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KEYWORDS

Domestic violence | Gender norms | Time use | Survey Data

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Measuring Domestic Violence. Individual Attitudes and Time Use Within the Household

Discussion paper n. 35/2025

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Measuring Domestic Violence. Individual Attitudes and Time Use Within the Household

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Abstract

I propose a novel empirical strategy to measure the cultural justification of domestic violence within households. Leveraging survey data on individual attitudes and high-frequency time-use diaries, I construct an index that captures the alignment between stated beliefs and actual household behaviors. Using structural equation modeling (SEM), I disentangle the latent normative component of domestic violence tolerance from reported attitudes alone. The results indicate substantial heterogeneity by gender, social norms and household roles, suggesting that time allocation patterns provide a powerful lens to understand hidden norms. This approach has substantial implications for both policy evaluation and future data collection efforts.

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1 Introduction

Understanding domestic violence requires beyond merely identifying acts of abuse; it demands insights into the cultural, relational, and behavioral dynamics that sustain or challenge patterns of coercion and control within households. Despite decades of empirical research and policy attention, one of the central challenges in addressing intimate partner violence remains measurement. How do we capture what often goes unreported, misrepresented, or internalized as culturally acceptable? Traditional survey-based methods, while indispensable, are prone to underreporting due to stigma, fear of retaliation, or social desirability bias. Consequently, we continue to face substantial blind spots in both prevalence estimates and the normative environment that legitimizes or conceals abuse.

This study proposes a novel measurement strategy that addresses these challenges by integrating attitudinal data with high-frequency behavioral data from household time-use diaries. Drawing on an original dataset collected within the TIMES project in Italy, I build an empirical framework that links individual beliefs about gender norms and the justification of violence with actual household behavior—specifically, how time is allocated between partners and across domestic activities. By combining direct responses to vignette-based survey items with diary-based observations of time spent in unpaid work and leisure with partners and children, I offer an innovative composite indicator that captures latent cultural orientations toward domestic violence.

This approach responds to three critical gaps in the current literature. First, most intimate partner violence studies focus on reported experiences of physical or sexual violence, neglecting more subtle forms of coercive control and psychological abuse. Second, even when attitudes toward violence are surveyed, they are often detached from everyday behaviors and household arrangements—failing to account for how beliefs manifest in relational patterns. Third, the empirical literature tends to separate individual-level analysis (e.g., education, income) from household-level dynamics (e.g., bargaining power, division of labor), overlooking the intersection between personal beliefs and structural asymmetries within the home.

By applying structural equation modeling (SEM) to a rich set of attitudinal and behavioral indicators, I construct three latent variables: justification of domestic

violence, endorsement of traditional masculinity norms, and the gender gap in unpaid work. These constructs are then combined into a single, standardized index capturing broader attitudes toward domestic violence within the cultural and behavioral context of the household. This composite indicator is validated against individual and partner characteristics, such as education, bargaining power, and attitudinal congruence, as well as behavioral outcomes like shared leisure time with partners and children. The results show that the proposed index aligns closely with theoretically relevant predictors and behaviors, offering both construct and external validity.

This measurement strategy has several advantages. First, it mitigates social desirability bias by not relying exclusively on self-reports of abuse or endorsement of violence. Instead, it uses everyday practices—such as time spent jointly in childcare or domestic work—as indirect but revealing proxies for relational equality and power. Second, it recognizes the importance of household dynamics and shared norms by incorporating data from both partners within the same household. Third, it offers a scalable and transferable framework for future research and policy, adaptable to different cultural contexts where direct reporting of domestic violence may be unreliable or dangerous.

The empirical findings from this study reveal substantial heterogeneity in attitudes toward domestic violence across gender, education, and normative environments. More conservative views on masculinity and parenting are strongly associated with higher justification of violence. Gender gaps in time use—particularly in unpaid work and relational leisure—are not only prevalent but systematically linked to these attitudinal profiles. Moreover, the composite index proves to be a robust predictor of behavioral outcomes, such as time spent in leisure with one's partner or children, offering a behaviorally grounded lens through which to understand intimate partner violence tolerance.

This study contributes to the literature in three main ways. First, methodologically, it offers a new empirical strategy that blends direct and indirect measurement tools through structural equation modeling. Second, conceptually, it deepens our understanding of domestic violence as a function of normative beliefs and everyday gendered behavior. Third, it provides actionable insights for policy, suggesting that time use patterns can serve as early indicators of relational inequality and potential risk environments for coercive behavior.

The remainder of the paper is organized as follows. Section 2 reviews the literature on domestic violence measurement, economic determinants, and gender norms. Section 3 presents the data and methodological framework. Section 4 details the construction of attitudinal and behavioral indicators. Sections 5 and 6 develop and validate the structural equation model and the composite index. Section 7 concludes with implications for research and policy.

2 Literature Review

Research on domestic violence has grown considerably over the past decade, with increasing emphasis on improving measurement strategies and understanding the socio-economic and attitudinal determinants of violence within intimate partnerships. The literature relevant to this study can be broadly categorized into three main strands: methodological advances in the measurement of domestic violence; empirical analyses of its economic and behavioral determinants; and the role of gender norms and attitudes in sustaining or mitigating abusive dynamics. My paper contributes to each of these streams by introducing a novel approach that combines individual attitudes with household time use patterns to indirectly measure the presence and justification of domestic violence.

2.1 Measurement Challenges and Methodological Innovations

A well-documented challenge in the study of domestic violence is the problem of underreporting. Because of stigma, fear of retaliation, and social desirability biases, victims often refrain from reporting abuse, especially in household surveys or interviews. Several studies have addressed this by implementing indirect survey techniques. Cullen (2023), for instance, conducted a randomized survey experiment in Nigeria comparing direct questioning with a list experiment format and found that indirect methods yielded significantly higher prevalence estimates of intimate partner violence—up to 35% higher in some subgroups (Cullen, 2023). The discrepancy was particularly stark among women with higher education, suggesting

that direct questioning may systematically undercount violence among more socially mobile or aware respondents.

Yet, evidence of the effectiveness of such methods remains mixed. Agüero and Frisancho (2022) applied a similar list experiment in Peru but found no statistically substantial differences in reported prevalence rates between the direct and indirect methods. Other approaches have attempted to rely on community-level reporting. In one such study, female leaders in rural Peru were asked to identify victims within their communities. However, the method substantially underestimated violence: only 7.7% of cases were correctly identified by the leaders compared to 38.3% using private interviews.

Additional concerns have been raised about the instruments used to capture intimate partner violence. Recent contributions have critically examined the validity of commonly used tools such as the Conflict Tactics Scale (CTS), arguing that they may not fully reflect the complexity and diversity of intimate partner violence behaviors (Clark et al., 2024). These critiques underscore the need for more comprehensive and nuanced measurement approaches.

To overcome measurement challenges, researchers have begun exploring alternative data sources. A study analyzing Google search trends in London during the COVID19 lockdown found that increases in domestic violence-related queries aligned more closely with emergency hotline data than with police reports. The authors estimate that the actual incidence of domestic abuse may have been 7–8 times higher than what was captured through official crime statistics alone (Anderberg et al., 2020). Similar patterns were observed in Los Angeles. These innovations underscore the need to move beyond traditional surveys and incorporate behavioral and indirect indicators into violence measurement frameworks.

In this context, my study contributes to the measurement literature by proposing a complementary approach that leverages household time use data—an underutilized yet potentially powerful proxy for relational dynamics and gendered power asymmetries. By linking time allocation patterns with individual attitudes toward gender roles and violence justification, I offer an integrated method that does not rely solely on self-disclosure of abuse and is less vulnerable to social desirability bias.

