Relational Violence in Emergency Conditions. A Methodological Proposal Based on Personal Network Analysis

Luca Toschi

1. **Author information**
   Luca Toschi
   Faculty of Medicine and Psychology, Sapienza University of Rome,
   Italy

2. **Author e-mail address**
   Luca Toschi
   E-mail: luca.toschi@uniroma1.it

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Relational Violence in Emergency Conditions. A Methodological Proposal Based on Personal Network Analysis

Luca Toschi*

Corresponding author:
Luca Toschi
E-mail: luca.toschi@uniroma1.it

Abstract

The issue of gender-based violence, in addition to representing a theme with a strong emotional impact, offers a demonstration of how interpersonal relationships, far from being a merely private fact, are indicative of the cultural structures present in post-industrial societies. This article proposes – also making use of the possibilities offered by the specialized statistical software – the profitable inclusion of the Social Network Analysis in the confines of a sociological paradigm autonomous from a theoretical point of view, according to the line traced by Randall Collins in the 80s, but above all applied to social problems traditionally external to it, such as private violence and gender victimization processes.

The pandemic condition, as reported by many commentators and daily reports, worsened borderline situations of domestic violence also due to the co-presence forced by the lockdown, suggesting specialists new ways of research and help strategies for both confirmed and potential victims. In this research note we want to present an investigation model based on the Personal Network Analysis technique in conditions of strong psychological deprivation and intersubjective pressure on women victims of abuse, also referring to a research-intervention carried out in 2019 at Sapienza University of Rome: an in-depth feasibility study conducted with the collaboration of 'Centro Donna Lilith' located in Latina (Lazio, Italy).

Keywords: cultural networks, relational methodologies, personal gendered communities.

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* Faculty of Medicine and Psychology, Sapienza University of Rome, Italy.

1. Introduction: from gender-based violence to relational violence

The situation of serious social crisis induced by the ongoing pandemic is destined to last for a long time and therefore to be an incremental factor in violent relationships mainly due to forced reunions and the absence of viable alternatives of coexistence. Not only that: the complexity of the phenomenon of private violence requires a multidimensional and multidisciplinary look, which specifically in the human sciences would mean a more intense comparison between the various cognitive perspectives, for example by integrating the victim paradigm hitherto dominant with relational analysis. In recent years, indeed, the study of complex social problems through the network methods has become widespread, and seems to be heading towards full legitimacy, often joining the standard research designs.

The thesis supported in this article is that relational sociology as a paradigm, and Personal Network Analysis as a method, are an effective key to reading the vital worlds of abused women: this perspective allows both a contextual assessment of the objective risk of the abused woman, helping her to self-reflect on her own relational circles in the context of a help project, and the construction of relational variables aimed at wider-ranging statistics and sample surveys. Compared to this, the strategic choice made can reveal the innovative charge of network methods and the added value to more traditional procedures. The analysis of interpersonal relationships and social networks from a structural sociological perspective, therefore, offers a key to understanding that is no longer negligible with respect to the complexity and contradictions of postmodern society, its identity transformations and new interaction processes, even by observing the critical points emerging in relations between the sexes from a not exclusively psychological or juridical angle.

In recent years, the issue of private violence in gender relations has enjoyed a considerable empirical impulse, whose orientation has mainly focused on the statistical approach of victimology and criminology.[1] Some interesting researches have also been conducted on the side of biographical and descriptive

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[1] See for example Tringali (2019), in which the author effectively documented how the self-harming attitude towards one's partner is a phenomenon that crosses women of all ages and social and cultural conditions. As for the clinical aspects and the treatment of violence in couple relationships, the specialized literature is quite substantial. Among others, see Velotti (2013) and Maniglio (2011); of relevant sociological interest is the essay published by Bonino (2015), in which the author describes the cultural influences that stimulate the most primitive and less human dimensions of our biological identity, and therefore interpret the man-woman relationship according to the domination-submission scheme that pre-existed welding, typical of human beings, between positive feelings and sexuality.

methods, not infrequently in relation to news cases that have had a great impact on communication, and others on the organization of territorial support services, in terms of social policies and strategies for containing violence.[2]

Here the theoretical and operational orientation that we intend to privilege focuses on the tradition of the structural analysis of behavior, largely referable to sociological constructs that are not infrequently overlooked such as Jacob Levy Moreno's sociometric theory of roles (2007 [1953]), the notion of dynamic interdependence by Kurt Lewin (1972 [1951]) and the order of interaction by Erving Goffman (1998 [1983]).[3] A fundamental contribution was undoubtedly offered by the 'relational theory of society', proposed by Pierpaolo Donati in its original formulation as early as the 1980s, which starts from the assumption that contemporary societies are no longer able to give themselves a convincing representation and that the relational and structural approach in sociology must be able to understand the risks and challenges posed by complexity, restoring to the order of the relationship an autonomous status of knowledge production within which to place the subjective claims and community requests dictated by the new forms of belonging (social capital, associations, support and social networks, communication) (Donati, 2013). According to this perspective, gender-based violence (psychological, physical, sexual) is more easily defined as *relational violence*, as it is an expression of the poor integration of the abused person in the various contexts of the life cycle, and the inability, at least temporarily, to cope with situations at risk (affective, family, work) obtaining

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[2] See Acquadro Maran (2012), in which the author proposes to address the topic starting from the analysis of the definitions and data from research carried out in our and other countries, aware that a lot has been written and said about the phenomenon in question in recent years 'on all occasions in which there has been an assault with a fatal outcome, a campaign of harassment involving a famous person, a striking case that has attracted the attention of public opinion'. Regarding biographical methods, it is interesting to point out recent works by Greco, Di Nunno (Eds.) (2018) and Ruggiero (2019): in both cases, the theme of interpersonal conflict, its degeneration and the ability to resolve in relationship systems was focused, in order to better understand the meaning of violent actions and help not only the victims, but also the perpetrators of crimes. On the ever-expanding experience of the network of associations against violence in Italy see Martini (2017), and as regards the relationship between gender-based violence and contrast and prevention policies, see also Cimagalli (Ed.) (2016).

