mutual IPV and low RC profile consisted of the least amount of people. Its significant predictors were poor social support and hope things change as ties to their relationship, higher emotional dependency, and higher levels of pursue withdraw patterns. The high levels of mutual IPV across all forms of violence and signs of dependency reflect dynamics of mutual violent control, a type of violence under Johnson's violence typology that is understudied due to its very low prevalence (Johnson, 2008). If this profile does include cases of mutual violent control, IPV perpetration would be done with the intention of establishing control over one's partner, and both partners are participating in these control attempts (Johnson, 2008). Individuals within this dynamic still feel they have the power to create influence despite high levels of victimization, which may explain why feelings of powerlessness was not a significant predictor for this profile. Additionally, the capability and willingness to use violent influence tactics may give individuals hope that they can change their partner and relationship, further tying them to the relationship and creating low levels of RC.

The low IPV and medium RC profile was the largest profile. Although this profile significantly differed in some predictors compared to other profiles, when interpreting the results, this profile often made most sense as the comparison group, assisting in highlighting significant predictors for other profiles. As noted earlier, significantly less is understood about what predicts cyclers from non-cyclers, so within a profile defined more so by its level of RC instead of IPV, it is unsurprising that limited predictors stood out (Dailey et al., 2020). Additionally, some have speculated aggression primarily occurs in one type of RC (Dailey et al., 2013), creating the potential that different types of cyclers were within this profile, further limiting our ability to pinpoint specific characteristics.

### **Patterns Across Predictors**

Some patterns emerged from our predictors, particularly for predictors that were relevant for multiple profiles. Power, a main predictor in the DPSM and a key conceptual tie between IPV and RC, was found to be a significant predictor for two of the profiles. Specifically, high levels of powerlessness predicted membership in the high IPV victimization and high RC profile and the high psychological IPV and medium RC profile. One potential explanation for this was that both significant groups consisted primarily of women, who are more likely to experience relational powerlessness (O’Conner, 1991). Additionally, research suggests men and women may differ in what predicts experiences of victimization, perpetration, and mutual violence (Caetano et al., 2008), further impacting our ability to identify relevant predictors for our profiles that consist of multiple gender identities.

Within the DPSM framework, most profiles had at least one predictor that would indicate potential lack of power or potential willingness to engage in more extreme influence tactics, yet almost all profiles engaged in some level of perpetration. Most profiles included varying levels

of bi-directional psychological IPV, which aligns with research that has highlighted this as the most common form of IPV (Basil et al., 2011) and identified the tendency for individuals to both perpetrate and be victims of this type of violence within their relationship (Panuzio & DiLillo, 2010). One limitation is that we don't know the context or motivation for the IPV perpetration, so some IPV perpetration accounted for is likely in self-defense (Langhinrichsen-Rohling et al., 2012). Regardless, the use of IPV in effort to defend oneself would still be considered an influence attempt (e.g., to stop the violence) within DPSIM framework.

Another predictor that was significant for multiple profiles was higher levels of pursue/withdraw patterns, which are conceptualized as another type of influence tactic and may be a precursor to relationship violence and cycling. This was a significant predictor for the two profiles with the highest levels of mutual psychological violence, further supporting its link with pursue/withdraw patterns (Keilholtz et al., 2023). This pattern has also been found to be associated with physical IPV, particularly when men are the pursuer (Spencer et al., 2016), calling attention to the importance of examining who is in the pursue or withdraw role when examining IPV perpetration versus victimization. Although pursue and withdrawal patterns have also been linked to RC (Dailey et al., 2011), its presence did not appear to trend with levels of cycling in any notable ways in this study.

Alternatively, high level of dependency and poor social support as a tie to one's relationship were only found to be a significant predictors for both groups with low RC. If an individual is highly dependent on others, yet has limited social support, they may feel particularly tied to their partner, limiting cycling. Although RC is commonly construed as negative and an indicator of relational instability, it's presence may at least represent a degree of personal stability, seen in one's capability and willingness to end their relationship if desired.

## **Outcomes**

According to DPSIM, varying types and levels of influence tactics will lead to different individual and relational outcomes (Simpson et al., 2015). Levels of depression and anxiety, identity loss, and relationship satisfaction were compared as outcomes across the different IPV and RC profiles. All profiles were significantly different in all outcomes across as least one class comparison, and most differed from multiple profiles. These three outcomes have been all found to be associated with IPV and RC when comparing between violent and non-violent relationships or cyclical versus non-cyclical relationships, yet our study highlights that different interactions between RC and IPV create different levels of these outcomes.

Because these outcomes have already been tied to IPV and RC, it was unsurprising that the profile with the highest levels of RC and IPV victimization had the highest average depression and anxiety score, lowest relationship satisfaction, and second highest level of identity loss, all of which have been identified as main outcomes of intimate partner terrorism (Johnson, 2008). Overall, it appears the profiles that experienced higher levels of IPV, particularly psychological IPV, had higher level of depression and anxiety, higher levels of identity loss, and lower relationship satisfaction compared to the less violent profiles, mirroring existing IPV research (Keilholtz et al., 2022; O'Doherty et al., 2016; Spencer et al., 2022).

## **Clinical Implications**

IPV and RC, along with their associated outcomes, may serve as reasons individuals or couples seek clinical services, highlighting the value of clinicians understanding these profiles and their markers. The varying interaction between RC and IPV create a need for dual assessment- when individuals report one of these dynamics within their relationship, assessing for the other as well may help clinicians identify factors influencing the specific interplay

between IPV and RC. Further, research has indicated that different types of violent relationships vary in appropriate and effective treatment approach (Karakurt et al., 2016), suggesting these different clinical approaches may be necessary for different types of violent and cyclical relationships.

