

# Interaction between varying social ties on health: Perceived partner responsiveness and institutional trust

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The interplay between different forms of social relationships, that is, perceived partner responsiveness and institutional trust, on subjective health evaluations was examined for the first time. There were 1241 respondents who had a romantic relationship. After adjusting for the covariates, findings suggested that greater perceived partner responsiveness and institutional trust led respondents to report better subjective health. The positive link between perceived partner responsiveness and subjective health was more pronounced among the respondents reporting a lower level of institutional trust. Such an interaction could be an indicator pointing out the compensatory role of close relationship dynamics. Given that finding, public health authorities and practitioners could be encouraged to be aware of the adaptive function of social ties on health and focus on maintaining the strength of intimate social ties and building trust between authority gradients. This suggestion could especially be adaptive not only during “normal” times but also during post-disaster circumstances (e.g., COVID-19).

**Keywords:** Perceived partner responsiveness; Bonding social capital; Institutional trust; Linking social capital; Subjective health; Turkey; COVID-19.

A cumulative knowledge of relationship science has shown that social relationships are adaptive in health-related outcomes (e.g., Holt-Lunstad et al., 2010; 2015). The social capital perspective is one of the theoretical frameworks supporting that argument in health research. Even though there needs to be a clarification about the operational definition and measurement of the term social capital (Chu et al., 2018), it basically refers to the quality of individuals’ social network that could provide valuable resources (e.g., instrumental, social and emotional) associated with health-related outcomes (Kawachi, 2010).

According to social capital theory, various social relationships are formed in a society (Kawamoto & Kim, 2019). Those relationships were first named *bonding* and *bridging* social capital (Putnam, 2000). Bonding refers to the most intimate *horizontal* social circle (e.g., family members, romantic partners), whereas bridging

relationships consist of less intimate horizontal social ties (e.g., acquaintances, colleagues) in society. Thus, the strongest social tie we develop to connect with someone similar to us is bonding, whereas bridging relationships are weaker social bonds with whom we have less in common (Kawachi, 2006). In addition, Szreter and Woolcock (2004) defined another form of a relationship built between the person and the authority or power gradients called *linking* social capital. In contrast to the other two dimensions, it refers to a *vertical* relationship between people and institutions (e.g., security and health services). Consistent with that description, Rothstein defined vertical trust as “trust in political and societal institutions” which, he suggested, is related to linking social capital (Rothstein, 2000, p. 488).

The quality indicators (e.g., trust, social support, reciprocity) of such social relationships varied in previous studies focusing on health outcomes (Rodgers

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et al., 2019). Sense of trust was the most studied quality indicator, defining the social capital consistent with Putnam's suggestion that "trust is an essential component of social capital" (Putnam, 1993, p. 170). Correspondingly, a systematic review by Rodgers et al. examined a decade of cumulative knowledge (2007–2018) covering 145 studies on social capital and health. According to this analysis, more than half of the studies operationally defined trust as the proxy of social capital (Rodgers et al., 2019, p. 4).

Likewise, the three-dimensional approach (i.e., bonding, bridging and linking) was suggested as the clearest definition of social capital (Elgar et al., 2011; Jiang & Wang, 2020). As the operational definition of social capital varied in the previous works, health-related outcomes were differently assessed. Subjective health was the most studied outcome, which was consistently related to social capital, and findings for different health outcomes (e.g., diabetes, obesity) were rather scattered (see Rodgers et al., 2019). To reach the most parsimonious findings, operational definitions and measurements of social capital and health were selected based on the most robust findings suggested, especially by meta-analysis studies (e.g., Rodgers et al., 2019; Xue et al., 2020). However, for the first time, the bonding aspect was defined through a close relationship dynamic or quality indicator in those relationships, that is, perceived partner responsiveness.

### Perceived partner responsiveness and health

Considering the bonding aspect as the individuals' most intimate social circle, its quality indicators could be defined based on different close relationship dynamics. Perceived partner responsiveness, referring to the extent to which romantic partners understand, care for and validate each other (Reis, 2012), is one of those quality indicators in the close relationships literature. Perceived partner responsiveness could be a form of social capital (i.e., bonding), which has never been discussed in terms of social capital perspective. It represents behavioural (e.g., "my partner usually expresses liking and encouragement for me") and cognitive (e.g., "my partner usually values and respects the whole package that is the 'real me'") aspects of social capital that could also be congruent with bonding aspect (see Reis et al., 2017 for the items). The bonding aspect involving family social capital could be more comprehensive by including romantic relationships, whether married or non-married (e.g., dating or cohabiting partners).