[3] As research director since 1932 at the Hudson School for Girls in New York, a recovery community for young deviant women, Jacob Levy Moreno originally developed Sociometry, a method of sociological analysis in a group context that introduces typical measuring tools of mathematical and statistical sciences to the study of relationality, applying it to a large number of cases of social marginality whose protagonists presented behavioral profiles at high risk of active and passive violence.

support from their social circles, and not only from the institutional circuit triggered by the abusive event.

From an operational point of view, the Personal Network Analysis (PNA) intends to reconstruct the plot of the personal relationships of each social actor, with the aim of evaluating the qualities of the various existing links (direction, sign, weight, etc.) and identifying the morphological characteristics of the network itself, even in the presence of pathological and dysfunctional relationships: 'The focus of the analysis is not the individual, but his network (whose boundaries are outlined by the specific object of the research: friends, acquaintances, people who are asked for help, the people 'with whom we discuss things important in life', colleagues and acquaintances that allow you to achieve goals that you cannot pursue alone, a work group, a team engaged in a specific activity, etc.); the sample is relational, in the sense that even if you start with an individual interview, through the interview you can reconstruct all types of relationships (friends, parents, couples, work colleagues, etc.) that unite the members of the network, their personal characteristics (profile variables: sex, age, education, occupation, etc.) and types and quantities of exchanges. The structural analyst studies the structural characteristics of the network, in terms of amplitude, density, homophilia, multiplexity, the existence or otherwise of clusters or cliques (i.e. sectors of the network in which a higher density is detected among some nodes) and the positional characteristics of the different nodes, to identify the more peripheral ones, the isolated ones, those through which a higher number of ties and connections pass.' (Di Nicola, 2012: 16).[4] It is therefore necessary to take a step forward in understanding interpersonal violence, that can go beyond the usual formula of violent men and abused women, in the direction of a non-obvious criminogenesis of abuse: 'It is difficult in this historical moment to talk about gender violence without falling into clichés and banalities or without risking to offend someone's sensitivity: an extremely complex issue for which just trying to deal with it exposes those who do it to the risk of misunderstanding. Has there always been violence against women? Is it more evident now perhaps because there is a greater possibility of getting a complaint? Weren't you interested in the numbers we are talking about now? Perhaps there were many more cases of violence before? If we get the answers, these however would not provide us with the sociological identity dimension in which our two male and female actors find themselves moving in their present.' (Banzato, Zen, 2018: 4). This criminogenesis is by no means

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[4] Among the other authors who have contributed to the development of network analysis in Italy it is worth mentioning Chiesi (1999), especially in the field of sociology of organizations; Salvini (2012, 2017), Vargiu (2002) and Tronca (2012, 2015), the latter also with respect to Personal Network Analysis.

linear, since violence emerges more and more often as the obscene side of romantic love, the prevailing model of the couple relationship to which men and women have entrusted the dream of an egalitarian sexuality and a democratic distribution of power, subversive with respect to the male domination typical of the so-called 'culture of honor', and yet rapidly shipwrecked in its opposite. Not to mention the controversial issue of female violence, the specific case of psychological violence and gender-related safety, the intergenerational transmission of abusive culture and, finally, the growing role of communication and media cultures. The concept of 'gender-based violence' is too often translated as the exclusive violence of man against woman, as if the man were destined to play the role of executioner once and for all and the woman that of victim, even when it is possible observe female violence with usually male characteristics: 'In the society we live in, it seems unthinkable that a man can be victims of violence by a woman, so much so that not only is this circumstance not reported, but more often than not, men themselves struggle to recognize themselves in the role of victim. It took years of support to encourage women to report domestic violence, but to encourage men nothing was done. It is advisable to invest in research without prejudice, to be aware of the changes in society, of the roles that come together and redefine each other.' (Mancini, 2014: 12).[5]

Finally, a very sensitive issue for all scholars and operators is that of learning abusive models and prevention starting from youthful intimacy relationships: it can be, Santangelo argues commenting on a recent survey, of a vicious circle that begins when a minor sees the mother hit by the father, also considering that the victims of mistreatment still suffer stigmatizations and attributions of responsibility: 'Socialization and learning about male violence in the couple are identified among the risk factors for victims and abusers and among the components of the decision-making process that leads to the end of the love relationship.' (Santangelo, 2017: IV).[6]

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[5] On this topic see also Salerno, Giuliano (Eds.) (2012).

[6] In this regard, the scenario that is outlined on the basis of the few empirical researches conducted in Italy is not entirely comforting, see Marchetti (Ed.) (2008), in which 'A worrying picture emerges, made up of prejudices and stereotypes that end up legitimizing violence, especially when it occupies the home and where it does not reach the extreme consequences; the interviewees in fact express a mostly negative judgment on women who suffer violence, struggling with a particular difficulty in distinguishing between wanting, in the sense of desire, and violating, because of that desire; they seem to lack the distinction between conflict and abuse, between real danger and social insecurity.'

As in the case of violence, also in other contexts of youth interaction seem to persist cultural attitudes that fuel the diffusion, even explicit, of a differentiation of sexual roles

This contribution therefore proposes a new key to reading that particular aspect of private violence which too often is translated into 'gender violence' or 'violence against women', in fact what matters most in the dynamics of *relational violence* is not so much the gender of the victims and perpetrators and their attributes, as the form and composition of the social networks in which the actors are inserted and the status that the most significant subjects occupy there: 'Crime is a relational phenomenon because it occurs, in most cases, between subjects who had a previous relationship, but above all because only by reconstructing that relationship will it be possible to identify criminogenesis and criminodynamics of that crime. The relational perspective certainly does not want to betray the victimological vision, much less attribute responsibility to the victim for what happened to her. On the contrary, studying the relationship means recognizing and giving dignity to that subject who until a few decades ago was completely invisible to the eyes of the criminological sciences themselves.' (Monzani, Giacometti, 2018: 12). For these and other reasons it is very important to deal with the work carried out by the Anti-violence Centers in the area, to verify whether this theoretical model – in which the role of the sociologist is relevant – is recognized and used in the daily activities of the centers or whether alternative models such as the classical victimological and the clinical-juridical one are privileged.

