

Review



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Thriving together: the benefits of women’s social ties for physical, psychological and relationship health

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The relationship between social support and well-being is well established in social psychology, with evidence suggesting that these benefits are especially prominent among women. When faced with an environmental stressor, women are more likely to adopt a tend-and-befriend strategy rather than fight-or-flight. Furthermore, female friendships tend to be higher in self-disclosure and more frequently relied on for social support, which is associated with physical and psychological benefits. Women are also more effective at providing social support, further augmenting those benefits. We begin with an overview of the characteristics of women’s social ties and how they can be especially useful in times of stress. We then transition to the benefits of female social networks even in the absence of negative events and incorporate research from health and social psychology to consider the positive implications of having strong social bonds and the negative implications of lacking such bonds. Additionally, we consider cross-cultural differences in tendencies to seek out social support and its subsequent benefits, as well as the need for more research with culturally diverse samples. It remains unclear the extent to which patterns of social support benefits for women vary cross-culturally.

This article is part of the theme issue ‘Cooperation among women: evolutionary and cross-cultural perspectives’.

1. Introduction

One of the key benefits of human bonds is social support, or the ability to turn to others during positive and negative life events and receive some form of aid or supportive response [1,2]. Indeed, humans invest quite heavily into building strong friendships with non-kin, with the hope that should they fall upon bad times or encounter conflict in the future, they will still have someone invested enough in their welfare to provide support [3–5]. The relationship between social support and well-being is robust in social psychology. Social integration is generally associated with positive well-being outcomes, and in times of stress, social support can serve as a buffer against adverse physical and psychological outcomes [1,6–8]. Social support similarly promotes well-being in the face of positive events, as evidenced by work on capitalization and sharing positive news with others [9–11].

However, not every relationship is equally effective in providing these benefits. Some people may be unwilling to provide support due to low intimacy, lack of reciprocity norms or the person in need not demonstrating enough active coping mechanisms or support seeking [12]. People also intentionally seek out different relationships for different types of support. For example, more socially anxious college students tend to increasingly seek out family members for support and decreasingly seek out other-gender friends [13]. Similarly, people report having specific relationships that they turn to for regulating specific emotional needs, such as cheering up sadness or calming down anxiety (i.e. ‘emotionships’; [14]). Thus, it is important to understand which relationships may be more

conducive to reaping the health benefits associated with quality social support provision.

One of the ongoing approaches to this question has been to examine sex differences in the association between social support and well-being. Research suggests that women are more effective at providing social support relative to men for both same-sex and opposite-sex others [15,16]. Women are also more likely to seek out and receive social support when faced with environmental stressors compared to men [17], suggesting that social support benefits may be especially prominent among women. Indeed, some research suggests that women are more sensitive to social isolation or low social support compared to men (e.g. [18,19]). However, it remains unclear whether these patterns are universal or cross-culturally variable. Variations in individualist and collectivist orientations, socialization practices, and culturally defined gender roles may moderate the effectiveness of different forms and sources of social support. However, much of the existing research on social support has been conducted in western industrialized samples. The purpose of this paper is to review existing evidence on the benefits of women's social ties, both in times of stress and in the absence of negative events, and consider the generalizability of those benefits for physical, psychological and relationship health. In turn, we hope to highlight future areas of inquiry that would be helpful in furthering our understanding of female friendships.

2. Characteristics of women's social ties

(a) Success in ancestral environments

To begin, we briefly review some of the characteristics of female social bonds that may have been key to survival in ancestral environments. We specifically focus on aspects of female *cooperation*, but also recognize that there is an extensive literature on female *cooperation and competition* in ancestral environments that may be of interest to some readers (e.g. [20,21]). In regard to cooperation, however, researchers hypothesize that women's social ties may have played important roles in the domains of food acquisition, childcare and protection (for a thorough review, see [22]). First, having a strong female network would have been beneficial for optimizing food acquisition, as both kin and non-kin members could share information about food source locations, gather the food together or share the responsibility of childcare through allomothering, thus freeing up more time to gather food [23]. The extent of cooperation with non-kin women relative to kin members could vary depending on societal factors such as the type of cooperative labour network, post-marital residence or household mobility (see [24–26]). Still, reciprocity in childcare may have been a strong incentive for cooperation among non-kin others, as illustrated in present-day forager and boat-dwelling communities (e.g. [27,28]).