Perceived partner responsiveness was suggested as an essential component of a romantic relationship's quality (e.g., Gable et al., 2012; Laurenceau et al., 2005). More specifically, perceived partner responsiveness is related to the establishment of emotional intimacy, making sacrifices for each other, resolving conflicts with

empathy and supporting each other in good or bad times; that is, it is a common underlying mechanism in processes such as sharing the distress in sad times and the joys in happy times (Maisel et al., 2008; Reis et al., 2004). To explain a little more, it is possible to reflect upon daily observations regarding perceived partner responsiveness with the following questions: Does the spouse or partner understand the other spouse's or partner's problems, needs, wishes and goals? If so, does s/he acknowledge how important they are to that person and value not only his/her strengths but also weaknesses? Does s/he worry about the same problems and sincerely support solving problems in stressful times, or does s/he share joy after a positive event/experience that brings happiness? Perceived partner responsiveness, which is an answer to such questions, is a summary of behaviours parallel to the beliefs and feelings of romantic partners about each other (Reis & Clark, 2013; Reis & Gable, 2015).

As could be inferred from the descriptions mentioned above, it is suggested that one of the close relationships' adaptive functions is the stress-buffering effect (e.g., Slatcher et al., 2015; Stanton et al., 2019). Thus, significant others provide valuable resources, especially in times of distress. Such a compensatory role of significant others would lead people to report better health-related outcomes. For instance, previous studies showed that perceived partner responsiveness was associated with healthy cortisol output in a 10-year later longitudinal assessment (Slatcher et al., 2015), lower level of inflammation (Sin et al., 2015), greater well-being in 10-year (Selcuk et al., 2016) and 20-year later (Alonso-Ferres et al., 2020; Stanton et al., 2019) longitudinal assessments, better sleep quality via reduced anxiety (Selcuk et al., 2017) and decreased binge eating tendency via greater interpersonal emotion regulation among romantic partners (Tosyali & Harma, 2021).

### Institutional trust and health

In health studies, social capital theory suggests that linking social ties between individuals and authority is as adaptive as the bonding aspect (e.g., Lofors & Sundquist, 2007; Sundquist et al., 2006). Though the linking aspect was named more than 10 years ago, it has rarely been examined in health research (Jiang & Wang, 2020). Studies often focused on this aspect of social capital in disaster-related contexts (Noel et al., 2018). The reason could be that in times of disaster or crisis at a societal level, function and dependence on power gradients become more salient. For instance, although people have frequent close interactions in a highly mobilised society, to what extent citizens would comply with government policies during a crisis (e.g., the COVID-19 pandemic) would depend on their confidence in the authority.

Previous findings from different countries showed that lower institutional trust was associated with worse health and well-being outcomes (e.g., Ciziceno & Travaglino, 2019; Piumatti et al., 2018; Thoresen et al., 2018). Such relationship patterns between linking social capital indicators, that is, institutional trust (e.g., confidence in the police, confidence in the legal system and confidence in the healthcare system), were consistent in the COVID-19 response (e.g., Lee, 2022). For instance, the death rate due to COVID-19 was higher in societies where institutional trust was weaker (Oksanen et al., 2020). If institutional trust is damaged, individuals may experience distress and frustration by thinking that they do not live in a just and equal society. Such distress may especially be boosted during disasters in which people feel long-term vulnerability due to the perception that institutions cannot provide the necessary resources to provide security and justice (Thoresen et al., 2018).

In addition, as institutional trust increases, satisfaction with the guidance and support provided by authority gradients increase, and adaptive health behaviours are more likely to be followed (Baniamin et al., 2020). Thus, institutional trust would facilitate the cooperation between health and social domains, breeding better coping at individual and social levels (Oksanen et al., 2020). For instance, higher confidence in institutions would facilitate acceptance of scientific recommendations and information provided by authorities, resulting in practicing precautions and avoiding maladaptive health behaviours (Nutbeam, 2020; Wong et al., 2020). In a contrasting scenario where institutional trust was weaker, crisis management would be more likely to be undermined due to miscommunication and disagreement between the public and power gradients (e.g., government, healthcare system, scientists). Moreover, interpersonal support-seeking behaviours may be inhibited due to the damage to institutional trust. For instance, a person with lower institutional trust and needing social support may be discouraged from showing support-seeking behaviours due to potential cognitions that others have higher institutional trust so that they would not understand the person or are tired of listening to such cognitions (Thoresen et al., 2014).