The introduction of the egonetwork as an analytical tool, with the placement of the actor victim of abuse at the center of the environment and of the social groups of reference, makes it possible to significantly enrich the information base of the social analyst, and make the protagonists of the investigation fully participate in the reconstruction of the dynamics and temporal evolution of their bonds: personal network analysis, in fact, is mainly interested in generalizing those characteristics of personal networks that facilitate the understanding of complex constructs such as the quality of life of people, behaviors of material and immaterial consumption, lifestyles in general and risk factors such as adaptation to problematic existential situations (Mattioli, Anzera, Toschi, 2017). On the basis of these premises, the phenomenon of interpersonal violence, as a degeneration of the relationship between the sexes, must be translated in terms of a structural intervention, whose participants make up a more or less dense network of interconnections, sometimes hidden in the communities within which abuses are consummated, not infrequently in the form of asymmetrical interpersonal power that can worsen in emergency situations such as the pandemic.

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anchored to premodern schemes, see Toschi (2009) regarding affective and sexual relationships and Giomi, Magaraggia (2017) on the phenomenon of violence, analyzed in its communicative and media dimensions, between *factual* and *fictional*.

2. Methodological note, research and discussion: the disappeared networks...

Although the relational approach increasingly occupies a relevant position and in the analysis of the roles and processes typical of gender violence, it is very rare to come across empirical contributions based on the techniques of Sociometry and Social Network Analysis. The feasibility study illustrated below proposes a complementary procedure to the so-called standard social survey, the specificity of which is given by the collection and treatment of relational variables together with the more traditional individual variables.[7] This perspective has many points of convergence with the multilevel survey models, especially due to its indisputable flexibility in harmonizing the subjective dimension with the structural one: it is a family of quantitative methods that take into consideration both the structures and the processes activated in the social aggregates at different levels of resolution, from personal to ecological (Luke, 2004).

In this regard it is useful to recall the sociological distinction between *collective* indicators and *individual* indicators made by Lazarsfeld and Menzel (1969), according to which we can identify analytical, structural and global properties:

1. The *analytical* properties are obtained from the aggregation of information found on individual members of the community (e.g., the proportion of an ethnic minority in a city);
2. The *structural* properties are based on the relational characteristics of the members (e.g., the density of friendships in a social group);
3. *Global* properties, finally, are specific characteristics of collectivities, which are irreducible by construct to any individual characteristic (e.g., a prevention policy in a school is a global property of the school).

Social Network Analysis techniques can be included in multilevel organizational and psychosocial survey models, as they aim to study processes inserted in social structures such as family, peer groups and other types of relational aggregates. In this circumstance was conducted a feasibility study, based on the analysis of egonetwork (personal communities), a special detection technique increasingly used in the field of SNA, whose main characteristic consists in placing an *anchor subject* at the center of the network (ego) – generally

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[7] The expression 'relational variable' usually indicates a characteristic not detectable directly from the individual cases included in a sample selection, but from the links that connect the cases themselves in the framework of a sociometric network of common belonging (for example a school class, a sports club, a work department, a friend or family community).

the interviewed social actor – who, on the basis of the sociometric criteria established by the analyst, will have the task of reconstructing the network and its properties.

According to the most common procedures, the interview is divided into four sections:

1. *Ego Questions*: aimed at detecting significant characteristics of the person interviewed;

2. *Alter Prompt*: also called *Name Generator*, it is the list of social actors included in the network based on pre-established criteria;

3. *Alter Questions*: aimed at detecting significant characteristics of the actors appointed and the links maintained with them, fundamental for the compositional statistics of the network;

4. *Alter Pair*: questions aimed at detecting the level of interconnection of the appointed actors, fundamental for the structural statistics of the network.[8]

The research involved the detection, reconstruction and analysis of the egonetwork of 10 female subjects of Italian nationality who were victims of violence, assisted in the treatment path by the Centro Donna Lilith in Latina (Lazio, Italy).[9] The selection of cases was coordinated with the managers of the center, based on the availability of the women and after an assessment by the psychologist on the sustainability of the interview. The relatively small number of available subjects did not in any case compromise the feasibility assessment of the study, the purpose of which was above all to test an innovative procedure in the analysis of private violence; the interviews took place in September 2019.

The relational questionnaire was constructed and analyzed with the EgoNet© software, taking care not to exceed the theoretical limit of 5 alters, especially so as not to burden the duration of the interview. The model allows to simultaneously analyze the behavior of the individual sociometric structures (the 10 personal communities anchored to each individual interviewee) and of the social circle formed by the union of the latter, in relation to sensitive characteristics such as relational homophilia (gender, age, characteristics abuses)

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[8] The use of egonetwork-based relational variables was introduced by Ronald Burt (1984), in the 'General Social Survey' project conducted annually by Columbia University's Center for the Social Sciences. Burt insisted on the importance of obtaining at least minimal network data in a standardized sample survey of attitudes and behaviors.