2.2 Economic and Behavioral Determinants of Domestic Violence

Another substantial strand of literature investigates the economic drivers and consequences of domestic violence. Theoretical models have long posited that economic dependency and bargaining power within the household play a crucial role in shaping exposure to abuse. Anderberg et al. (2016) propose a model where intimate partner violence is a strategic instrument used by men to assert control. Using data from the UK, they show that male unemployment is associated with a reduction in domestic violence, whereas female unemployment increases the likelihood of abuse (Anderberg et al., 2016).

These findings are echoed in studies conducted during the COVID-19 pandemic. In Peru, areas with higher rates of job loss experienced significantly larger increases in domestic violence, both self-reported and reported to hotlines (Agüero et al., 2024). Another study examining a staggered disbursement of SNAP benefits in Illinois found that the policy led to a measurable increase in domestic violence reports, suggesting that program design can unintentionally influence intra-household conflict (Carr and Packham, 2019).

Other work has shown that women's employment can offer financial independence and reduce vulnerability to intimate partner violence, but it may also lead to increased relationship tensions in contexts with rigid gender norms (Showalter, 2016). My study complements this literature by considering time use data as a behavioral indicator of relational power, capturing forms of coercion that might not appear in income-based measures.

2.3 Gender Norms, Attitudes, and the Justification of Violence

Social norms and individual attitudes play a key role in shaping the prevalence and acceptability of domestic violence. In many low- and middle-income countries, a considerable share of the population justifies wife-beating under certain conditions. Recent work demonstrates that factors such as education, age, and income level strongly influence these attitudes (Wang, 2016). Moreover, prior experience with intimate partner violence has been linked to greater acceptance of intimate partner violence myths, reinforcing cycles of abuse (Huang et al., 2024).

Frankenthal (2023) uses variation in agricultural productivity in Peru to show that increases in women's income potential reduce rates of physical abuse and femicide, especially in regions with highly patriarchal gender norms (Frankenthal, 2023). Tur-Prats (2019) finds that Spanish regions with a legacy of extended family co-residence (e.g., with mothers-in-law) exhibit lower current intimate partner violence rates, likely due to increased female autonomy and external social control mechanisms (Tur-Prats, 2019).

My study builds on this literature by linking individual beliefs about gender roles and violence justification with observed household time use—an indirect but informative marker of power and control.

2.4 Contributions and Gaps

Despite major progress, several gaps remain. First, most studies focus on physical or sexual violence, while psychological abuse and coercive control are under-researched. Second, few studies combine attitudinal and behavioral data—like time use—as joint indicators of household dynamics.

My paper contributes to filling these gaps by developing a novel measurement framework based on attitudes and time use. This framework allows for indirect identification of violence and power imbalances, even in the absence of explicit reporting. It offers a promising tool for both research and policy evaluation.

More broadly, this study builds on a literature that emphasizes the links between daily time use, intra-household dynamics, and social outcomes. An important contribution in this direction is offered by Kroll and Pokutta (2013), who use Day Reconstruction Method data to explore optimal distributions of daily activities based on self-reported happiness. In the context of couple relationships, Lee and McKinnish (2019) show that both one's own and one's partner's locus of control significantly influence marital satisfaction over time. Reitmann (2020) highlights

the positive effects of paternal parental leave on children's educational outcomes, emphasizing the long-term benefits of paternal involvement. Finally, Malik, Mihm, and von Suchodoletz (2022) investigate the psychological mechanisms behind bystanders' inaction in domestic violence situations, pointing to the roles of moral disengagement and emotional regulation. These studies collectively underscore how everyday practices and beliefs shape relational well-being, family dynamics, and responses to violence—motivating the integrated behavioral approach adopted in this paper.

3 Data and Methodology

3.1 Data Overview

The data used in this study is part of the TIMES project, developed by researchers at the University of Bologna.

Data collection followed a two-stage process targeting individuals residing in Emilia Romagna, living in cohabiting couples with at least one child under the age of 11. A total of 1,124 individuals were recruited, with participation being individual and voluntary for each partner. This study relies, however, on matched survey data collected from 416 couples –832 individuals– with both partners independently reporting on their time use, gender norms, and attitudes toward intimate partner violence. Eligibility was strictly conditioned on the presence of at least one child living in the household, in order to focus on families facing early shared responsibilities, such as childcare. A unique feature of the data is that it captures responses from both partners within the same household, providing valuable insights into household dynamics.

The sample is stratified at the provincial level, and the sampling strategy includes quotas for gender, individual occupational status, and the size of the municipality of residence (0–10k, 10k–50k, >50k inhabitants). Additionally, participants were recruited proportionally across provinces to reflect the age structure of the national infant population (0–2, 3–5, and 6–10 years). After data validation, the interview

weighting was found to be 97.6% efficient, indicating that the application of sampling weights—used to adjust for discrepancies between the sample and the target population—led to only a negligible loss in statistical efficiency.

Participants first completed a socio-economic questionnaire administered online via a custom-designed web app (CAWI methodology), accessible from computers, tablets, or smartphones, and available in both Italian and English. Approximately two weeks after completing the questionnaire, participants were invited to fill out a time-use diary covering two full days: one weekday and one weekend day. For an interview to be considered valid, participants had to complete both the questionnaire and the two diaries. The survey recorded a dropout rate of 2.07%, corresponding to 17 participants who dropped out after completing the questionnaire but before starting the diaries.

Questionnaire The questionnaire combines established measures—such as gender norm items from the World Values Survey (Inglehart, 2004)—with original items specifically developed for this study. It assesses beliefs about family management, intimate partner violence (intimate partner violence), masculinity, and social norms, using a 0–100 continuous scale for most attitudinal items.

Time-Use Data The TIMES project collected high-frequency data on individuals' daily activities through digital time-use diaries. Digital diaries are increasingly adopted for their convenience, structured classification of tasks, and reduced coding error (Minnen et al., 2014; Bigoni et al., 2023). Each respondent completed two diaries: one referring to a randomly assigned weekday and one to a randomly assigned weekend day. This dual-day design enables the construction of weekly estimates of time allocated to different types of activities, using the formula:

$$\text{Average Weekly Hours} = 5 \times \textit{Weekday Hours} + 2 \times \textit{Weekend Hours}$$

Participants recorded all activities across the full 24-hour span of each assigned day using a web interface. Activities were selected from a pre-determined hierarchical list and recorded in 10-minute intervals, specifying the primary and (when applicable) secondary activity, the presence of others, and engagement with children. This method, based on the structure proposed by Bigoni et al. (2023),

minimizes recall bias and allows for fine-grained behavioral analysis. Seasonal effects were mitigated by collecting data uniformly across the calendar year.

These data also allow the construction of broader behavioral indicators from the items relevant to gender dynamics, violence, and parenting—such as time spent with one's partner or with children.

4 Survey Items and Indicator Construction

To enhance clarity, this section introduces the survey items first, followed by how they are grouped into indicators, and finally how these indicators contribute to the latent variables used in the SEM.

4.1 Item-to-Indicator Structure

The survey includes multiple items capturing attitudes toward domestic violence, gender roles, and household labor. These items are used to construct observed indicators for three latent constructs: justification of domestic violence, masculinity norms, and gender gap in unpaid work.

4.1.1 Justification of domestic violence

The key variables used to construct justification of domestic violence indicator are drawn from a vignette-based design. Each respondent was randomly assigned one of two hypothetical scenarios:

Scenario 1:

> *"Sara and Davide have been a couple for 10 years. During one of their many arguments, Sara started yelling and Davide slapped and hit her."*

Scenario 2:

> *"Sara and Davide have been a couple for 10 years. When Sara goes out at night, Davide constantly messages her to ask what she is doing, where she is, and whom she is with."*

After viewing one of the vignettes, respondents rated their agreement with the following statements on a 0–100 scale:

- **Seriousness of Violence:** "The scenario described is serious."
- **Victim Blaming:** "Sara is responsible for Davide's behavior."
- **Perpetrator Accountability:** "Davide is responsible for his behavior."
- **Justification of Domestic Violence:** "Violence against women/men is justified."