### Interaction between bonding and linking aspects on subjective health

Considering the positive impact of bonding and linking aspects on subjective health evaluations in the present study, ecological theory, suggested by one of

the well-known developmental psychologists, Urie Bronfenbrenner, would also shed light on that relationship in a similar theoretical perspective with social capital. Especially two dimensions of social capital, *bonding* and *linking*, may correspond to the different sub-systems of the ecological theory.

Ecological theory mainly emphasises individual and contextual systems to understand human development (Stokols, 1996). According to Bronfenbrenner, examining the interaction within and between these ecological systems is essential to comprehend the developmental outcomes (Bronfenbrenner, 1975). Even though he suggested this theory to understand human development, especially by focusing on early childhood, it has also been the main theoretical framework of many mental health studies (Eriksson et al., 2018).

In this theory, ecology refers to the fit between the individual and environment, meaning that the more the fit between the person and environment, the more adaptive developmental outcomes for a human. He suggested that the environment is a multi-layered system including sub-systems rather than a single unity, such as a microsystem, exosystem and macro-system.<sup>1</sup> He underlined that an ecological study should consider at least two sub-levels (Bronfenbrenner, 1975). From this point of view, at least two sub-levels (i.e., bonding and linking) of social structure corresponding to ecological study ingredients were considered in the current research.

*Microsystem* includes the individual and his/her immediate environment (e.g., home, school) consisting of significant others (Bronfenbrenner, 1995). In addition, in the final phase of the theory, Bronfenbrenner (1995) introduced a concept named “proximal processes,” which he also called “engine of development,” referring to reciprocal interactions between the person and the significant others, for instance, a family member. Therefore, micro-systems may correspond to the bonding aspect of social capital. *Exosystem* consists of wider social structures such as the business world, media and public agencies. These broader social structures do not influence the person in the developmental process; rather, they impact immediate settings (e.g., family), influencing human development. *Macro-system* involves written (e.g., law and regulations) and unwritten (e.g., culture) *norms* that would influence human development (Bronfenbrenner, 1978). Depending on the social structure and components mentioned in the exosystem and macro-system, linking social capital may correspond to these two social structures. Consequently, in light of social capital theory and ecological theory, we expect various aspects of social relationships and interaction,

<sup>1</sup> In this part regarding Bronfenbrenner’s theory, we mainly intended to underline similar theoretical perspectives that correspond to social capital theory. Thus, we deliberately skipped some parts of ecological theory and shared personal opinions regarding the similarities.

if any, between those aspects to be related to human health.<sup>2</sup>

### The current study

In crises like a pandemic, precautions would likely be followed by individuals in societies with high linking social capital (e.g., Chuang et al., 2015; Rönnerstrand, 2016). Individuals with increased trust in medical developments and equal distribution of services would be more likely to practice protective health behaviours. Supporting that argument, data from Taiwan showed that people with high confidence in the government during the influenza pandemic had more tendency to practice protective health-related behaviours such as receiving a vaccine, washing hands more often and wearing a face mask (Chuang et al., 2015). Similar results were reported in studies conducted in Sweden and the U.S. regarding the link between individuals' intention to receive a vaccine against the 2009 A (H1N1) pandemic and the linking aspect of social capital (Rönnerstrand, 2016). In a sense, social capital's bonding aspect may not be sufficient during crisis times—although it was suggested to be the strongest predictor in disaster scenarios (Mathbor, 2007) for an effective response—suggesting a balance in the contribution of all aspects of social capital. However, what would happen if such a balance could not be acquired in varying social relationship dynamics? Could the most intimate social bonds compensate for any lack of relationship quality in other social ties?

To date, although there is a huge contribution regarding the direct links between varying forms of social relationships and health, the possible interplay between different forms of social relationships on health-related outcomes has not been examined in the literature. Such interplay could draw a picture reflecting the compensatory role of close relationship dynamics in another context. Specifically, we hypothesised that the positive link between perceived partner responsiveness—which could be considered bonding social capital—and subjective health evaluations could be more salient among those reporting lower institutional trust (i.e., linking social capital). For this purpose, an interaction between the most intimate horizontal social circle (i.e., bonding dimension) and the vertical social tie (i.e., linking dimension) on a health outcome (i.e., subjective health evaluations) was examined for the first time in the present study. In addition, the adaptive role of social relationships on health has mostly been examined in Western countries. However, limited

studies have tested these links in non-Western cultures. Also, to date, the relationship between institutional trust and health in a post-disaster context has not been investigated in Turkey. Thus, the present study contributes to the existing literature at the country-specific and global levels.