Similarly, female–female bonds may have been an important source of protection and mutual aid. The frequent absence of men during hunting parties may have made women vulnerable to predation, and even in the presence of men, recurrent instances of male aggression would have been better deterred by strong female coalitions [23,29]. Furthermore, in the case of patrilocal societies, women would have been incentivized to befriend other non-kin women in order to gain access to resources and reciprocal benefits that they no longer had after leaving their kin network [22,30].

Female cooperation could also have been important in non-patrilocal societies, particularly if the women did not have direct control over resources or were concerned with maintaining favourable reputations [31]. In turn, same-sex female friendships would have prioritized reciprocity, equal power status, kindness/generosity and loyalty/commitment in the face of conflict so as to best capitalize on the benefits afforded by those relationships [22].

(b) Tend-and-befriend strategy

The benefits of female social ties may also have a biobehavioural basis, with one particular feature being the tendency to respond to stress with protective and affiliative behaviour, better known as the tend-and-befriend strategy. Whereas males typically react to stress with a fight-or-flight strategy, females are more likely to react by seeking support and trying to help one another [17,32,33]. This response is based in the attachment/caregiving system that is also responsible for maternal bonding [17], with the release of oxytocin triggering affiliative and protective behaviour aimed at alleviating the stress response by reducing stress-induced cortisol levels [32]. Indeed, after being exposed to a laboratory stressor, women were more likely to make cooperative and other-oriented social decisions, whereas men were more likely to make competitive and selfish decisions, mirroring the two strategies of tend-and-befriend and fight-or-flight [34]. Success with the tend-and-befriend strategy is likely contingent on women having a social support network to call upon during distress. Accordingly, women ought to place greater emphasis on maintaining such a support network, and indeed, girls tend to have more connection-oriented goals and greater concerns about rejection and interpersonal vulnerability compared to boys (see [35] for a review). By maintaining a strong support network, women can be better equipped to respond to stress through affiliation and subsequent triggering of the oxytocin response, further emphasizing the importance of female social ties for promoting overall health and well-being.

(c) Other general characteristics

Research from communication and social psychology highlights other socialization-based perspectives on the benefits of female friendships. Attachment theory, for instance, suggests that early experiences with attachment figures shape expectations for social interactions later in life [36,37]. Indeed, adolescent girls with high-quality maternal relationships tend to have both a higher quantity and quality of female friends, suggesting that their mothers modelled a socioemotional foundation for successfully establishing a strong social support network with other women [38]. Other perspectives emphasize same-sex peer socialization as a basis for friendship values, with increased same-sex interactions leading to more sex-typed behaviours [35]. Starting in early childhood and continuing through development and adulthood, girls tend to be higher in self-disclosure and intimacy relative to boys and emphasize emotional sharing and talking over shared activities [35,39–42]. Both self-disclosure and emotional support are perceived as important for promoting intimacy among women [39,43], and women's friendships are primarily maintained through support provisioning and being open with one another [44]. Along these lines, women are also more prone to experiencing friendship jealousy over the potential loss of a same-sex friend compared to men,

presumably because women invest more in their friendships (making them harder to replace) and face a greater risk of personal information being exposed given the high levels of self-disclosure during intimacy development [45]. Thus, not only do women respond to stress with affiliative behaviour, but they also create and maintain relationships that may be particularly conducive to openness and seeking comfort in times of stress.

However, another behaviour related to self-disclosure is co-rumination, or excessively talking about a negative problem or stressor with someone [46]. As with self-disclosure, women tend to engage in co-rumination more often than men, starting from early childhood and continuing into adulthood [46–48]. While self-disclosure is generally associated with benefits for relationship satisfaction and intimacy (see [49] for a review), the co-rumination aspect of female friendship is accompanied by several tradeoffs. On the one hand, co-rumination contributes to positive friendship adjustment and higher quality relationships among girls [46–48]. In fact, co-rumination has been linked to adrenocortical attenuation, which may serve as a bonding mechanism in the same way as oxytocin release does for stress reduction during the tend-and-befriend response [50]. However, co-rumination frequency also predicts increased depressive and anxiety symptoms [46–48], highlighting an important drawback to this coping and bonding mechanism. Nevertheless, the prominence of co-rumination in women's friendships underscores the general value of self-disclosure and emotional support, both of which facilitate reliance on female bonds in the presence and absence of negative life events.