4.1.2 Masculinity norms

Items capturing the endorsement of traditional masculine norms. Respondents rated their agreement with the following statements on a 0–100 scale:

- **Minimization of Harassment:** "Too much nonsense is spoken about socalled sexual harassment."
- **Problematic Masculinity Traits:** Agreement with the statements "It is not acceptable for a man to cry." (*Emotional strength*); "Drinking heavily is not a sign of masculinity but a problem." (*Drinking*) "Physical strength is a fundamental aspect of being a man" (*Physical strength*) and "Sensitivity is an admirable trait for all genders." (*Emotional toughness*)

4.1.3 Gender gap in unpaid work

Time-use variables, coming from time-use diaries, calculated as the relative difference in time spent by women and men in housework and childcare, computed as (*female* – *male*)*/male*.

- **Gender gap in household chores:** The difference between female and male time spent on activities such as meal preparation and clean-up, doing laundry, ironing, dusting, vacuuming, indoor cleaning, constructing or repairing household items, purchasing goods or services for the family, and managing family life (e.g., planning visits, budgeting). The difference is weighted by the male time spent on the same activities.
- **Gender gap in childcare:** The difference between female and male time spent on childcare activities, including putting the child to bed or waking them up; helping with eating, bathing, dressing, or grooming; reading; listening to the child read; teaching (reading, writing, counting); playing; watching cartoons; visiting museums, exhibitions, theaters, or zoos; doing artistic, manual, or creative activities; watching television, films, or series; browsing the internet; going on trips or engaging in sports; storytelling; conversing; organizing events (e.g., birthday parties); assisting with tasks (e.g., preparing a backpack, tidying belongings); supervising or waiting for the child; accompanying the child (e.g., to the doctor); helping with homework; communicating with teachers or other adults in official roles (for school or extracurricular activities); and providing medical care or transportation to medical appointments. The difference is weighted by the male time spent on the same activities.

4.1.4 Other relevant variables

Further, I collect through the questionnaire couples' bargaining power and individual social norms, used for sub-populations analysis in Section 6:

- **Individual Bargaining Power:** Based on the question, "In the couple, who usually makes economic decisions (for example, related to financial investments or buying expensive goods)?". I construct a variable coded as 1 if the respondent makes decisions alone or jointly with the partner, and 0 if the partner makes decisions alone.

- **Individual Gender Norms:** An aggregate index (calculated as the mean response for each item) based on agreement (0–100 scale) with the following statements:

  - "The task of a man is to contribute to the family income, and the task of a woman is to take care of the children."
  - "A preschool-age child (0–6 years) suffers when their mother works."
  - "A school-age child (7–11 years) suffers when their mother works."
  - "It is a duty towards society to have children."
  - "Both parents should be ready to reduce the time dedicated to work for family reasons."
  - "A man must be ready to scale down his personal aspirations for the sake of children and the family."
  - "Both the father and the mother should stay at home from work for a few months after the birth of their child."
  - "When the woman earns more than the man, tensions may arise in the couple."
  - "When the man primarily takes care of the house and children, tensions may arise in the couple."
  - "A woman must be ready to scale down her personal aspirations for the sake of children and the family."

- **Individual Parenthood Norms:** Measured through exposure to vignettes depicting stereotypes about fatherhood and motherhood, followed by agreement (0–100 scale) with the statement: "I would describe as in the

vignettes the dads and moms depicted." Figure 1 presents the vignettes administered to participants.



Figure 1: Vignettes on parenthood norms

Understanding attitudes toward domestic violence requires capturing both direct judgments about specific behaviors and the broader normative frameworks that shape how individuals interpret gender roles and power dynamics within intimate relationships. The vignette-based indicators allow for the measurement of respondents' immediate reactions to realistic scenarios, including their assessment of the seriousness of the behavior, attribution of responsibility, and degree of victim-blaming—dimensions that are central to how domestic violence is perceived, tolerated, or condemned in society.

Meanwhile, measures of gender norms, masculinity ideals, and parenthood expectations help contextualize these attitudes within the cultural beliefs that legitimize or challenge control, dominance, and traditional role divisions. For instance, endorsing beliefs that men should be the primary breadwinners or that working mothers harm children may correlate with a higher tolerance for controlling or abusive behavior. Attitudes toward domestic violence may be distributed along a continuum shaped by both gender norms and contextual triggers as prior research in economic psychology and development studies demonstrates. Reitmanna et al. (2020), in a survey experiment conducted in Tunisia, found that priming respondents with information about the prevalence of domestic violence significantly reduced its acceptability among men, while framing questions around equality further dampened tolerance among both genders. These effects suggest that cultural norms surrounding violence are not immutable, but rather malleable in response to framing and information cues. Importantly, these dynamics may be intensified or mitigated by the degree of economic autonomy within couples.

Similarly, understanding domestic violence requires not only measuring individual attitudes but also situating them within broader household structures and economic arrangements. As economic psychology research highlights, financial management within couples is rarely neutral or purely pragmatic. Rather, control over money often reflects gendered power asymmetries that can shape relationship dynamics and, in some contexts, exacerbate vulnerability to intimate partner violence (Pahl, 1989; Kirchler, 1995). Male-controlled financial systems tend to concentrate discretionary decision-making and personal spending in men's hands, particularly in higher-income households, while female-controlled systems are typically more constrained and associated with budgeting for family necessities (Pahl, 1989). These patterns may contribute to household environments where financial dependence or exclusion amplifies the risk of coercive behaviors and normative justifications of violence.

In this light, the correlation between unequal financial management systems and attitudes justifying violence can be interpreted through the lens of constrained autonomy. When individuals lack control over their own time or money—two fundamental resources—the space for negotiation narrows, and justifications for control may become normalized. This is particularly relevant in couples where

traditional gender roles are internalized or where masculinity is closely tied to authority (Meier-Pesti Penz, 2008).

The inclusion of both time diaries and vignette-based attitudinal items makes it possible to go beyond stated preferences and observe lived experience, a methodological advancement echoed by Kirchler (1995) and Pahl (1989). The TIMES dataset provides a rare opportunity to investigate interrelated mechanisms within households. By capturing time-use behaviors alongside attitudinal measures from both partners, it allows for an empirical examination of whether economic decision-making—such as control over household resources or child-rearing time—correlates with higher tolerance for domestic violence or with more traditional views of gender roles. Such an approach aligns with calls for a deeper behavioral analysis of power in the domestic sphere. Integrating economic psychology into the measurement of domestic violence can thus enhance both the conceptual and empirical rigor of household-level violence studies.

Thus, alongside gender gaps in time devoted to unpaid work, I also construct, from time-use diaries, two behavioral outcome variables used in Section 6:

- **Time spent in leisure with partner:** Total weekly hours spent in the presence of one's partner doing activities classified as leisure. These include reading, using social media, watching TV or movies, listening to music or podcasts, exercising, engaging in creative activities, browsing the internet, playing video games, gardening, socializing (e.g., visiting friends or family, dining out, attending events), as well as time spent sleeping and on personal care. This definition is a broader version of that used by (Agüiar and Hurst, 2007).
- **Time spent in leisure with partner and children:** Total weekly hours spent jointly with both partner and children engaging in the above-defined leisure activities.

Only primary activities are considered in constructing these variables.

Figure 2 shows the distribution of weekly hours that participants reported spending leisure time with their partner and with their children.