## METHOD

### Participants and procedure

The study was approved by the Ethics Committee of Kadir Has University and was conducted following the ethical standards of the 1964 Declaration of Helsinki. Informed consent was presented for all participants. Having been approved by the ethics committee, a question battery for a larger project representing the Turkish sample was prepared in Qualtrics software to be delivered to each respondent in a balanced and random order. Participation in the present study was voluntary, with no explicit incentives. Since data were collected during the COVID-19 lockdown period (December 2020), face-to-face interviews were not feasible; therefore, a group of interviewers from a research company conducted phone interviews for 1 month.

From that larger project, there were two inclusion criteria for the current analysis. Respondents older than 18 and participants with a romantic relationship were included. Based on the inclusion criteria, the total sample size was 1270; however, 29 participants did not respond to any perceived partner responsiveness items. Thus, the resulting sample size for the current analysis consisted of 1241 respondents. In the final sample ( $N_{\text{men}} = 627$ ), the mean age was 45 ( $SD = 11.73$ , ranging from 18 to 110). The highest frequencies for the educational background were high school (31.7%) and university (26.9%). The average socioeconomic status was five (range = 1–10). Majority of the participants were married, (married = 90%, single = 6.4%, divorced = 1.2%, engaged = 1%, did not answer = .8%, and widowed = .6%). Eighty-two percent of the respondents had at least a child, and the rest did not have a child.

### Measures

#### Subjective health evaluations

The outcome variable, participants' subjective state of health, was assessed based on the following question: "All

<sup>2</sup> Many other pioneer psychology theories consistently indicate an adaptive role of social relationships on physical and mental health, such as Attachment Theory, Stages of Psychosocial Development, Theory of Need to Belong, and Self-Determination Theory (i.e., relatedness dimension). These theories consist of similar perspectives (e.g., trust, the importance of togetherness) corresponding to either bonding or bridging social capital theory aspects. However, these theories do not include linking the social capital dimension, referring to the vertical relationship between people and power or authority. Indeed, this kind of comprehensive perspective on the scope of social relationships and health linkage incorporates different social science disciplines such as economy, psychology and sociology.

in all, how would you describe your state of health these days?” ranging from 1 (poor) to 10 (excellent). Such a single self-rated health question was shown as a globally valid and reliable instrument predicting objective health, morbidity and mortality (e.g., Idler & Benyamini, 1997; Meng & Chen, 2014).

**Perceived partner responsiveness**

This bonding-related predictor was assessed based on the following three items representing core elements of the construct: to what extent do the respondents think their partner really *cared for, understood and appreciated* them (Reis, 2012). Responses were based on a scale ranging from 1 (not at all) to 7 (a lot). Such a three-item assessment was used in previous studies (e.g., Selcuk et al., 2016, 2017). The scale showed good reliability in the current analysis (Cronbach’s alpha = .93).

**Linking social capital**

This social capital aspect was assessed by its core element, that is, trust level (Elgar et al., 2011; Fukuyama, 1995; Putnam, 2000). Vertical trust was measured by several items indicating to what extent the respondents trust the following institutions: “health services, security services, education services, public services provided electronically.” The scale ranged from 1 (do not trust at all) to 4 (trust completely). The scale showed good reliability in the current analysis (Cronbach’s alpha = .84).

**Covariates**

Potential confounding demographics such as gender, age, education, socioeconomic status based on the McArthur Ladder measure (Adler et al., 2000), presence of a child, and COVID-related stressors (the number of people, if any, diagnosed with COVID-19 in the family; the number of people, if any, on unpaid vacation due to COVID-19 in the family; the number of people, if any, who is susceptible to the COVID-19 such as one with a chronic disease or 65 years and older in the family) were statistically controlled during the analysis.

Since the variables were measured based on different scales, all scores of continuous variables were standardised to ease comparison and interpretation of the statistical findings. All analyses were conducted using IBM SPSS version 20.0.