[9] This anti-violence center has been active in the area for over thirty years, and since 2003 has also managed the 'Emily' Refuge House. The obvious difficulties encountered in organizing the various phases were overcome thanks to the precious collaboration of the President Francesca Innocenti and Serena Patti, the psychologist in charge of scheduling the meetings and assisting the selected women during the interviews.

and the methods of social support (type and intensity of ties, quantity of contacts) (Kalmijn, Vermunt, 2007).[10]

The hypothesis supported in this article concerns above all the role played by the personal communities of women victims of violence in dealing with the episode or the abusive sequence for the purpose of requesting institutional interventions, including the use of anti-violence centers. In other words, the focus is on the quantity and quality of the victims' bonds and on the strength of the sociometric network activated by them, favoring a structural perspective, aware that the dominant psychological-legal approach is not exhaustive in the criminogenesis of private violence. In fact, in almost all national surveys, the abuse refers to the subjective characteristics and conditions of the social actors involved who, according to the victimological paradigm, assume the role of designated victims and motivated aggressors, regardless of the overall relational framework in which the facts take place, which usually go beyond the boundaries of the couple's pathology.

Not to mention that most of the research conducted on extensive statistical bases by important institutional referents are based on information obtained from intermediary sources – public security forces, health facilities, courts and public prosecutors – making the collection of even minimal network data impossible, these being obtainable exclusively from relational interviews with the victims. In this regard, the heart of the interview included a generator of names, up to a maximum of five, in which the interviewees were asked to indicate the people with whom they held the most significant relationships in the period of greatest severity of the abusive sequence, without providing specific selection criteria (Burt, 1984). Below, for each of the people included in the egonetwork, some socio-demographic information was collected, in addition to the type (affective, friendly, family) and the strength of the bond (numerical scale from 1 to 10); the interview ended with the interviewee indicating the absence/presence of a link between the persons named, considering each potential couple, setting as a connection threshold (strength of ties) a frequency of contacts that was not occasional but regular in time.

The EgoNet software offers the possibility of producing fairly complete network statistics, both for the composition and for the structure of the network; a summary of the most significant measures for the research objectives is shown in the following table (networks active at the time of the abuse):

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[10] *Personal Network Software*, by Chris McCarty – University of Florida, available for free download from the web page http://sourceforge.net/projects/egonet/. Generally small personal networks (up to 5 alters) are called *core-networks* (Hall, 2010).

TABLE 1. Structural measures and type of Broker relating to individual egonetwork.

Interview (age / educational level)	Width	Cliques	Components	Broker
W1 (33 / secondary school)	5	1	2	M-family
W2 (31 / degree)	4	1	2	A1-friend
W3 (56 / primary school)	5	-	3	PA-family
W4 (54 / primary school)	3	1	1	P1-friend
W5 (49 / secondary school)	5	1	2	FE-family
W6 (34 / degree)	5	-	3	E-friend
W7 (50 / primary school)	5	-	4	S-family
W8 (31 / degree)	5	-	1	C-family
W9 (28 / degree)	4	1	1	B-friend
W10 (25 / secondary school)	4	1	2	B-friend
Average age: 39				

To interpret the data constructed through the SNA procedures, from the most elementary to the most complex, it is always convenient to work simultaneously on the analytical dimension (measures and indices) and on the graphic one (visualization of sociograms): by way of example we report the egonetwork relating to the first interview carried out.[11]

The sociogram W1 graphically represents the egonetwork reconstructed by the first woman interviewed (33 years old, secondary school certificate), whose main structural characteristics are shown in the first row of table1:

Width: it simply corresponds to the number of appointed individuals, which in this case was limited to a maximum of 5.
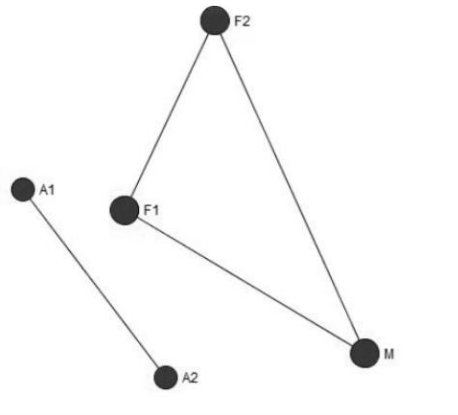
Cliques: in the language of the SNA, a clique corresponds to the maximum complete subgraph, that is to say a subgraph composed of no less than 3 nodes (triad), each of which is directly connected to the others. In case W1, the only clique present is the one composed of nodes F1, F2 and M, since the dyad consisting of A1 and A2 cannot technically be considered a clique.

Components: in the language of the SNA, a component corresponds to the maximum connected subgraph, that is to say a subgraph in which each node can reach all the others through at least one path, even if intermediated by one or more nodes. In case W1 there are 2 components (A1 / A2 and F1 / F2 /

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[11] It should be noted that in the graphic representation of the network and in the production of sociometric measurements, the EgoNet software eliminates the node relating to the anchoring subject. This choice is part of a methodological diatribe on which it is not possible to dwell, which many scholars including Ronald Burt himself have nevertheless tenaciously defended. The main reason, according to the latter, lies in the fact that the inclusion of Ego in the network would have an effect of artificially increasing the measures of density and cohesion, since by construct the nominated actors are connected to the central subject by a link constituting the sociometric criterion indicated by the analyst. In that case Ego would also result as a *bridge person* even between mutually disconnected people (for example, in figure 1, the nodes A1 and F1).

M): it is easy to see that the nodes that are part of one cannot reach the nodes that are part of the other.[12]

FIGURE 1. Egonetwork W1.