3. Benefits of women's social ties for well-being

(a) Social bonds as buffers against stress

As noted in our opening paragraph, a large literature has shown that the quality and availability of a caring social network is closely linked to health and well-being. For example, a meta-analysis by Holt-Lunstad *et al.* [51] found that across numerous large epidemiological studies, people who reported having fewer or low-quality social connections had a much higher mortality rate at follow-up than those who reported having robust high-quality connections to others. Across the world, research has also shown that the availability of a supportive social network is associated with well-being and happiness (e.g. [52]) and social isolation is a risk factor for mental health symptomology (e.g. [53]). Furthermore, the critical role that social bonds play in health and well-being has been demonstrated in real time on the world stage over the past 2 years as the COVID-19 pandemic strained social networks and a secondary pandemic of felt social isolation took hold (e.g. [54]).

Although the literature on mechanisms linking social integration to health and well-being is incomplete, one of the most cited and researched pathways is the role that social ties play in mitigating the deleterious effects of life's challenges. Specifically, negatively valenced emotions, such as fear, anxiety and anger, serve important functions for survival because they can serve as signals of potential threats and activate an appropriate stress response (e.g. [55]). However, repeated, prolonged or chronic experience of negative emotions or experiencing a stress response that is disproportionate or even unwarranted by the situation is detrimental to

health and well-being (e.g. [56]). In short, negative events and other stressors are part of life, but how people respond to both major problems and the everyday hassles of life predicts physical health and well-being.

Research on stress responses suggests that social networks play a critical role in both our perceptions of and reactions to potentially threatening or challenging situations (e.g. [57]). We know that people can and often do turn to others for comfort, advice, assistance or simple connection in times of stress [7,58]. Studies in the laboratory have shown that women benefit from receiving support from others when undergoing stressful tasks. Specifically, studies have shown that women experiencing stressors display a mitigated physiological (e.g. heart rate, cortisol production) or psychological (e.g. anxiety, distress) response to stress when they receive social support from others before, during or directly after the stressful task when compared to men receiving support or women who are receiving no support (e.g. [59,60]).

(b) Importance of social support quality

What is also clear from the body of research on social support provision is that the quality of social support matters a great deal. When support is unskilled, overbearing or misses the mark in some way, the physiological and psychological response to the stressor can be exacerbated (e.g. [59]). Low-quality social support leads recipients to feel indebted, incompetent or may highlight weakness or draw more attention to the stressor (e.g. [61]). For these reasons, the quality and timing of social support is critical in determining whether that support will have a beneficial or harmful impact on the recipient; support that is responsive to the recipient's needs is beneficial, whereas support that is unresponsive to the recipient's needs can lead to increased stress (e.g. [62]).

Interestingly, there is empirical evidence that women are more skilled than men at offering social support. Specifically, women seem to be better at calibrating their social support provision to the stress level of the recipient. For example, Neff & Karney [63] found that while men and women provided similar levels of support over time, they differed in how they responded to the changing needs of the recipient over time. That is, women tended to provide more support on days the recipient felt more stress and less support on days of low stress. Men's support provision, however, was not closely calibrated to the needs of the recipient. In addition, there is evidence that when undergoing stress themselves, women still provide high-quality support to close others, whereas the quality of men's support provision declines as their own stress levels increase [64]. Support that is unwanted, ill-timed, overbearing or otherwise unresponsive to the recipient's needs is particularly problematic for the recipient (e.g. [65]), suggesting that members of female friendship networks may be, on average, more likely to provide higher quality support when needed, even under stressful circumstances. However, it is unclear the degree to which gender role socialization and cultural norms shape these differences in support provision.

In addition, there is evidence that women are particularly adept at readily activating their support networks in times of stress [66]. That is, compared to men, women tend seek out social support more often, as well as provide social support more often [67,68]. Women also report engaging in more coping strategies of all types, including social support

seeking (e.g. [69]). However, women also tend to report more stressors in everyday life than men (e.g. [70]). For example, Day & Livingstone [71] found that women tended to rate hypothetical problems as more stressful than men, but also reported seeking support from their friends and networks more readily than men. Thus, it is difficult to disentangle women's higher tendency to seek support from their increased reported stress levels.

