Social connectedness and psychopathology

Connessione sociale e psicopatologia

Research on the determinants of physical and mental health enlarged the range of inquiry adding the relational and social dimensions to the personal variables. In fact, as numerous studies demonstrated, approaches taking into account the personal sphere of individuals' functioning only, tend to be limited because do not consider the social world [1 2].

The idea that social context affects mental health is not new [3-5]. There is an extensive research on social support as a protective factor from psychopathology influencing physical and mental health [6 7]. In recent years we saw a growing literature studying several social variables that affect individual functioning and psychological adaptation and physical and mental well-being [8 9]. Emerging evidences deriving not only from epidemiology and social psychology but also from neuroscience demonstrate the relevance of social risk factors for mental disorders [10].

In the past, studies that investigated social isolation and health, took into account mainly quantitative measures as the number of relationships, social interactions, or the extent of networks, but the use of subjective measures focusing on subjective feelings and cognitions of social ties are instead crucial in determining social integration [11].

Social connectedness (SC) is the dimension that received relevant empirical support with respect to its role as protective factor and mediator between specific dimensions of social support (e.g. family, school mates, colleagues) and psychological functioning [12 13].

What is social connectedness?

SC refers to the person's subjective awareness of being in close relationship with the social world *in toto* [14], it is an attribute of the self that reflects cognitions of enduring interpersonal closeness with the social word [13].

SC is different from social support or social engagement that are more specific constructs [13]. Lack of social support perception may be linked to specific events, such as a loved person loosing or broking a friendships with the rating of not more having social support. Lack in SC instead indicates a personal difficulty in the relationship with the social word. Finally, SC is different from belongingness that refers to the perception of being part of a group or affiliated to some peers [12].

Lee and colleagues conceptualized the construct of SC as a global aspect of the self, reflecting wide–ranging beliefs and attitudes about relationships and the general "other", about the ability to understand the others, to participate in social activities, to feel close to other people and empathize with them [12].

SC is a stable characteristic (trait-like) of an individual, it develops during childhood and early adolescence, rising from all the social and relational experiences that the person lives, and tends to be stable during adulthood contributing to determine our sense of self [15].

So, if developmental needs for belongingness are satisfied, the person will probably became a competent adult. On the other hand if these needs are not satisfied, (i.e. because of relational environment or socio-economic conditions frustrated the person endeavours to built social ties), the formation of an internalized sense of SC in adulthood will be difficult [14 16].

Social connectedness and psychopathology: theory and practice

Research and literature contributions show how low social connected people experience discomfort in social situations, feeling their self misunderstood or isolated, unsatisfied of their relationships. Further, past research confirms that the widespread social and relational difficulties experienced by those with low SC may contribute to more general psychological distress [12].

Empirical studies found that SC is positively correlated with social competence, hope, and self-esteem, and negatively correlated with anxiety, depressive symptoms, conformity, and psychological distress acting as protective factor leading to fewer interpersonal problems, loneliness, less rejection sensitivity and social avoidance [9 12-15].

Causal models have been tested to analyze the role that SC plays as mediator or moderator respect to different psychological and psychopathological outcomes [9 13 16-19].

Lee and colleagues found on two samples of collegiate students and gay, lesbian and bisexual respectively, that SC plays a mediating role between extraversion and well-being on both samples [9].

William and Galliher collected data from a sample of college students and found that SC was a mediator between more specific forms of social support (form family, friends, colleagues) and depression and self-esteem. The analyses have been implemented through a SEM and showed that SC had a negative impact on depression and a positive impact on self-esteem [13].

Vartanian and Hopkinson investigating the determinants

of bulimic symptoms and dietary restraint on a sample of 300 young women, found, through a path analysis, that SC influenced negatively the tendency to conform to external influences, and indirectly to internalize societal standards of attractiveness, and directly protect from the development of body image problems and bulimic symptoms. In fact, the feeling to be connected with the other make unnecessary to conform to external standards to feel part of the society [18].

Another interesting study, implemented on a sample of 226 youth equally distributed by gender and age [19], tested through a SEM, the role of SC in determining more adaptive reactions and feelings after transgressions. The authors tested a model where two different psychological reactions to transgressive behaviors were measured: shame and guilt. The authors posited that Shame-prone individuals tend to make a global self-evaluation and activate feelings of worthlessness and generates hostile defensiveness while guilt-prone people tend to distinguish self and behaviour and are more prone to seek for forgiveness from others and acting with reparative behaviors. Results showed that social connected people were more self-differentiate hopeful to be able to remediate and these dimensions affected positively the feeling of guilt and negatively the feeling of shame after a transgression. The authors concluded that low SC is associated with a poor differentiation of self that make people more prone to experience feeling of discomfort and fear to confront with difficulties and mistakes. This is coherent with the theory on SC, in fact, SC people are actively involved and connected in the relational sphere, and this provides psychological resources to make remediate for their mistakes.