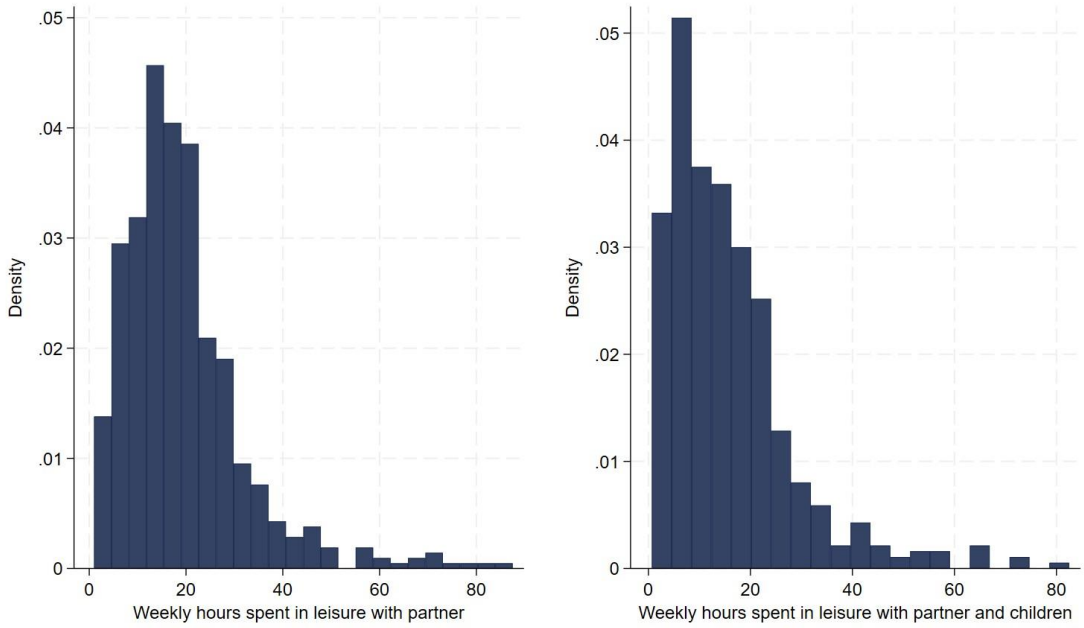


Figure 2: Distribution of time-use outcomes (weekly hours)

Furthermore, I compute the relative difference in leisure time—spent with the partner and jointly with the partner and children—declared by men and women within the same couple, measured as a proportion of their average leisure time:

$$\text{Difference} = \frac{\text{Minutes}_{\text{woman}} - \text{Minutes}_{\text{man}}}{\left(\frac{\text{Minutes}_{\text{woman}} + \text{Minutes}_{\text{man}}}{2}\right)} \quad (1)$$

This scales the difference relative to the average time, making the result comparable across couples regardless of how much total time they spend together.

Given that the data include matched reports from both partners in a couple, calculating within-couple differences ensures that the measure reflects directly comparable observations under shared conditions. This approach improves measurement consistency by reducing the influence of unobserved heterogeneity across households (e.g., differences in total available time, employment status, or family structure). It allows for a more accurate assessment of gender asymmetries

in reported time use than between-group comparisons, which may conflate structural differences with gender specific reporting.

A value of 0 means that both partners report the same amount of leisure time spent together. A positive value means that the female partner reports more leisure time with the partner than the male partner does. A negative value means that the male partner reports more leisure time with the partner than the female partner does.

Both for time spent together as a couple and for time spent jointly with children, the average difference is negative, indicating that men report spending more time in shared leisure than women do. Specifically, women report approximately 10% less leisure time with their partner—and with both partner and children—compared to men's reports. This discrepancy may reflect differences in perception, where women are less likely to classify certain joint moments as leisure, or it may signal unequal participation in relational or emotional labor within the household.

Together, the variables above aim to capture meaningful aspects of household emotional and relational life that are often gendered. Time spent in leisure together reflects opportunities for shared enjoyment, emotional connection, and informal communication—dimensions of caregiving and relationship maintenance frequently shaped by gender norms and expectations. In particular, the distribution and quality of joint leisure time may reflect internalized beliefs about traditional gender roles, hypermasculinity, and attitudes toward domestic violence, all of which influence who is expected to provide emotional support or participate in relational labor within the household. To the best of my knowledge, this is the first paper to jointly collect data on domestic violence, masculinity, and time-use diaries.

5 Composite Indicator Construction

5.1 Step 1: Dimensionality and Structural Equation Modeling

To examine the relationships among individual attitudes toward intimate partner violence, gender norms, and time use in the household, I conducted an Exploratory Factor Analysis to assess the dimensionality of the observed items. To determine the number of factors to retain, I relied on parallel analysis, which compares the eigenvalues from the actual data with those obtained from randomly generated datasets. Figure 3 shows the results of the parallel analysis.

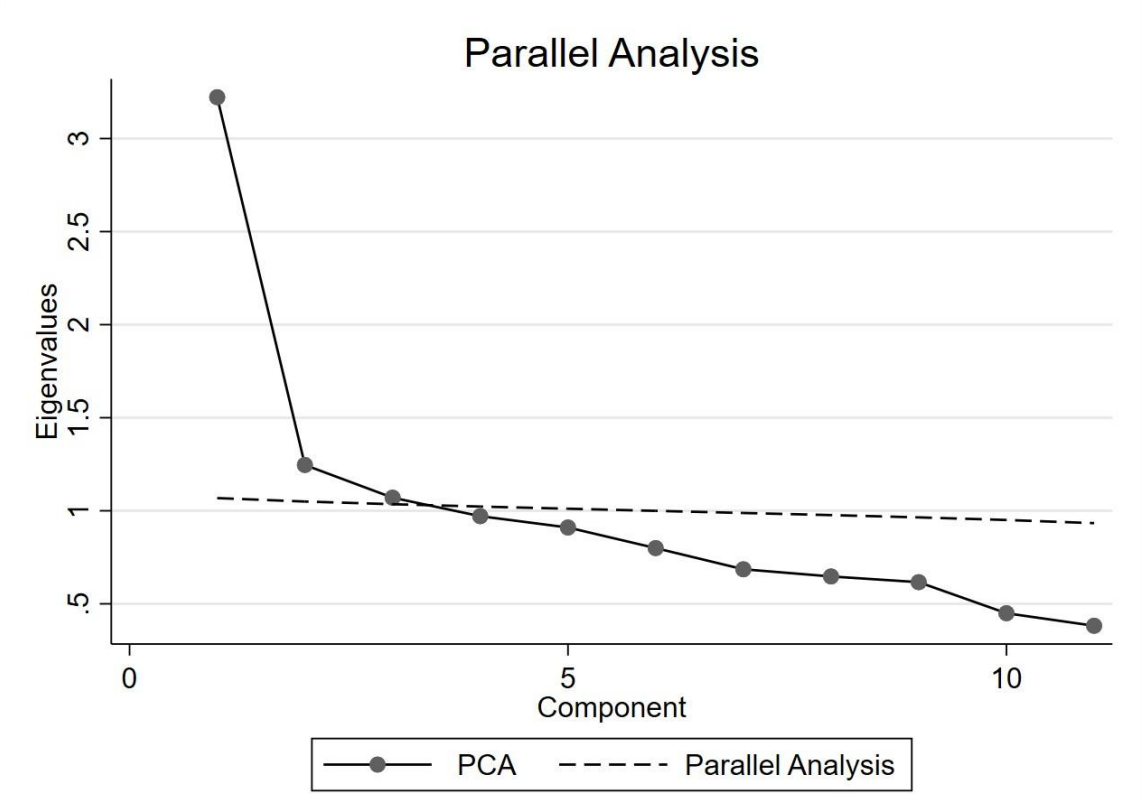


Figure 3: Parallel analysis of eigenvalues from principal component analysis

The solid line represents the eigenvalues from the principal component analysis (PCA) of the observed data, while the dashed line corresponds to the 95th percentile eigenvalues from randomly generated data. According to the standard criterion, only those components with eigenvalues greater than the corresponding random eigenvalues should be retained.