Legenda

These rules apply to all the following graphs:
- The diameter of the nodes is directly proportional to the centrality score based on the degree (number of direct contacts);
- The alphanumeric codes associated with the nodes are a conventional abbreviation of the persons nominated by the interviewees.
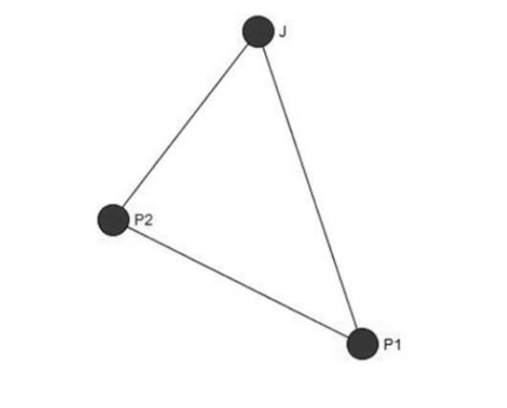
Broker: generally represents the actor with the greatest power, the one through whom the highest number of interconnections and therefore exchanges and communications pass. In the cases reported, given the simplicity of the structure and the limited width of the egonetwork, the measure adopted is simply the number of direct links maintained (*degree*), which can be graphically counted through the number of lines incident to each single node. In case W1 the broker turns out to be M, who is a family member of the interviewee and has a degree equal to 2, as well as the nodes F1 and F2: in case of equal degree, the software indicates the subject that has been listed before the others by the interviewee, introducing a discriminating criterion of a semi-projective

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[12] It should be clear, at this point, that the density – understood as the quantity of activated bonds – and the cohesion of a network, which instead tends to emphasize the reciprocal relationships in a direct graph (*digraph*), are measures directly proportional to the number of cliques and inversely proportional to the number of components.

psychological type.[13] In the graphs, the size of the nodes is proportional to the number of links referred to each of them: in the sociogram W1 the nodes A1 and A2 have degree equal to 1 and therefore a smaller diameter than the nodes F1, F2 and M (degree equal to 2).

The first general observation lies in the difficulty encountered by some interviewees in saturating the network name generator, to the point that in four cases out of ten the list of reported significant individuals did not reach the even low maximum threshold of five nodes. The most significant example is represented by interviewee W4 (54 years old, primary school certificate), who was able to report only three significant ties selected exclusively by her own circle of friends, if nothing else constituting a clique (figure 2).
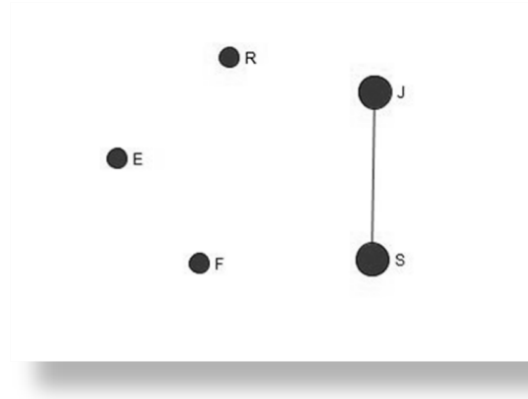
FIGURE 2. Egonetwork W4.

In other cases, the most relevant data concerned the very low level of interconnection of the egonetwork, as can be seen in the circumstance of interviewee W7 (50 years old, primary school certificate):

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[13] This criterion was used for the first time by Fritz Heider (1958), one of the first social psychologists to introduce sociometric techniques in the evaluation of interpersonal relationships, in particular with the method of equilibrium of the triads.

FIGURE 3. Egonetwork W7.

In case W7 we are faced with a very significant situation in which, although the five subjects available in the name generator have been included, only one link is activated (the J / S dyad): therefore, a graph consisting of four components is obtained, of which three isolated nodes.

These characteristics generally denote a low density of the graphs, measured through the simple relationship between activated bonds and potential bonds, which suggests a rather lukewarm relational tenor, not firmly structured around the anchoring subject of the network: the women interviewed, with slight differences, describe a disintegrated personal community, unable to cope with the abusive sequence in the apical phase of its gravity by means of a common strategy, and therefore not very incisive and protective both as regards informal support and with respect to the request for institutional intervention.[14]

In two pairs of cases, the egonetwork structure is substantially identical. The first couple is given by interviewee W2 (31 years, degree) and W10 (25 years, secondary school certificate): in both graphs there is a clique, in which

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[14] The network density is one of the basic measures of Social Network Analysis moved by graph mathematics. In the simplest cases, referring to non-directed sociograms (lines without orientation arrows), this index is obtained by constructing the ratio between the number of lines (bonds) present in the graph and the number of potentially formable pairs, expressed by the formula $[D = 2L / N (N-1)]$, where L is the number of detected lines and N is the width of the graph. The measure varies between 0 and 1: the first case occurs when there is no activated bond, and therefore all the nodes are isolated, the second when all the potential bonds are active, and therefore all the nodes are mutually interconnected with a degree equal to N-1.

the most influential subject (broker) is a person from the friendly circle, and an isolated subject referable to the family circle. Also based on the observations of the center operators, this dynamic is characteristic of the younger victims, who tend to externalize and rework the violence and the decision to contact the structure together with the group of peers, avoiding compromising the families of origin but nevertheless maintaining a strong intimate reference person, generally a parent. The morphological equivalence is easily observable on the basis of the two simple sociograms:
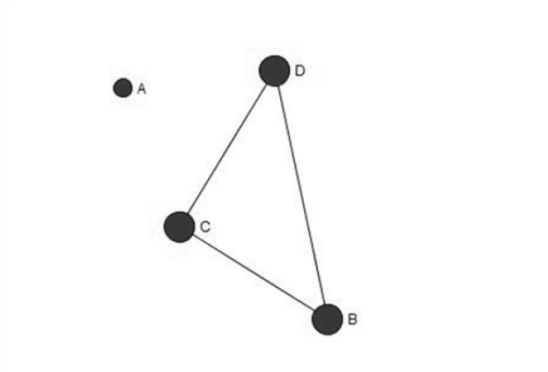
FIGURE 4. Egonetwork W2.

FIGURE 5. Egonetwork W10.