**RESULTS**

Bivariate relationships among the study variables were shown in Table 1. Next, a moderated regression analysis was conducted to test if the interplay between perceived partner responsiveness and linking social capital was

**TABLE 1**  
Bivariate Relationships Among Variables

	1	2	3	4	5	6	7	8	9	10	11
1 Gender <sup>a</sup> (50.5% men)											
2 Age	-.131***										
3 Education	.026	-.303***									
4 Socioeconomic status	.025	-.189***	.377***								
5 Presence of a child <sup>b</sup> (18% no child)	-.047	.305***	-.139***	-.133***							
6 COVNUMB	.014	-.057*	-.014	-.020	-.008						
7 COVRISK	.072*	.225***	-.150***	-.183***	.014	.110***					
8 JOBLST	.003	-.062*	-.046	-.048	-.057*	.264***	.034				
9 Perceived partner responsiveness	-.129***	.058*	.072**	0	.044	.012	.019	-.028			
10 Linking social capital	-.036	-.016	-.065*	.251***	-.037	0	-.075**	-.034	.051		
11 Subjective health	-.086**	-.178***	.123***	.182***	-.009	-.013	-.204***	-.063*	.117***	.116***	
M		44.57		5.27		.25	.35	.12	4.5	2.94	8.05
SD		11.73		1.93		.85	.68	.47	.77	.79	1.82

Note: All continuous variables were standardised. COVNUMB = number of people (if any) diagnosed with COVID-19 in the family; COVRISK = number of people (if any) who are susceptible to COVID-19 in the family; JOBLST = number of people (if any) on unpaid vacation due to COVID-19 in the family. <sup>a</sup>0 = men, 1 = women. <sup>b</sup>0 = no child, 1 = presence of a child. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

**TABLE 2**  
Regression analysis on subjective health

	Beta	SE	p	Lower limit of the confidence interval	Upper level of the confidence interval
<i>Subjective health</i>					
	$R^2 = .11^*$				
Gender <sup>a</sup>	-.086	.056	.002	-.286	-.066
Age	-.156	.035	<.001	-.246	-.110
Education	.017	.031	.581	-.044	.079
Socioeconomic status	.115	.030	<.001	.054	.173
Presence of a child <sup>b</sup>	.044	.076	.123	-.032	.266
COVNUMB	.011	.029	.706	-.046	.067
COVRISK	-.136	.029	<.001	-.195	-.082
JOBLOST	-.057	.027	.035	-.111	-.004
Perceived partner responsiveness	.092	.029	.001	.037	.149
Linking social capital	.068	.028	.016	.012	.122
Interaction term	-.075	.026	.007	-.120	-.018

Note: All continuous variables were standardised. COVNUMB = number of people (if any) diagnosed with COVID-19 in the family; COVRISK = number of people (if any) who are susceptible to COVID-19 in the family; JOBLOST = number of people (if any) on unpaid vacation due to COVID-19 in the family; LLCI = lower limit of the confidence interval; ULCI, upper level of the confidence interval. Interaction term = perceived partner responsiveness  $\times$  linking social capital. <sup>a</sup>0 = men, 1 = women. <sup>b</sup>0 = no child, 1 = presence of a child. \* $p < .001$ .

related to subjective health evaluations. In the moderated regression analysis, we also controlled the effect of a series of demographics (i.e., gender, age, education level, socioeconomic status, presence of a child, number of people [if any] diagnosed with COVID-19 in the family, number of people [if any] who is susceptible to COVID-19 in the family, and number of people [if any] on unpaid vacation due to COVID-19 in the family).

As shown in Table 2, gender and age were significantly and negatively related to subjective health ( $\beta = -.086$ ,  $SE = .056$ ,  $p = .002$ , 95% confidence interval [CI] = [-.286, -.066];  $\beta = -.156$ ,  $SE = .035$ ,  $p < .001$ , 95% CI = [-.246, -.110], respectively). Specifically, women reported poorer subjective health than men, and younger respondents reported better subjective health. Socioeconomic status was significantly and positively related to subjective health ( $\beta = .115$ ,  $SE = .030$ ,  $p < .001$ , 95% CI = [.054, .173]). Respondents with higher SES reported better subjective health. Education and presence of a child were not significantly related to subjective health ( $\beta = .017$ ,  $SE = .031$ ,  $p = .581$ , 95% CI = [-.044, .079];  $\beta = .044$ ,  $SE = .076$ ,  $p = .123$ , 95% CI = [-.032, .266], respectively).