As shown in the plot, only the first three components have eigenvalues that exceed the threshold set by the parallel analysis. This result supports the presence of three meaningful latent factors in the data, with the third component close to the cutoff (eigenvalue=1). This finding provides empirical justification for modeling three separate but potentially correlated latent constructs, rather than collapsing them into a single scale. Based on this, I retain three factors and proceed with a confirmatory Structural Equation Model (SEM) with three latent variables: *Justification of domestic violence*, *Masculinity*, and *Gender gap in unpaid work*.

Each latent construct is measured using multiple observed indicators, which are specified as reflective indicators:

$$\textit{Seriousness of Violence} = \lambda_1 \cdot \textit{Justification} + \varepsilon_1$$
$$\textit{Victim Blaming} = \lambda_2 \cdot \textit{Justification} + \varepsilon_2$$
$$\textit{Perpetrator Accountability} = \lambda_3 \cdot \textit{Justification} + \varepsilon_3$$
$$\textit{Justification of Domestic Violence} = \lambda_4 \cdot \textit{Justification} + \varepsilon_4$$

$$\textit{Emotional strength} = \lambda_5 \cdot \textit{Masculinity} + \varepsilon_5$$
$$\textit{Drinking} = \lambda_6 \cdot \textit{Masculinity} + \varepsilon_6$$
$$\textit{Minimization of harassment} = \lambda_7 \cdot \textit{Masculinity} + \varepsilon_7$$
$$\textit{Physical strength} = \lambda_8 \cdot \textit{Masculinity} + \varepsilon_8$$
$$\textit{Emotional toughness} = \lambda_9 \cdot \textit{Masculinity} + \varepsilon_9$$

$$\textit{Gender gap in household chores} = \lambda_{10} \cdot \textit{Gender gap in unpaid work} + \varepsilon_{10}$$
$$\textit{Gender gap in childcare} = \lambda_{11} \cdot \textit{Gender gap in unpaid work} + \varepsilon_{11}$$

Each indicator is modeled as a linear function of a single latent construct plus a measurement error term ε_i. All latent variables are standardized to have mean zero

and unit variance. Factor loadings (λ_i) are estimated freely, with one loading per construct fixed to 1 for identification.

The model does not impose directional structural paths among latent variables. Instead, it specifies covariances among the latent constructs to capture their interrelationships. These covariances reflect the hypothesis that the justification of domestic violence, adherence to masculine norms, and household time use are jointly shaped by shared underlying sociocultural factors.

I estimate the model using maximum likelihood with robust standard errors. The model estimated through structural equation modeling (SEM) validates the presence of three distinct latent constructs—*Justification of domestic violence*, *Masculinity*, and *Gender gap in unpaid work*—each captured by multiple reflective indicators. Table 1 presents the results of the estimated model.

Table 1: Model Estimates

Observed Variable	Latent Factor	Unstd. Coeff.	Std. Coeff.	Std. Err.	z	p-value
Physical strength	Masculinity	16.38	0.540	0.012	46.19	<0.001
Emotional strength	Masculinity	13.01	0.648	0.013	50.47	<0.001
Emotional toughness	Masculinity	13.13	0.648	0.014	47.76	<0.001
Minimization of harassment	Masculinity	15.59	0.582	0.015	39.30	<0.001
Drinking	Masculinity	15.38	0.557	0.014	39.37	<0.001
Justification of Domestic Violence	Justification	5.25	0.300	0.020	14.96	<0.001
Perpetrator Accountability	Justification	10.92	0.596	0.018	33.26	<0.001
Victim Blaming	Justification	10.30	0.489	0.019	26.14	<0.001
Seriousness of Violence	Justification	13.60	0.643	0.020	32.57	<0.001
Gender gap in household chores	Gender gap in unpaid work	0.595	0.086	0.039	2.18	0.029
Gender gap in childcare	Gender gap in unpaid work	0.496	0.096	0.033	2.93	0.003

All factor loadings are statistically significant ($p < 0.001$), with standardized coefficients ranging from approximately 0.30 to 0.65. These values suggest moderate to strong associations between the observed variables and their respective latent constructs, confirming the appropriateness of the measurement structure.

Model fit is assessed using standard SEM diagnostics. Table 2 provides equation level goodness of fit statistics, showing that the R-squared values for most indicators fall within an acceptable range.

Table 2: Equation-Level Goodness of Fit Statistics

Observed Variable	**Total Var.**	**Explained Var.**	**Residual Var.**	**R_2**	**mc**	**mc^2**
Physical strength	921.41	268.36	653.05	0.291	0.540	0.291
Emotional strength	402.56	169.17	233.39	0.420	0.648	0.420
Emotional toughness	410.17	172.34	237.83	0.420	0.648	0.420
Minimization of harassment	718.59	243.20	475.39	0.338	0.582	0.338
Drinking	762.80	236.45	526.35	0.310	0.557	0.310
Justification of Domestic Violence	306.56	27.53	279.03	0.090	0.300	0.090
Perpetrator Accountability	335.55	119.31	216.24	0.356	0.596	0.356
Victim Blaming	443.90	106.10	337.80	0.239	0.489	0.239
Seriousness of Violence	447.27	185.08	262.18	0.414	0.643	0.414
Gender gap in household chores	47.90	0.35	47.55	0.007	0.086	0.007
Gender gap in childcare	26.79	0.25	26.55	0.009	0.096	0.009
Overall				**0.868**		

Note. **mc** = correlation between the observed variable and its predicted value (model correlation). **mc^2** = squared multiple correlation (Bentler–Raykov coefficient), equivalent to R^2 in this model.

The indicators for *Masculinity* and *Justification of domestic violence* account for approximately 30–42% of the variance in their respective observed variables. In contrast, the indicators for *Gender gap in unpaid work* show lower R-squared values (0.007 and 0.009), reflecting weaker—but still statistically substantial—loadings, which is expected given their more behavioral nature. The overall coefficient of determination for the model is high (CD = 0.868), and the SRMR is below the conventional 0.08 threshold, indicating good model fit.

Table 3 presents the structural part of the model, capturing the covariance relationships among the three latent factors, with masculinity norms shaping both the other latent constructs.

Table 3: Structural Relationships Among Latent Variables and Reliability of Composite Indicator

Latent 1	Latent 2	Relation	Estimate	Std. Err.	z	p-value
Masculinity	Justification of domestic violence	Covariance	0.7753	0.0222	34.89	<0.001
Masculinity	Gender difference in unpaid work	Covariance	–0.5442	0.2426	–2.24	0.025
Reliability of Composite Indicator						
Average interitem covariance			0.3602			
Number of items in the scale			3			
Scale reliability coefficient (Cronbach's alpha)			0.8540			

The strongest correlation is between *Masculinity* and *Justification of domestic violence* (r = 0.775, p < 0.001), suggesting that more traditional masculine norms are closely associated with the justification of intimate partner violence. A moderate negative covariance is observed between *Masculinity* and *Gender difference in unpaid work* (r = –0.544, p = 0.025). The third latent construct, *Gender difference in*

unpaid work, captures gender asymmetries in the division of household labor. Higher values of *Gender differences in unpaid work* indicate greater female overrepresentation in unpaid care work, interpreted as normative patterns of gendered time use. The negative relationship, thus, implies that stronger endorsement of masculine norms is associated with greater acceptance of unequal gender roles in domestic responsibilities.

Although the loadings for the *Gender difference in unpaid work* indicators are statistically substantial, they are smaller than those for the other constructs (standardized loadings 0.09), and the corresponding R-squared values are low. This is expected, as time-use asymmetries may reflect both normative beliefs and practical constraints. Still, a reliability analysis of the three indicators yields a Cronbach's alpha of 0.854 and an average inter-item covariance of 0.36, supporting the internal coherence of the scale used to construct the composite indicator *Attitude towards domestic violence* (Table 3).