The second couple is given by interviewee W3 (56 years old, primary school certificate) and by interviewee W6 (34 years old, degree), who instead have a slightly more complex graph structure, consisting of two dyads and an isolated subject. These are strongly disconnected personal communities, in which there are no cliques but three distinct components, moreover anchored to rather dissimilar subjects for reasons of age and education, which in any case confirm perhaps the most important research data: the absence of cohesive support networks, even of a primary/affective type (*core network*), which should be activated in contrasting the episode or the abusive sequence. Here too it is possible to easily compare the two relational structures:
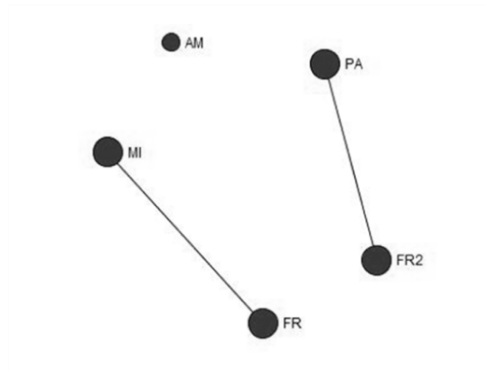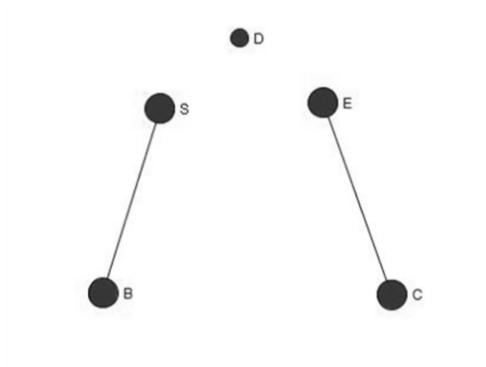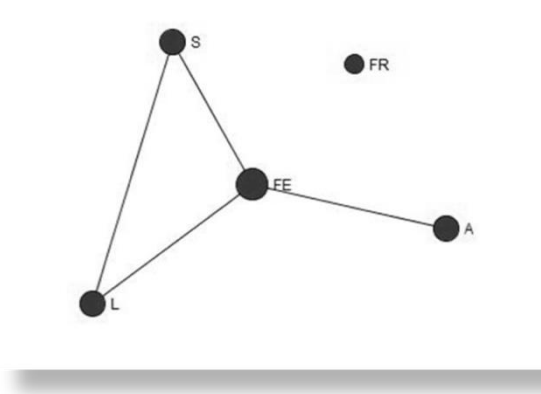
FIGURE 6. Egonetwork W3.

FIGURE 7. Egonetwork W6.

The remaining egonetworks are those that have a slightly more cohesive network structure. Interviewee W5 (49 years old, secondary school certificate) is the only one to share with W1 (figure 1) a personal network of maximum width that includes a clique composed of a triad, with the difference of a greater inclusiveness to the advantage of the second.[15] Below is the graph relating to the personal community of the interviewee W5:

FIGURE 8. Egonetwork W5.

The last two sociograms that we present, relating to interviewee W8 (31 years old, degree) and interviewee W9 (28 years old, degree), are the only ones formed by a single component, together with W4 (figure 2). The circumstance is certainly not accidental, since even the most important statistical surveys on gender-based violence, underline the fact that the younger victims with the highest level of education report a more integrated relationship life, and they feel more solid support from relatives and friends as they embark on an escape path from violence:

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[15] In most of the methods of Social Network Analysis, inclusivity indicates the incidence of non-isolated nodes present in a network, expressed by the simple quotient [In = Nis / N], where Nis is the number of isolated nodes and N is the width of the graph. Obviously it must be deduced that a network is all the more inclusive the lower the value of the aforementioned quotient, even if from a logical and methodological point of view the comparison between two inclusiveness values, referring to two distinct networks, must be calibrated on the width of the graph (it is not correct to compare values relative to graphs of significantly different amplitude) and on the connection criterion (a network based on sexual contacts should theoretically be less inclusive than a network based on generically friendly contacts). In the case reported, the sociogram W1 does not present isolated nodes, while the W5 has an inclusivity index equal to 1/5.
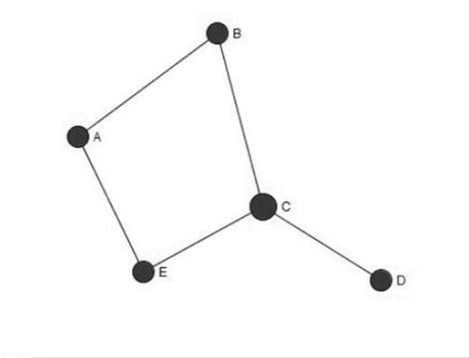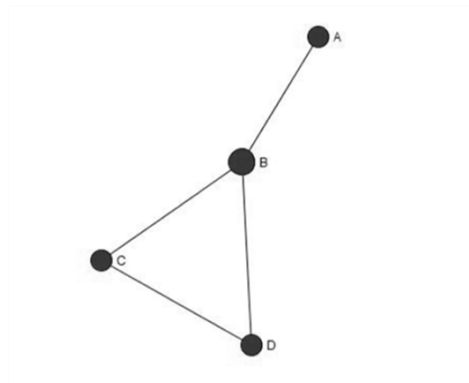
FIGURE 9. Egonetwork W8.

FIGURE 10. Egonetwork W9.

Regarding the last three cases (W5, W8, W9) it is also important to observe the presence of a strong *broker*, respectively FE, C and B, which exercises a recognized leadership, and the absence of which would cause a collapse of the networks in a greater number of components: it is not uncommon, especially in the case of personal networks based on support in situations of severe psychophysical impairment, that the presence of an emotional leader – even outside the primary social circle – constitutes an irreplaceable source of

solutions and structural resistance with respect to sociometric dynamics (Mattioli, 1999).[16]

Finally, we report a summary table of some composition statistics, which summarize some basic characteristics of the subjects included by the women interviewed in the respective egonetworks:[17]

TABLE 2. Composition statistics (Whole Network Analysis).