SC seems to play a key role on prevention of mental and behavioural disorders, particularly during adolescence. Both research studies and psychosocial interventions involving adolescents and youth, and on samples of at risk adolescents as lesbian, gay and bisexual or street-involved youth, found that a greater sense of connectedness to others (family, peer, social groups), is linked to a decreased likelihood of suicide attempts, suicidal ideation, and depressive symptoms [16 17 20 21].

A longitudinal study conducted on psychiatric adolescents with suicidal ideations and attempts, found that SC is a protective factor influencing post-hospitalization adjustment. The perception of an increase in connectedness with family after hospitalization had an enduring protective effect on depressive symptoms and suicidal ideation and increased connectedness with peers, emerged as the only protective factor from post-hospitalization suicide attempts [16].

Finally, a relationship-based intervention conducted on a street-involved youth sample, found that improving SC decrease the psychopathological symptomathology [17]. The results of this pilot study are encouraging, in fact, in this population, depression and hopelessness result significantly higher than the normative samples, this is probably due to past traumas and to manage difficulties of daily life. The intervention study was implemented for 6 weeks with 6 sessions focused on relationships that could be positive and supportive for these youth. As a baseline measure, before the intervention started, several psychological and psychopathological measures were assessed (i.e. depression, hopelessness, resiliency, self-esteem, global severity index). A control group with the same socio-demo was assessed. Results 6 weeks later found that resiliency and self-esteem were in the lower bound of normality at baseline and do not improved after the intervention, SC that at the baseline was lower than the normative data, improved in the intervention group and depressive and hopelessness symptomatology decreased. This pattern has not been found in the control group. The authors posited that the expected improvement in resiliency and self-esteem has not been found because of the short time of intervention. Anyway the authors concluded that these three variables are strictly linked each other and posited that additional time could have answered to this question too. So "SC, resiliency and self-esteem are intricately linked and the improvement in one area may well contribute to improvement in the others" [17] p. 214).

A partial empirical support to these assertions has been found in the study that validated the Italian version of the SCS-R [22] the scale developed by Lee and colleagues to measure SC [12]. To test the criterion validity, the authors analyzed the correlations between SC and resiliency and psychopathology. The Italian version of the SCS-R showed good psychometric characteristics and the correlations with the psychological distress symptoms confirmed the previous research results while, the correlations with the resiliency dimensions proved empirically the hypotheses of previous researchers [17], particularly SC showed high and positive correlations with the dimensions of individual and social competence.

A social neuroscience perspective

During all life phases social interactions, within stable and supportive social environments, are crucial for humans well-being. Epidemiology provides evidence that humans exposed to social isolation or defective social contexts are at increased risk for both mental and physical illnesses [10 23]. These social experiences engage multiple neural circuits and neurobiological systems that received, in recent years, relevant scientific attention, social neuroscience being now a booming discipline focused in defining the neural circuits related to social support [24].

Why and how social connections modulate cellular and molecular processes that mediate health and disease is

far however from being clear. Intriguing relevant findings linked social connections to the activity of neural and endocrine systems affecting diseases pathophysiology, such as the sympathetic nervous system (SNS) and the hypothalamus-pituitary-adrenal (HPA) axis, leading to effects on disease regulating biological processes, such as immune cell gene expression and inflammatory dynamics. Chronic social disconnection or the threat of major social loss can lead to a glucocorticoid desensitization transducing HPA axis cortisol signals into increased basal levels of inflammatory gene expression in circulating immune cells.

Social neuroscience can give a teleological perspective to these observations. Dedicated neural circuits have evolved to detect threats (i.e. threat/harm) and benefits (i.e. safety/reward) to survival. If social connection is a crucial element of human survival as well as of safety and security through the capacity to connect to support figures, social experiences may co-opt these basic neural circuitries. These systems elicit adaptive SNS and HPA physiological responses to threat and safety/caregiving behaviours in order to assure the best possibilities of survival. Experiences of social disconnection may involve these physiological responses, ultimately resulting in health consequences [25].

Although yet preliminary, the available findings suggest a causal role for the social environment in risk, resilience, illness and well-being. Social disconnection (loneliness) or connection (social support) may modify the function and connectivity of neural systems relevant for the regulation of negative emotion, stress and salience.

Along a translational research agenda findings from molecular genetics, epidemiology, social psychology and neuroscience can came together in a social neuropsychiatry that could have much to offer for scientists, patients and therapists in terms of novel strategies for pharmacology, psychotherapy and social policy.

Conclusions

The research and practice on this topic demonstrated how SC could be a key element to prevent psychosocial maladjustment. Further research is needed to investigate the determinants and correlates of SC, to plan interventions for the prevention of psychological maladjustment and mental disease and the improvement of social connections inside the families and the communities.