5.2 Step 2: Composite Indicator Construction

Based on the estimated latent constructs, I then construct a composite indicator, *Attitudes Towards Domestic Violence*, which summarizes individual positioning along the three dimensions captured by the SEM.

The composite indicator is computed as the first principal component from a Principal Component Analysis (PCA) of the three standardized variables. This strategy combines the dimensions into a single measure that captures the dominant pattern of co-variation. In other words, it summarizes how aligned individuals are with a broader attitudinal profile that includes tolerance of violence, gendered norms, and household inequality. Formally, for individual *i*, the indicator is defined as:

$$\text{Attitudes Towards Domestic Violence}_i = \phi_1 \cdot z(Justification_i) + \phi_2 \cdot z(Masculinity_i) + \phi 3 \cdot z(Timei)rev \quad (2)$$

where $z(\cdot)$ denotes the standardized score, $z(Time_i)^{rev}$ is the reverse-coded time use factor, and ϕ_1, ϕ_2, ϕ_3 are the loadings from the first principal component. These loadings are chosen to maximize the variance explained by the linear combination and ensure that the composite captures the dominant shared variance across the three dimensions.

This composite indicator is used as the proposed summary measure of individual level attitudes towards domestic violence. Figure 4 shows the kernel density estimate of the resulting composite indicator.

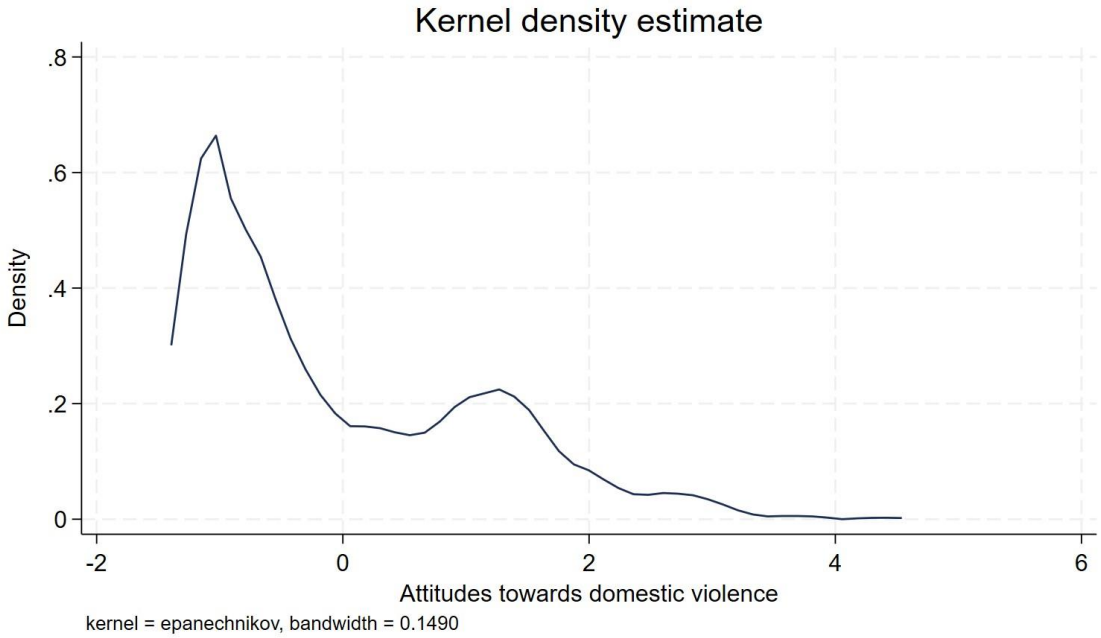


Figure 4: Distribution of the proposed measure *Attitudes towards domestic violence*

The distribution is right-skewed, with a pronounced mode below zero, suggesting that a large share of individuals hold relatively non-tolerant views toward domestic violence. However, the long right tail also highlights the presence of a meaningful subset of individuals with more tolerant or permissive attitudes. This skewed distribution is informative: it suggests that while many individuals reject violence-supporting norms, a non-negligible minority maintains more permissive attitudes.

This variation justifies using a continuous, rather than binary, measure of attitudes—capturing both clear-cut rejection and more ambiguous or partial endorsement of domestic violence within a gendered normative framework.

6 Validating the composite indicator

To assess the validity of the proposed measure of justification of domestic violence, I examine its construct validity by testing for convergent correlations with relevant demographic and behavioral outcomes. Specifically, I expect that attitudes justifying violence aims to be more prevalent among individuals endorsing traditional gender norms, those with lower educational attainment, and those embedded in household arrangements characterized by asymmetric divisions of care and domestic labor, based on prior literature on intimate partner violence (intimate partner violence) and gender dynamics (Pahl, 1989; Kirchler, 1995; Burgoyne et al., 2007)

6.1 Individual level correlates

Table 4 reports the associations between the composite measure and characteristics of the individual respondent.

Table 4: Validation with Individual Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)
	Attitudes towards domestic violence					
Female	-0.0781 (0.0988)					
Individual Level of Education		0.0374 (0.0289)				
Employed = 1			-0.00779 (0.118)			

Individual Bargaining Power = 1				0.0391		
				(0.191)		
Individual Conservative Gender Norms					0.0194**	
					(0.00183)	
Individual Conservative Parenthood Norms						0.0192**
						(0.00135)
Constant	0.140	-0.150	0.100	0.0577	-0.657**	-0.436**
	(0.0775)	(0.196)	(0.105)	(0.185)	(0.0740)	(0.0491)
Observations	627	627	627	627	627	627
R-squared	0.001	0.003	0.000	0.000	0.123	0.257

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

As shown in Column (1), the indicator is not significantly associated with gender. Column (2) indicates a positive but non-significant correlation with educational attainment. Employment status and self-reported decision-making power (Columns 3–4) also show no substantial relationship with the composite measure.

The last two columns highlight stronger patterns. Column (5) reveals that individuals who express more conservative gender norms tend to exhibit more tolerant attitudes towards domestic violence, with a coefficient of 0.019 ($p < 0.01$). Similarly, Column (6) demonstrates a strong association with conservative parenthood norms, reinforcing the notion that the composite indicator effectively captures a broader normative orientation toward traditional gender roles. These results support the convergent validity of the proposed measure, indicating that it correlates meaningfully with attitudinal constructs it is theoretically expected to relate to.

6.2 Partner level correlates. Women only

Table 5 focuses on women respondents and explores whether their attitudes are systematically related to the characteristics of their male partner.

Table 5: Validation with Partner's Characteristics (Women Only)

	(1)	(2)	(3)	(4)	(5)	(6)
	Attitudes towards domestic violence					
Partner Level of Education	-0.0864*					
	(0.0402)					
Partner Employed = 1		0.0545				
		(0.208)				
Partner Bargaining Power = 1			0.0902			
			(0.404)			
Assigns caregiving to women = 1				-0.331*		
				(0.163)		
Partner Conservative Gender Norms					0.0147**	
					(0.00313)	
Partner Conservative Parenthood Norms						0.0212**
						(0.00255)
Constant	0.484*	0.0534	0.0137	0.172*	-0.432**	-0.406**
	(0.190)	(0.188)	(0.398)	(0.0837)	(0.124)	(0.0759)
Observations	242	242	242	242	242	242
R-squared	0.016	0.000	0.000	0.013	0.073	0.281

Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05

In Column (1), a higher level of education in the partner is significantly associated with less tolerant attitudes (coef. = –0.086, $p < 0.05$), consistent with the idea that better-educated partners may foster more egalitarian dynamics.