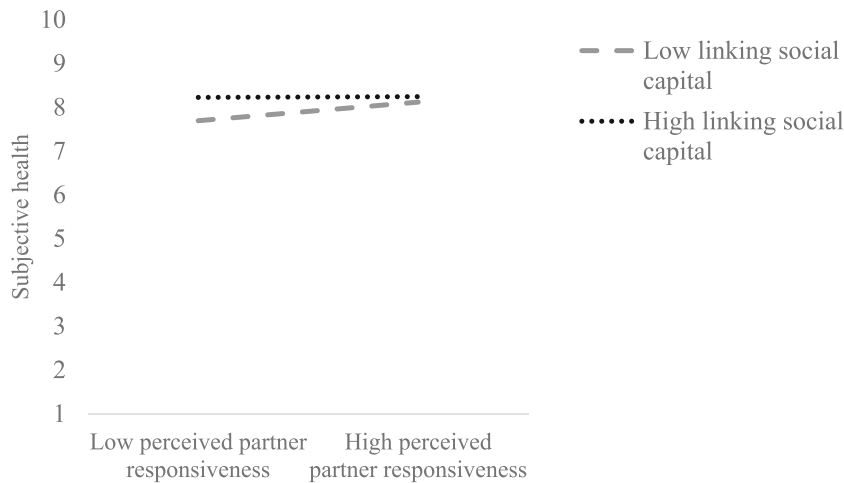
The number of people who are susceptible to COVID-19 in the family was significantly and negatively related to subjective health ( $\beta = -.136$ ,  $SE = .029$ ,  $p < .001$ , 95% CI = [-.195, -.082]). Similarly, the number of people on unpaid vacation due to COVID-19 in the family was significantly and negatively associated with subjective health ( $\beta = -.057$ ,  $SE = .027$ ,  $p = .035$ , 95% CI = [-.111, -.004]). Specifically, the increased number of people susceptible to COVID-19 and on unpaid vacation due to COVID-19 in the family led respondents

to report poorer subjective health. The number of people diagnosed with COVID-19 in the family was not significantly related to subjective health ( $\beta = .011$ ,  $SE = .029$ ,  $p = .706$ , 95% CI = [-.046, .067]).

Perceived partner responsiveness was positively and significantly related to subjective health ( $\beta = .092$ ,  $SE = .029$ ,  $p = .001$ , 95% CI = [.037, .149]). Similarly, linking social capital was positively and significantly associated with subjective health ( $\beta = .068$ ,  $SE = .028$ ,  $p = .016$ , 95% CI = [.012, .122]). Specifically, participants reporting greater perceived partner responsiveness and linking social capital reported better subjective health. The interaction term between perceived partner responsiveness and linking social capital was significantly related to subjective health ( $\beta = -.075$ ,  $SE = .026$ ,  $p = .007$ , 95% CI = [-.120, -.018]). Specifically, the positive link between perceived partner responsiveness and subjective health was more salient among the respondents reporting the lowest level of linking social capital ( $\beta = .182$ ,  $SE = .038$ ,  $p < .001$ , 95% CI = [.107, .260]). The link between perceived partner responsiveness and subjective health was non-significant among the respondents reporting the highest level of linking social capital (see Figure 1). As shown in Table 2, all variables explained 11% of the variance on subjective health, suggesting a moderate effect size. The effect sizes of each variable based on standardised coefficients were small (Cohen, 1988).

## DISCUSSION

Relationship science has long discussed the compensatory role of close relationships on health-related



**Figure 1.** Interaction between perceived partner responsiveness and institutional trust on subjective health.

outcomes in times of distress or lack of social support (e.g., Bradbury & Karney, 2004; Cohen & Pressman, 2004). Social capital literature also emphasised the stress-buffering role of its core elements (i.e., trust) on health (Uphoff et al., 2013; Van Lange, 2015). Combining this suggestion in the social capital perspective, the current study pursued whether perceived partner responsiveness in romantic relationships (i.e., bonding social capital) could compensate for the lack of trust in vertical social ties (i.e., linking social capital) during the COVID-19 lockdown. Thus, this is the first time that health-related research has examined the interplay between horizontal and vertical social ties.

It should be noted that the hypothesis regarding a compensatory mechanism was not specified considering the COVID-19 context; the hypothesis was instead a reflection of a thought inspired by the multifaceted nature of social relationships and their complex and dynamic association with health. Findings were consistent with the previous studies showing the adaptive role of perceived partner responsiveness (e.g., Selcuk & Ong, 2013) and vertical trust (i.e., linking social capital; Xue et al., 2020) on health-related outcomes. Moreover, the interplay between two different forms of social relationships on subjective health evaluations was found significant in a Turkish sample. Specifically, the positive link between perceived partner responsiveness and subjective health outcomes was more pronounced among the respondents reporting lower levels of institutional trust.