The possibility of a primary prevention intervention will be a notable investment for the welfare and it will produce in the medium term a significant decrease of mental illness costs.

Finally, it is relevant the interest for social determinants of neurophysiology as demonstrated by the interest of social neuroscience on this topic.

The improvement of knowledge will be more effective if scientists from different disciplines as medicine, psychiatry, psychology, sociology, economics and political sciences, will unify their efforts to best understand linkages between the social and the individuals' words and how to favourite positive exchanges between them to let both improve and develop in the more complete and healthy way.

Alessandro Rossi[1], Paolo Stratta[2], Cristina Capanna[1]

[1] Department of Biotechnological and Applied Clinical Sciences, University of L'Aquila, Italy;
[2] Department of Mental Health, ASL 1 - L'Aquila, Italy

References

1 Berkman LF. *The role of social relations in health promotion*. Psychosomatic Med 1995;57:245-54.

2 Syme SL. *Social determinants of health: the community as an empowered partner*. Prev Chronic Dis 2004;1:A02.

3 Faris REL, Dunham HW. *Mental disorder in urban areas*. Chicago: University of Chicago Press 1965.

4 Leighton AH. *Caring for mentally ill people: psychological and social barriers in historical context*. Cambridge, Cambridgeshire, New York: Cambridge University Press 1982.

5 Freeman HL. *Mental health and the environment*. London-New York: Churchill Livingstone 1984.

6 Kalil A, Born CE, Kunz J, Caudill PJ. *Life stressors, social support, and depressive symptoms among first-time welfare recipients*. Am J Community Psychol 2001;29:355-69.

7 Broadhead WE, Kaplan BH, James SA, et al. *The epidemiologic evidence for a relationship between social support and health*. Am J Epidemiol 1983;117:521-37.

8 Cohen S, Wills TA. *Stress, social support, and the buffering hypothesis*. Psychol Bull 1985;98:310-57.

9 Lee RM, Dean BL, Jung KR. *Social connectedness, extraversion, and subjective well-being: testing a mediation model*. Personality and Individual Differences 2008;45:414-9.

10 Meyer-Lindenberg A, Tost H. *Neural mechanisms of social risk for psychiatric disorders*. Nat Neurosci 2012;15:663-8.

11 Cattan M, White M. *Health promotion interventions targeting social isolation and loneliness*. In: *A research into ageing workshop*. London: London School of Hygiene and Tropical Medicine 1999.

12 Lee RM, Draper M, Lee S. *Social connectedness, dysfunctional interpersonal behaviors, and psychological distress: testing a mediator model*. J Couns Psychol 2001;48:310-8.

13 Williams KL, Galliher RV. *Predicting depression and self-esteem from social connectedness, support, and competence*. J Soc Clin Psychol 2006;25:855-74.

14 Lee RM, Robbins SB. *Measuring belongingness: the social connectedness and the social assurance scales*. J Couns Psychol 1995;42:232-41.

15 Lee RM, Robbins SB. *The relationship between social connectedness and anxiety, self-esteem, and social identity*. J Couns Psychol 1998;45:338-45.

16 Czyz EK, Liu Z, King CA. *Social connectedness and one-year trajectories among suicidal adolescents following psychiatric hospitalization*. J Clin Child Adolesc Psychol 2012;41:214-26.

17 McCay E, Quesnel S, Langley J, et al. *A relationship-based intervention to improve social connectedness in street-involved youth: a pilot study*. J Clin Child Adolesc Psychol 2011;24:208-15.

18 Vartanian LR, Hopkinson MM. *Social connectedness, conformity, and internalization of societal standards of attractiveness*. Body Image 2010;7:86-9.

19 Williamson I, Sandage SJ, Lee RM. *How social connectedness affects giult and shame: mediation by hope and differentiation of self*. Personality and Individual Differences 2007;43:2159-70.

20 Armstrong S, Oomen-Early J. *Social connectedness, self-esteem, and depression symptomatology among collegiate athletes versus nonathletes*. J Am Coll Health 2009;57:521-6.

21 Ackard DM, Neumark-Sztainer D, Story M, et al. *Parent-child connectedness and behavioral and emotional health among adolescents*. Am J Prev Med 2006;30:59-66.

22 Capanna C, Stratta P, Collazzoni A, et al. *Social Connectedness as resource of resiliece: Italian validation of the Social Connectedness Scale-Revised*. Journal of Psychopathology; in press.

23 Miller G, Chen E, Cole SW. *Health psychology: developing biologically plausible models linking the social world and physical health*. Annu Rev Psychol 2009;60:501-24.

24 Adolphs R. *The social brain: neural basis of social knowledge*. Annu Rev Psychol 2009;60:693-716.

25 Eisenberger NI, Cole SW. *Social neuroscience and health: neurophysiological mechanisms linking social ties with physical health*. Nat Neurosci 2012;15:669-74.