Number of alter	45	
Gender	Male: 24%	Female: 76%
Average age	42	
Average intensity of the bond	8,5	

These indicators can be referred to each single network generated by relational interviews, to evaluate their internal composition (Egonetwork Analysis), or to their aggregation, to analyze the social circle obtained from their intersection (Whole Network Analysis): in this way it is possible to compare the characteristics of each single network with the others and with the overall structure (the network of networks). The information in table 2 tells us that in the totality of the 10 interviews 45 alters were nominated compared to the 50 available (each interviewee had in fact the possibility to name up to a maximum of 5), that the distribution with respect to gender clearly favors females (76% versus 24% of males), that their average age is 42 years (slightly above the average age of the interviewees, which is 39 years), and finally that the strength of the reported ties is on average quite high (8.5 compared to a numerical scale from 1 to 10).

3. A brief conclusion

The use of Social Network Analysis in the study of social phenomena of high complexity has generally been considered an alternative choice to standard research designs, such as opinion polls and secondary data analysis, or to the so-called qualitative methods that do not provide for statistical and

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[16] Regarding the topic of leadership in human groups and social networks, the literature is very vast. In this regard, Kurt Lewin (1972) supports the validity of semi-experimental research designs also in sociology and in the absence of laboratory control.

[17] Unlike the structural statistics reported in table 1, which help us to interpret the network as a whole and the role played in it by some specific nodes, the composition statistics concern aggregate information relating to the alters named. This information can be extremely simple (basic socio-demographic variables), as well as more complex (behavioral scales), and generally also includes information on the links the respondent has with each individual named alter (type, intensity and frequency of the relationship).

mathematical formalization procedures for information. Moreover, a minority and unusual choice in the field of human sciences, perhaps because it is still an attempt, not very welcome in the official academy, to apply mathematical models to social behavior. Since these are mainly techniques aimed at the production of relational numerical indices, supported by the visualization of sociometric networks, some important scholars such as Ronald Burt began in the 1980s to experiment with the integration of minimal network data in the framework of the General Social Survey conducted annually from Columbia University. It should be added that if today it is possible to speak with greater methodological knowledge of Multilevel Models, that is to say of survey models in which individual variables and relational variables can be treated simultaneously, we owe it to that generation of mathematical sociologists with a structuralist background, attributable to the Harvard School coordinated by Harrison White starting from the 60s of the twentieth century. According to this perspective, the investigation that we have summarized here pursued the objective of evaluating the applicability of this hybridization to gender violence, a topical issue but at the same time extremely difficult to apply, traditionally addressed with cultural tools of the criminological paradigms of victimology and forensic social psychology. This feasibility analysis was mainly calibrated on situations in which gender-based violence, here renamed *relational violence*, takes place in particularly favorable scenarios for abusers: in this regard, the social, family and economic pressure caused by the pandemic that is still ongoing is truly a paradigmatic experience.

The use of the egonetwork technique made it possible to focus the survey tool on the structure of the victims' interpersonal relationships, through face-to-face interviews organized mainly with the collaboration of the Centro Donna Lilith in Latina (Lazio, Italy), and the results obtained lead to three quick concluding remarks:

- *The difficulty of research as an informative datum*: unlike the surveys on gender violence conducted on broad empirical bases of a national relevance, the relational questionnaire provided for direct contact with the interviewees. The lack of willingness to be interviewed was the first cause of slowdowns and program changes in progress, despite the constant presence of the psychologist delegated by the structure. However, when the climate of the interview stabilized, the stimulus to reconstruct the web of interpersonal bonds during the carrying out of the abusive sequence proved to be profitable, especially for the women involved;

- *The particular inconsistency of the networks*: as found in the previous paragraph, the most significant result of the sociometric analysis lies in the extreme evanescence of the networks detected. With few differences, the interviewees' egonetworks are not very dense and cohesive, with an abundance of structural

holes (Burt, 1984), despite the fact that a rather limited maximum amplitude (up to five alters) and a generic connection criterion had been imposed: according to our interpretation it means above all that the people included in their personal networks are scarcely interconnected, and have not constituted an effective unitary structure in contrasting the violence suffered;

- *Confirmation of the methodological framework*: despite the limited complexity of the relational questionnaire used, the data obtained once again offer useful insights for the implementation of multilevel analytical procedures. Basic network measures such as width, cliques and components (table 1), with cardinal properties, can be used as numerical variables in the most common operations of applied statistics and in the techniques of factorial synthesis and classification most used in the human and social sciences.

This stimulating integration of methods and techniques can be found, at least in part, in the main results produced by the research, the aim of which was above all to explore the feasibility of structured relational analysis in the case of phenomena of severe existential impairment. The interviews revealed a great willingness of the interviewees to reconstruct their own relational network in the most severe phase of the abusive sequence, especially capturing the weaknesses in terms of communication, support and contrast of the violence suffered: the graphic and statistical analysis of the egonetworks revealed, with insignificant differences among the 10 cases, that the reported networks are strongly disconnected, with numerous structural holes and the presence of isolated subjects, that is, not mutually connected to the alters included in the same egonetwork. Furthermore, the reconstructed networks hardly highlight a central subject legitimized by other people, capable of exercising effective leadership and therefore organizing a cohesive community around itself, ready to deal with episodes of violence that occurred to the victim, according to a common strategy.

These observations reinforce the starting hypothesis of a relationship between the condition of victim and the composition of personal networks, which, to obtain an even more solid picture, should be evaluated at various stages of the life cycle, even if this would lead to an aggravation, perhaps unsustainable, for the interview situation, in terms of complexity and duration. On the other hand, it would be easier to construct new and more articulated research hypotheses in the case of a significant expansion of the sample size, also in the context of a multi-method strategy that would offer new ideas for verifying the interaction between the personal condition of the abused subjects and the characteristics of the group membership. Of course, it is of the utmost importance that the network analysis is related to a broader socio-cultural context, and for this reason a correct macro-structural analysis of the phenomenon is essential, as most of the indicators are not collected by women

victims of violence but by intermediary sources: the relational interview has among its objectives, in fact, that of putting people at the center of the data construction procedures, despite the obvious difficulties due to the sensitivity of the issue.