However, given that women self-disclose to a greater degree than men in their social relationships (e.g. [39]) and are more likely to respond with affiliation tendencies when stressed compared to men (e.g. [32]), it would stand to reason that women benefit from their support networks more than men do, especially in times of stress. However, the empirical findings on gender differences in social support benefits are more complicated (e.g. [72]). Most studies show that the strong association between lacking a social support network and mortality risk are consistent across gender (e.g. [51]). However, careful examination of the data suggests that different networks may be responsible for those similar effects. For example, in the classic epidemiological study, Berkman & Syme [73] showed that men who were not married carried a much higher risk of mortality than unmarried women, while women's mortality risk was much more strongly tied to their network of friends and community than men's mortality risk (see also [72]). This latter finding may lend support to evolutionary perspectives on women's social ties that are grounded in the extent to which women in ancestral environments may have had to rely on non-kin for childcare, resources and protection.

(c) Mental processes and social support

Reaching out to others in times of stress can also be metaphorical because even our mental representations of our close social ties can influence perceptions of threat and subsequent stress response. That is, research has shown that having the perception that members of our social network would be available to help *if* it were needed strongly predicts health and well-being (e.g. [74]). And in the lab, for example, Eisenberger *et al.* [75] found that being able to view someone with whom participants had a close social bond while receiving mildly painful stimuli led to reductions in self-reported pain ratings and less neural activity related to distress. Smith *et al.* [76] similarly found that women who wrote about a supportive social tie showed less physiological reactivity to a stressful speech task compared to those who wrote about an acquaintance who was not considered a source of support.

Finally, there is some evidence that social networks might influence the number of events in one's life that are experienced as a stressor in the first place. In order to experience an event or stimuli as negative or threatening, it needs to be noted and perceived as a problem. However, work in non-human primates suggests that group size varies in accordance with threats of predators such that group size increases with greater threat from predators in the environment [77]. In their Social Baseline Theory, Beckes & Coan [78] describe a process called risk distribution. They argue that the presence of benevolent social partners was evolutionarily advantageous and also, ironically, reduced our vigilance to threat. Specifically, the social baseline theory in humans proposes that as the number of people in a socially cooperative group increases, the statistical likelihood of environmental risks

(e.g. being attacked by predators) for any one individual in a group goes down. Vigilance to threat could be calibrated to the availability of a social network because the social partners literally provided more eyes and ears on the environment. This reduced threat vigilance can mean that smaller or more distant threats are not perceived as such when in a group of benevolent social partners. The opposite effect is also posited by the theory; isolation or being part of a hostile social group should increase vigilance and lowers the threshold of threat detection, such that small or distant dangers are noted and interpreted as threats in these conditions (e.g. [79]).

Research by Eisenberger *et al.* [80] is consistent with this hypothesis; participants who reported interacting more often with supportive others in a daily diary study showed less neural distress during a later laboratory stressor. It is reasonable to suggest that because women's social networks are characterized as more intimate, supportive and disclosing than men's networks, they are more likely to experience the availability of benevolent social ties than men and in turn experience fewer threats in their environment. However, more research is needed to understand how gender might interact with the predictions of Social Baseline Theory, especially in light of evidence suggesting that women may interpret hypothetical stressful situations more negatively than men, all else being equal (e.g. [71]).

(d) Social bonds in the absence of stress

Although it is clear that social bonds serve as a buffer in times of stress, there is also a large literature showing a direct effect of social bonds on health and well-being (e.g. [7]). That is, even in the absence of negative events, people who are integrated into a benevolent social network have higher well-being and better health than those who are more socially isolated or, worse, report having hostile or ambivalent social ties (e.g. [81]). Indeed, the negative impact that social isolation and feelings of loneliness have on their own, independent of other life stressors, are well-documented across studies of both humans and non-human primates. Harlow *et al.*'s [82] primate studies dramatically showed that social isolation can interrupt developmental processes and have a long-lasting impact on overall functioning. In humans, feelings of loneliness and social deprivation are associated with dramatic increases in the risk for mental illness onset or the exacerbation of existing mental health symptoms (e.g. [53]). Across cultures, the loss of close bonds with family, friends and partners by death, divorce, relationship dissolution or disagreement are ranked as some of the most stressful negative events one can experience (e.g. [83]). These consistent associations between a lack of social bonds and lower well-being further emphasizes the importance of social support networks for promoting health and well-being, regardless of whether a stressor currently exists.