Although individuals within our study typically used one dominant form of violence, when one form was present, other forms of IPV typically were present as well. This aligns with research that has identified associations between different forms of IPV, as well as an association between perpetrating and being victim to these different forms of violence (Palmer et al., in process). This suggests that if one form of violence, or violence in one direction, is reported, there is a need to assess for all forms of IPV in both directions (perpetration and victimization). In this assessment, clinicians also need to consider context and motivation of violence, which inform treatment as well, particularly with couples. Couple's treatment for IPV has only been found to be successful in addressing situational couple's violence and is not recommended for those experiencing intimate partner terrorism (Karakurt et al., 2016; Stith et al., 2011). This suggests those in the high IPV victimization and high RC profile may not be a fit for couples work due its link with fear of harm, powerlessness, and high levels of all forms of victimization – and may benefit more from individual work with both the victim and perpetrator.

Across the different profiles, psychological IPV was the most prevalent. Research has indicated that nearly 50% of individuals have experienced psychological IPV in their lifetime (Basil et al., 2011). Its high prevalence rate and the way it trended with all negative outcomes in the study, highlight a need for clinicians to be aware of the dynamics that encompass psychological IPV and the potential treatment considerations. See Dokkedahl and colleagues systemic review of measures for psychological IPV for guidance in assessing psychological IPV



(2019). Yet despite its high prevalence, there are limited treatment approaches targeting psychological IPV within couples' treatment. Most IPV treatment approaches appear to focus on general IPV, if not placing emphasis on physical IPV, though evidence suggests these approaches may be successful in lessening psychological IPV as well (Stith et al., 2011).

As noted earlier, differentiating these types of violent and cyclical relationships may be beneficial for treatment. Many predictors and outcomes were not consistently significant across all profile comparisons, suggesting that although there are differences, experiences within these profiles may overlap with one another as well. This may make assessment more difficult and reinforces the importance of thorough assessment. Clinicians' awareness of the IPV and RC profiles, along with these similar and unique predictors and outcomes may aid in this assessment and guide treatment.

### **Research Implications, Limitations, and Future Steps**

The current study is unique in accounting for varying levels of RC and different forms of IPV within its typology. Additionally, it has examined these dynamics in the context of older, primarily married couples, which is less common in RC research. This study found that there are distinct types of violent and cyclical relationships that have unique outcomes and predictors. These profiles had varying levels of IPV and RC, suggesting more nuance in this association than a simple positive relationship between the two dynamics. More research is needed to understand how IPV, and RC interact over time in relationships, particularly across different demographics, to see if these profiles emerge with different samples.

Much of existing IPV research examines violent versus nonviolent individuals/couples, and occasionally examines differences in outcomes related to the form of violence used, examining physically IPV compared to psychological and/or sexual IPV. Yet our

profiles often reflected experiences of multiple forms of violence, just at different rates. One limitation within our study was lack of information on context of this violence and future research may benefit from exploring the influence of the context/motivation for IPV in experiences of violent and cyclical relationships. Similarly, we were not able to explore the context for RC. Although RC was conceptualized as a negative influence strategy associated with instability, RC has been found at times to have positive and meaningful influence (Dailey, 2020), and as noted earlier, may indicate the power to end one's relationship if desired. More research is needed to understand RC as an influence tactic.

Of the 9 variables used within the LPA, 8 were different forms of IPV perpetration and victimization. Because not all individuals experienced RC, we were unable to include factors that just cyclers answered (e.g., "who primarily ends the relationship?", "who primary initials renewal after breaking up?") within our main analysis. We only used number of cycles, while factors like timeline of the cycle, roles within the cycle, and reason for cycling, have been found to influence RC experiences (Dailey, 2020). This emphasis on IPV factors may have influenced our profiles, along with predictors and outcomes, to focus more on IPV than RC. Future research examining different types of violent and cyclical relationships may benefit from including more RC variables, particularly those assist in differentiating Dailey's (2013) cyclical relationship typologies.

Profiles were established based on the type and severity of the IPV and RC, and these varying rates of RC were found to have different predictors and outcomes emerged supporting the idea that unique types or experiences exist across violent and cyclical relationships. Yet one limitation within our study was the use of cross-sectional data. So, although the DPSIM allows

us to speculate whether the different factors would serve as predictors or outcomes of these different types of IPV and RC profiles, they are ultimately just correlates of these profiles.

Another limitation was the small size of some of the profiles. Although most profiles with low membership aligned with types of IPV that are speculated to be rare, the small profiles may decrease generalizability of our findings. Lastly, winsoring data potentially created lower rates of violence perpetration and victimization across profiles or allowed individuals experiencing more severe violence to be placed in less extreme profiles. Although winsoring has these limitations, it allowed us to keep individuals experiencing higher rates of violence within the analysis, still representing extreme-ness, just constrained to promote model fit.

## **Chapter 6 - Conclusion**

IPV and RC are relational dynamics that commonly co-occur and are experienced by many couples. Both are associated with numerous individual and relational consequences and their presence is likely indicative of instability. This study aimed to identify types, or profiles, of violent and cyclical relationships and what predictors and outcomes differentially align with these different types of violent and cyclical relationships. Within our sample, five unique types of IPV and RC relationships were identified: a high mutual psychological IPV and medium RC profile, a high IPV victimization and high RC profile, a low IPV and medium RC profile, a high mutual sexual IPV and low RC profile, and a high mutual IPV and low RC profile. Additionally, class-specific predictors and varying outcomes were identified across these five types of violent and cyclical relationships, supporting the distinction between them. Awareness of these different types and their relevant characteristics may aid in prevention and treatment efforts.

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