Looking ahead, interesting developments are emerging, especially with the possibility of statistically broadening the empirical basis of the research, when the model has suggested that relational data can be profitably harmonized with more traditional survey data, even in the emergency situation in which a research-intervention with immediate reactivity and a clinical and humanistic purpose is required, as in the pandemic phase of COVID-19.

References

Acquadro Maran, D. (2012), *Il fenomeno stalking*, Torino, UTET Università.

Banzato, S.P., Zen, G. (2018), *Alchimia della violenza di genere. Elementi e formule che creano uomini maltrattanti e donne maltrattate*, Milano, StreetLib.

Bonino, S. (2015), *Amori molesti. Natura e cultura nella violenza di coppia*, Bari, Laterza.

Burt, R.S. (1984), 'Network Items and the General Social Survey', *Social Networks*, n. 6, 293-339.

Chiesi, A.M. (1999), *L'analisi dei reticoli*, Milano, Franco Angeli.

Cimagalli, F. (Ed.) (2016), *Le politiche contro la violenza di genere nel welfare che cambia. Concetti, modelli e servizi*, Milano, Franco Angeli.

Di Nicola, P. (2012), 'Gli approcci teorici per lo studio dei personal network', *Sociologia e Politiche Sociali*, vol. 15, n. 2, 9-26.

Donati, P. (2013), *Sociologia della relazione*, Bologna, Il Mulino.

Giomi, E., Magaraggia S. (2017), *Relazioni brutali. Genere e violenza nella cultura mediale*, Bologna, Il Mulino.

Goffman, E. (1998), *L'ordine dell'interazione*, Roma, Armando Editore [ed. orig. 1983, *The Interaction Order*].

Greco, O., Di Nunno N. (Eds.) (2018), *La violenza nelle relazioni affettive*, Lecce, Pensa Multimedia.

Hall, J.A. (2010), 'Egocentric Networks and Unique and Shared Sources of Social Support', *Connections*, vol. 30/2, 41-49.

Heider, F. (2000), *Psicologia delle relazioni interpersonali*, Bologna, Il Mulino [ed. orig. 1958, *The Psychology of Interpersonal relations*].

Kalmijn, M., Vermunt, J.K. (2007), 'Homogeneity of Social Networks by Age and Marital Status: A Multilevel Analysis of Ego-Centered Networks', *Social Networks*, vol. 29, 25-43.

Lazarsfeld, P.F., Menzel, H. (1969), 'On the Relation between Individual and Collective Properties', in Etzioni A. (Ed.), *A Sociological Reader on Complex Organizations*, New York, Holt, Rineheart, and Winston, 499-516.

Lewin, K. (1972), *Teoria e sperimentazione in psicologia sociale*, Bologna, Il Mulino [ed. orig. 1951, *Field theory in social science*].

Luke, D.A. (2004), *Multilevel Modeling*, Thousand Oaks, California, Sage University Paper.

Mancini, G. (2014), *Uomini vittime di donne. Quando il sesso forte è debole*, Bologna, Persiani.

Maniglio, R. (2011), *Coppia e violenza. Dinamiche, fenomenologia e trattamento*, Milano, Franco Angeli.

Marchetti, I. (Ed.) (2008), *Volere o violare? La percezione della violenza di genere negli adolescenti. Stereotipi e processi di legittimazione*, Milano, Unicopli.

Martini, L. (2017), *Altre stelle. Un viaggio nei centri antiviolenza*, Milano, Mimesis.

Mattioli, F. (1999), *L'Io Sociale. Sociologia delle relazioni interpersonali*, Roma, Seam.

Mattioli, F., Anzera G., Toschi L. (2017), *Teoria e ricerca nell'analisi delle reti sociali*, Roma, Aracne.

Monzani, M., Giacometti, A. (2018), *Le relazioni violente. L'esperienza dei Centri Antiviolenza italiani*, Milano, Franco Angeli.

Moreno, J.L. (2007), *Principi di sociometria, di psicoterapia di gruppo e sociodramma*, Roma, Di Renzo [ed. orig. 1953, *Who Shall Survive?*].

Ruggiero, S. (2019), *Violenza liquida. Le infinite forme della violenza nelle relazioni interpersonali*, Bologna, In.edit Edizioni.

Salerno, A., Giuliano, S. (Eds.) (2012), *La violenza indicibile. L'aggressività femminile nelle relazioni interpersonali*, Milano, Franco Angeli.

Salvini, A. (2012), *Connettere. L'analisi di rete nel servizio sociale*, Pisa, ETS.

Salvini, A. (2017), *L'analisi delle reti sociali. Risorse e meccanismi*, Pisa, Pisa University Press.

Santangelo, F. (2017), *La violenza nelle relazioni intime. La trasmissione intergenerazionale degli abusi contro le donne*, Milano, Franco Angeli.

Toschi, L. (2009), *Sociologia e sessualità. Modelli relazionali giovanili e ricerca empirica*, Acireale, Bonanno.

Tringali, M.C. (2019), *Femminicidio e violenza di genere. Appunti per donne che vogliono raccontare*, Torino, Edizioni SEB27.

Tronca, L. (2012), *Personal Network Analysis*, Milano, Franco Angeli.

Tronca, L. (2015), *Sociologia relazionale e social network analysis. Analisi delle strutture sociali*, Milano, Franco Angeli.

Vargiu, A. (2002), *Il nodo mancante. Guida pratica all'analisi delle reti per l'operatore sociale*, Milano, Franco Angeli.

Velotti, P. (2013), *Legami che fanno soffrire. Dinamica e trattamento delle relazioni di coppia violente*, Bologna, Il Mulino.