Interestingly, the partner's employment status and decision-making role (Columns 2–3) are not significantly associated with women's reported attitudes. However, when the partner holds stereotypical beliefs about caregiving (Column 4), the woman's attitude score is significantly lower (coef. = –0.331, $p < 0.05$), suggesting potential compensatory or conflict dynamics in couples with traditional partners.

Columns (5) and (6) confirm that the composite indicator is also strongly associated with the partner's attitudinal profiles: women paired with partners who express conservative gender or parenthood norms are themselves more likely to score higher on the composite measure. These results reinforce the idea that individual attitudes towards domestic violence are embedded within relational and household-level cultural contexts.

Together, the two tables offer robust evidence that the proposed indicator aligns well with both individual- and partner-level determinants, validating its role as a summary measure of gendered cultural attitudes within the household.

6.3 Time spent with the partner and children

To further validate the proposed composite indicator, I examine its empirical association with concrete behavioral outcomes. These outcomes, described in Section 4, include the amount of leisure time spent with the partner and jointly with both partner and children, as reported by each individual in the couple.

The logic of this validation exercise is grounded in the expectation that individual attitudes toward domestic violence, as captured by the composite index, should be embedded in broader gender-related behaviors within the household. If the index effectively summarizes latent beliefs around gender roles and domestic hierarchies, it should predict observable gender asymmetries in unpaid and leisure time

allocation—particularly in relational domains such as joint leisure with partner or family.

To assess whether the composite indicator correlates with actual behavioral differences in leisure allocation, I estimate a set of OLS models where the dependent variables are the number of minutes spent in leisure time with the partner, and jointly with partner and children. These outcomes reflect relational investments and can be interpreted as behavioral manifestations of underlying normative beliefs. The main independent variable is the composite index of attitudes toward domestic violence.

Table 6 reports the baseline association between attitudes and relational time use.

Table 6: OLS Estimates: Attitudes Towards Domestic Violence and Time Spent with Partner and Children

	(1)	**(2)**
	Leisure with Partner	**Leisure with Partner and Children**
Attitudes Towards Domestic Violence	1.367**	2.164**
	(0.432)	(0.472)
Constant	19.13**	15.57**
	(0.496)	(0.532)
Observations	583	479
R-squared	0.017	0.044

Standard errors in parentheses.
*** p<0.001, ** p<0.01, * p<0.05.

In both models, the coefficient on the attitudes index is positive and statistically significant at the 1% level. A one-unit increase in the composite score is associated with 1.37 additional weekly hours spent with the partner and 2.16 additional weekly hours spent with both the partner and children. These findings suggest that

more conservative or permissive attitudes—as captured by the index—are systematically related to behavioral outcomes in time use, reinforcing the interpretation of the indicator as a proxy for cultural norms affecting everyday life.

To investigate whether this relationship varies across population subgroups, I estimate separate models by key characteristics. Table 7 presents these subgroup regressions for the outcome "joint leisure with partner," using clusters based on gender, education, employment status, bargaining power, conservative parenthood norms, intention to donate to a domestic violence-related charity, familiarity with domestic violence victims centers, and belief in the possibility of escaping domestic violence.

Table 7: OLS Regressions of Attitudes on Leisure with Partner, by Subgroup (Clustered at Couple Level)

	Female	Male	Low Edu	High Edu	Not Empl.	Employed	Low Barg.	High Barg.	Non-Conserv.	Conserv.	No Charity	Charity	No Center	Center	Way Out	No Way out
Composite Attitudes Index	0.817	1.869**	1.634**	1.174	2.700*	1.102*	2.530	1.265**	0.941	0.462	1.067*	2.749	1.130*	2.459*	-0.162	2.051**
	(0.574)	(0.647)	(0.592)	(0.653)	(1.105)	(0.471)	(1.765)	(0.442)	(0.533)	(0.796)	(0.453)	(0.000)	(0.466)	(1.139)	(0.527)	(0.575)
Constant	18.67**	19.49**	20.02**	17.67**	19.64**	19.00**	19.66**	19.09**	18.11**	22.84**	19.49**	17.80	19.04**	18.86**	17.89**	19.63**
	(0.770)	(0.652)	(0.660)	(0.778)	(1.054)	(0.558)	(1.926)	(0.507)	(0.577)	(1.165)	(0.536)	(0.000)	(0.539)	(1.267)	(0.761)	(0.621)
Observations	248	335	368	215	112	471	42	541	438	145	480	103	505	78	165	418
R-squared	0.007	0.029	0.022	0.015	0.058	0.011	0.040	0.015	0.008	0.001	0.011	0.054	0.011	0.046	0.000	0.032

Standard errors clustered at the couple level in parentheses.
Subgroups: education, employment status, bargaining power, parenthood norms, intimate partner violence-related awareness/engagement.
*** p<0.001, ** p<0.01, * p<0.05

I estimate separate regressions within the subgroups. The subgroups are constructed from individual characteristics and survey responses, and they reflect both demographic and attitudinal heterogeneity:

- **Gender:** Individuals are split into two groups based on self-reported gender (men vs. women).
- **Education:** Respondents are classified as above or below the sample median of years of education.
- **Employment Status:** Individuals are grouped based on whether they report being currently employed or not.
- **Bargaining Power:** This indicator equals 1 if the individual reports having a say in major household financial decisions and 0 otherwise.
- **Conservative Parenthood Norms:** Based on agreement with vignette statements suggesting gender-typical parenting roles. Individuals above the median score are classified as holding more conservative views.
- **Domestic Violence Charity Intention:** Derived from the question: "I am inclined to donate my compensation for participating in the survey to an association that supports victims of violence against women/men" (0 = not at all, 100 = completely). Individuals above the median are coded as more supportive of domestic violence-related causes.
- **Knowledge of Domestic Violence Centers:** Based on the item: "Is there a gender violence center close to where you live whose activities you are familiar with?" (0 = not familiar at all, 100 = perfectly familiar). Individuals above the median are categorized as more aware of domestic violence resources.
- **Belief in a Way Out of domestic violence:** From the question: "There is a way out of violence against women" (0 = never, 100 = always). This measure captures perceived agency in escaping domestic violence. Individuals above the median are coded as having greater belief in the possibility of change.

Each subgroup is defined as a binary variable using the sample median as a threshold. This approach ensures sufficient balance between groups and allows for interpretable comparison of regression coefficients across clusters.

Stratification by gender reveals significant effects for men. Effects are present regardless of employment status and bargaining power. Notably, significant associations are found among individuals who are familiar with intimate partner violence centers or believe there is a way out of violence, suggesting that awareness and hopefulness about intimate partner violence escape routes translate into more relational time investment. Overall, the results support the external validity of the index: more progressive attitudes are associated with more egalitarian time use behaviors, especially in domains tied to relational and affective engagement.

Table 8 extends the analysis by providing a disaggregated view of the results across the subgroups, using time spent in leisure jointly with partner and children as an outcome.

Table 8: OLS Regressions of Attitudes on Leisure with Partner and Children, by Subgroup

	Female	Male	Low Edu	High Edu	Not Empl.	Employed	Low Barg.	High Barg.	Non-Conserv.	Conserv.	No Charity	Charity	No Center	Center	Way Out	No Way Out
Composite Attitudes Index	1.934**	2.364**	2.329**	2.113**	2.538*	2.089**	2.155	2.164**	2.156**	1.651	2.281**	1.306	2.062**	3.321**	0.103	3.037**
	(0.591)	(0.723)	(0.631)	(0.706)	(1.057)	(0.527)	(1.663)	(0.488)	(0.615)	(0.844)	(0.507)	(0.000)	(0.513)	(1.225)	(0.629)	(0.610)
Constant	15.42**	15.68**	16.62**	13.83**	15.02**	15.70**	14.88**	15.63**	15.33**	16.74**	15.72**	14.63	15.73**	13.59**	15.58**	15.58**
	(0.798)	(0.715)	(0.724)	(0.751)	(1.107)	(0.605)	(2.049)	(0.545)	(0.636)	(1.271)	(0.579)	(0.000)	(0.579)	(1.306)	(0.874)	(0.651)
Observations	201	278	299	180	95	384	37	442	355	124	394	85	412	67	131	348
R-squared	0.043	0.046	0.045	0.055	0.061	0.041	0.033	0.046	0.044	0.017	0.049	0.015	0.040	0.080	0.000	0.074

Standard errors clustered at the couple level in parentheses.