The quality of social relationships is critical in optimal human functioning and health outcomes in not only “normal” times (Ryff & Singer, 2000; Sbarra & Hazan, 2008) but also in disaster/crisis-related contexts (Aldrich, 2012). In this sense, the adaptive roles of perceived partner responsiveness and vertical trust in terms of a health-related outcome were consistent with the current studies examining such relationships

dynamics in a COVID-19-related context (e.g., Balzarini et al., 2020; Fraser et al., 2021). Since the current study was conducted when COVID-19 precautions were a top priority, the findings could be comparable with similar results pointing out a compensatory mechanism. For instance, a study conducted in a sample from 57 countries by Balzarini et al. (2020) found that perceived partner responsiveness could be a buffering factor in the link between COVID-related stressors and relationship quality. In other words, the link between higher levels of COVID-related stressors and poorer relationship quality was weaker for the respondents reporting greater perceived partner responsiveness. Another study analysing U.S. counties’ data from the Center for Disease Control and Prevention collected since February 2020 showed that bonding and linking aspects of social capital (but not the bridging dimension) were protective factors lowering the excess mortality rate during the COVID-19 pandemic (Fraser et al., 2021).

By contrast, nonresponsive relationships would bring about poorer physical and mental health and a greater risk of mortality (Holt-Lunstad et al., 2010; Selcuk & Ong, 2013). The existence of a responsive partner breeds a sense of security, which is related to two basic functions of close relationships: the stress-buffering effect and co-regulation (Selcuk et al., 2010). Such functional mechanisms provide social, informational and instrumental resources when encountering negative stimuli or stressors. Support of a responsive partner could reduce stress response both at physical and psychological levels (Sbarra & Hazan, 2008) by decreasing perceived harm and increasing perceived coping ability (Cohen & Pressman, 2004). Consequently, partners could prevent negative affective reactions or maladaptive responses, which, in turn, leads them to produce adaptive solutions for problems. For instance, a dyadic analysis showed that greater perceived partner

responsiveness could be associated with co-regulation (i.e., interpersonal emotion regulation) of stress between romantic partners, which, in turn, is associated with a lesser tendency to maladaptive behaviour, that is, binge eating (Tosyali & Harma, 2021). Put another way, through close and trustful relationships, psychological and biological adjustments can be realised by spending less cognitive and metabolic resources (Coan & Sbarra, 2015).

Likewise, the relationship quality between people and the authority is vital in terms of health-related outcomes, especially during disaster or crisis times (Aldrich, 2012). In societies with higher linking social capital, citizens would be more likely to collaborate with local health departments and the healthcare system (Cramer et al., 2021). To accomplish that, the authority should provide transparent and consistent policies. Regardless of socioeconomic class, individuals should have access to health services and confidence in the authority (e.g., Ministry of Health). For example, in Italy, irregular migrants were not provided a free COVID-19 test, which undermined the response to the pandemic (Armocida et al., 2020). Therefore, high confidence in health services provided by the ultimate authority (i.e., linking social capital) would be vital for the good of states and societies. Thus, when trust in governmental institutions increases, the tendency of citizens to internalise risk messages and comply with the precautions would increase in habitual social routines (e.g., public mask-wearing, compliance with social distancing, self-quarantining and hand washing).

To be noted, however, the current study hypothesis was not specified considering the disaster scenario of the COVID-19 pandemic. It was rather based on the cumulative knowledge already showing a robust positive link between social capital and health outcomes. For instance, an analysis result on 2016 China Family Panel Data ( $N = 30,657$ ) showed that “the relation between social capital and self-rated health may be universal” (Gu & Zhu, 2020, p. 11). In addition, meta-analytic findings supported that social capital is a consistent predictor of physical (e.g., (Rodgers et al., 2019) and mental health (e.g., Xue et al., 2020).

### Implications

The study findings present two adaptive resources for health: perceived partner responsiveness and institutional trust. Such resources could provide tolerance and resilience for the adversities appearing in times of disaster/crisis. Couple-based therapies focusing on interpersonal relationship dynamics would reduce relapse (Linville et al., 2016). In this case, for instance, couple-based therapies combined with the cognitive-behavioural approach principles would help boost partner responsiveness.