Subgroups: education, employment status, bargaining power, parenthood norms, intimate partner violence-related awareness/engagement.

*** p<0.001, ** p<0.01, * p<0.05

The index is positively and significantly associated with family leisure time. Gender- and education-based subsamples mirror the previous patterns, with consistent and statistically significant effects. Across employment, bargaining power, and conservatism in parenthood norms, similar positive associations are observed. Among those who are more aware of intimate partner violence issues—either by donating to related causes, knowing local centers, or believing in possible escape routes—the associations remain positive and often significant. These results reinforce the behavioral relevance of the composite indicator, linking it to patterns of shared, quality time within the family unit.

Taken together, the two sets of regressions show that the composite indicator of attitudes towards domestic violence is meaningfully associated with real behavioral outcomes within the household. Individuals who express more progressive and less violence-tolerant attitudes tend to spend more time in leisure with both their partner and their children. These associations hold across a variety of subgroups, including differences by gender, education, employment, bargaining power, parenthood norms, and awareness of intimate partner violence resources. The consistent direction and statistical significance of the coefficients across both outcomes support the external validity of the measure and suggest that the index captures broader orientations towards relational and family life—not just abstract beliefs or social desirability bias. This provides strong evidence that the attitudinal index is not only conceptually coherent but also behaviorally relevant.

7 Discussion and Conclusion

This study has proposed a novel approach to measuring attitudes toward domestic violence by combining attitudinal data with time use information within households. By leveraging data from the TIMES project, I illustrate how individual justifications of violence—often underreported or culturally embedded—can be indirectly inferred through structured patterns in time allocation and reported responses.

My methodology contributes to the literature in two main ways. First, it introduces a measurement framework that captures both explicit and latent forms of justification, potentially mitigating social desirability bias. Second, it provides a household-level perspective, enabling the identification of asymmetries in behavior and belief systems that traditional survey tools may overlook.

These findings carry substantial implications for both measurement and policy design. Programs aiming to reduce domestic violence could benefit from integrating time use indicators as early warning signals or as part of monitoring household dynamics. Furthermore, understanding the interplay between attitudes and behavior within domestic settings may inform more targeted and effective intervention strategies.

Future research could extend this framework across different cultural contexts or investigate its predictive value for actual instances of domestic violence. Combining time use data with longitudinal information may also shed light on how attitudes evolve in response to awareness campaigns, legal reforms, or broader socio-economic changes.

References

Agüero, J. M., Field, E., Hurtado, I. R., & Romero, J. (2024). COVID-19, job loss, and intimate partner violence in Peru. *Economic Development and Cultural Change*, *73*(1), 1-35. DOI: https://doi.org/10.1086/727536

Agüero, J. M., & Frisancho, V. (2022). Measuring violence against women with experimental methods. *Economic Development and Cultural Change*, *70*(4), 1565-1590. DOI: https://doi.org/10.1086/714008

Aguiar, M., & Hurst, E. (2007). Measuring trends in leisure: The allocation of time over five decades. *The Quarterly Journal of Economics*, *122*(3), 969-1006. DOI: https://doi.org/10.1162/qjec.122.3.969

Anderberg, D., Rainer, H., & Siuda, F. (2020). *Quantifying domestic violence in times of crisis* (No. 8593). CESifo Working Paper.

Anderberg, D., Rainer, H., Wadsworth, J., and Wilson, T. (2016). Unemployment and domestic violence: Theory and evidence. *The Economic Journal*, 126(597):1947–1979. DOI: https://doi.org/10.1111/ecoj.12246

Bigoni, M., Bortolotti, S., Fort, M., Guarini, A., Iorio, D., Monfardini, C., Sansavini, A., Sansone, D., & Suttora, C. (2023). A new time-use diary app to measure parental investments (IZA Discussion Paper No. 16661). Bonn: IZA Institute of Labor Economics.

Carr, J. B., & Packham, A. (2019). SNAP benefits and crime: Evidence from changing disbursement schedules. *Review of Economics and Statistics*, *101*(2), 310-325. DOI: https://doi.org/10.1162/rest_a_00757

Clark, C. J., Bergenfeld, I., Shervinskie, A., Johnson, E. R., Cheong, Y. F., Kaslow, N. J., and Yount, K. M. (2024). Validity of a common measure of intimate partner violence perpetration: Impact on study inference in trials in low- and middleincome countries. *SSM – Population Health*, 26:101683. DOI: https://doi.org/10.1016/j.ssmph.2024.101683

Cullen, C. (2023). Method matters: The underreporting of intimate partner violence. *The World Bank Economic Review*, 37(1):49–73. DOI: https://doi.org/10.1093/wber/lhac022

Frankenthal, I. (2023). Female labor productivity reduces domestic violence: Evidence from peru. *Working Paper*. DOI: https://dx.doi.org/10.2139/ssrn.3944230

Huang, M., Tang, D., and Zheng, Y. (2024). Past intimate partner violence experience and acceptance of IPV myths: The roles of adversarial sexual beliefs and sexual relationship power. *Personality and Individual Differences*, 229:112769. DOI: https://doi.org/10.1016/j.paid.2024.112769

Inglehart, R. (Ed.). (2004). *Human beliefs and values: A cross-cultural sourcebook based on the 1999-2002 values surveys*. Siglo XXI.

Kroll, C., & Pokutta, S. (2013). Towards a happiness-oriented person-centred economic policy. *Journal of Economic Psychology*, 34, 80–92. https://doi.org/10.1016/j.joep.2012.11.002

Lee, W. S., & McKinnish, T. (2019). Locus of control and marital satisfaction: Couple perspectives using Australian data. *Journal of Economic Psychology*, *74*, 102205. DOI: https://doi.org/10.1016/j.joep.2019.102205

Malik, S., Mihm, B., & von Suchodoletz, A. (2022). COVID-19 lockdowns and children's health and well-being. *Journal of Economic Psychology*, *93*, 102549. DOI: https://doi.org/10.1016/j.joep.2022.102549

Minnen, J., Glorieux, I., van Tienoven, T. P., Daniels, S., Weenas, D., Deyaert, J., Van den Bogaert, S., & Rymenants, S. (2014). *Modular online time use survey (MOTUS): Translating an existing method in the 21st century*. *Electronic International Journal of Time Use Research*, 11(1), 73–93. DOI:dx.doi.org/10.13085/eIJTUR.11.1.73-93

Reitmann, A. K., Goedhuys, M., Grimm, M., & Nillesen, E. E. (2020). Gender attitudes in the Arab region–The role of framing and priming effects. *Journal of Economic Psychology*, *80*, 102288. DOI: https://doi.org/10.1016/j.joep.2020.102288

Showalter, K. (2016). Women's employment and domestic violence: A review of the literature. *Aggression and Violent Behavior*, 31:37–47. DOI: https://doi.org/10.1016/j.joep.2020.102288

Tur-Prats, A. (2019). Family types and intimate partner violence: A historical perspective. *The Review of Economics and Statistics*, 101(5):878–891. DOI: https://doi.org/10.1162/rest_a_00784

Wang, L. (2016). Factors influencing attitude toward intimate partner violence. *Aggression and Violent Behavior*, 29:72–78. DOI: https://doi.org/10.1016/j.avb.2016.06.005