The institutional trust would facilitate adaptive implementation and sustainability of policies, especially during crisis management, since power gradients are pivotal in managing and implementing public health policies. For instance, the police, as a component of the power gradient, should manage the risk factors for public order during disaster management. Another component, the judicial system, should be perceived as fair and impartial while penalising the ones violating the crisis management process. Public perceptions of any potential privilege towards particular individuals or groups would damage institutional trust. Additionally, reliable information, easily accessible health services and rapid actions (e.g., enabling citizens to organise their paying bills, travel applications and other urgent needs in online services) should be provided by the authority gradients. Also, authority gradients are critical in mediating the cooperation between the public and professionals from different areas, such as medical institutions, science, industry and education. The perceived image of the authority gradients in terms of cooperating with the professionals should be clear for the public, and such an image could be induced through transparent and consistent media reflections. Consequently, institutions' performance in a crisis response should be perceived as helpful and adequate to boost citizens' confidence in those institutions. Then, it would be more likely to practice precautions and follow the suggestions, bringing about adaptive health outcomes.

### Limitations

There are also some limitations in this study. First, the results cannot be generalised due to the lack of a representative sample, and the current study findings are limited to a Turkish sample. Previous work showed that the link between perceived partner responsiveness and health-related outcomes could differ across varying cultural contexts (e.g., Taşfiliz et al., 2018). Thus, the current findings should be replicated in different populations from varying cultural backgrounds. Second, the study's cross-sectional nature does not enable us to infer causality. Third, although self-rated health was shown as a robust predictor of objective health, mere subjective health assessment could be considered a methodological weakness to draw a consistent picture of health outcomes. Moreover, additional potential covariates, such as attachment styles (e.g., attachment avoidance) and personality traits (e.g., neuroticism), that could be related to the main study variables were not included in the current study. That should be emphasised in further studies intending to examine similar relationship patterns.

In addition, the study hypotheses were tested during COVID-19 when health goals were very salient and vital. Not only were these goals preoccupying people's minds, but the government and other institutions were also seen



as the primary sources for satisfying these goals. In other words, trust in governmental institutions considered key in providing solutions for public health problems, may be critical during this period and uniquely affect perceptions of one's health. Perhaps, in such a context, it may be easy to see how a varying form of social capital could substitute for another in a health-related context. Therefore, it would be worth pursuing to replicate these findings in a context outside of COVID-19. Also, the robustness of the findings should be retested through experimental studies in which perceived partner responsiveness may be manipulated to understand causality better.

Nonetheless, the present study is not without strengths and contributions. For instance, the current analysis could afford great statistical power to test an interaction hypothesis through a large sample size. Furthermore, previous findings regarding the link between perceived partner responsiveness, linking aspect of social capital and health outcomes were replicated in a non-Western context in which such relational dynamics have rarely been examined. The interaction hypothesis, showing the buffering role of perceived partner responsiveness across different forms of social relationships on a health-related outcome, was investigated for the first time in the current study.<sup>3</sup> This is a valuable contribution since studies directly presenting such buffering mechanisms have been scanty.

## Conclusions

Overall, it seems that strong social ties, either horizontal or vertical, would be valuable, especially in the early stages of infectious diseases. During crisis management, the priority is to save lives; to do this effectively, the distribution of limited resources is vital. To facilitate effective crisis planning, response and recovery process in such disasters, it was suggested that there has to be a "culture of resilience" in which societies have the "ability to prepare and plan for, absorb, recover from and more successfully adapt to adverse events" which leads to less vulnerability for individuals and societies (The National Academies, 2012, p. 1). However, governments may delay taking action against such disasters during crisis management due to different concerns (e.g., financial and political). In such cases, it seems that intimate relationship dynamics, just like perceived partner responsiveness, could be valuable resources compensating for lack of trust in power gradients in which the possible delay or disorganisation exists in crisis planning and response. Therefore, distinct social capital dimensions could compensate for a weakness in the quality of other social bonds, which, in turn, may be adaptive for better health. With this in mind, public health authorities and practitioners could

be encouraged to be aware of the adaptive role of social ties on health and focus on maintaining the strength of intimate social ties and building trust between authority gradients.

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<sup>3</sup> A systematic review of 15 studies on the association between post-disaster health and social capital suggested that the role of bonding social capital was less clear, and further research on such dimensions was needed (Noel et al., 2018). In this context, the present findings indicate that the bonding aspect (i.e., perceived partner responsiveness) could be compensatory during a post-disaster situation.

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