Even though the detrimental effects of social isolation and loneliness seem universal, women seem to be more sensitive to social isolation and social rejection than men. For example, in laboratory studies women showed stronger cortisol stress reactivity than men to a failure when it was social in nature but not when it was an achievement failure [19]. Women also report higher levels of loneliness across age groups [84], and this is especially so when subjective measures of 'feeling lonely' are used over more objective measure, such as the number of friends one has in their network [85]. On the flipside, women in particular see strong physical and mental health

benefits of having a network of close and trusting friends and family [38,86,87]. Thus, even in the absence of an immediate or ongoing stressor, having a strong social network is crucial for supporting physical and psychological health, especially among women.

4. Cross-cultural differences in social support benefits

One should exercise caution, however, in generalizing the benefits of women's social ties to *all* women. Although research on gender–culture interactions in social support benefits is quite limited, some studies suggest that gender differences are more prevalent than cultural differences. For example, both Israeli Arab and Jewish women report higher availability and importance of emotional social support relative to men [88]. Similarly, emotional and informational support from various community members consistently mitigated the negative effects of discrimination on life satisfaction for both Latin American and Chinese female migrants in Spain but did not consistently provide such benefits for male migrants of both cultures [89]. However, other studies suggest that sociocultural factors may influence the extent of support effectiveness. In the same study, Pines & Zaidman [88] found that Israeli Arabs reported higher quality relationships with potential sources of support than Israeli Jews did. Hussein *et al.* [90] also found that, despite having higher levels of perceived social support, Arab mothers had higher levels of post-traumatic stress symptoms following a child's traumatic medical event compared to Jewish mothers. In this case, the negative experiences of being an ethnic minority and exposure to other forms of violence may have moderated the buffering effects of social support. Thus, it is important to consider differences in life experiences, social upbringing and self-construal prior to generalizing the benefits of female social support across cultures.

(a) Self-construal as individualist versus collectivist

One primary distinction in cross-cultural research is between individualism and collectivism, or the extent to which individuals perceive themselves as independent and unique or interdependent and connected to others [91]. A key value of collectivist societies is preserving harmony and putting others' needs above the self, which can manifest in a hesitancy to seek out social support and not wanting to harm or burden close others with one's problems [58,91,92]. Indeed, Asians and Asian Americans are less likely to seek out social support in response to stressors compared to European Americans, with relational and group harmony concerns being the primary reasons for this reluctance [58,93–95]. Thus, whereas people in individualist societies may seek out social support to fulfil personal goals and a desire for self-expression, people in collectivist societies appear to forgo such direct requests due to broader concerns with collective goals and maintaining a harmonious social environment [58,91,96].

However, this evidence does not suggest that those from collectivistic societies do not use or derive benefits from social support. Instead, the type of support considered to be most effective may vary, with those from collectivist cultures benefiting from instrumental, implicit and unsolicited support, and those from individualist cultures benefiting from

emotional, explicit and solicited support [96]. Whereas explicitly asking for emotional support can be perceived as burdening another individual, implicit support in the form of recognizing the presence of supportive others does not disrupt relational harmony and instead reinforces the presence of a reliable social network [92,96]. Consistent with this idea of cultural fit in social support, Mortenson *et al.* [94] found that European Americans were more likely to seek out emotional support compared to sojourning Chinese students, and Chinese students had a stronger preference for instrumental support than emotional support. Similarly, when Asians and Asian Americans were primed to think about soliciting explicit social support, they experienced heightened cortisol and psychological stress responses to a laboratory stressor, whereas European Americans experienced heightened stress responses when primed to think about their implicit social support group [92]. That is, social support was only beneficial to the extent that the type of support fit with one's cultural values and self-construal. Thus, whereas emotional expression and self-disclosure may lead to well-being outcomes in individualist societies, the same may not be true for collectivist societies in which more indirect forms of social support are beneficial [96].

(b) Cultural differences within the context of women's social ties

Based on this evidence, the nature of women's social ties may differ depending on whether one's self-construal is more independent or interdependent. For example, women in the United States and Russia reported higher levels of emotional reliance on friends and family relative to women in Turkey and Korea, with these two groupings corresponding to relatively more individualist and collectivist countries, respectively [97]. Similarly, European American women indicated a greater tendency to seek out emotional support relative to men, whereas Chinese women did not differ from Chinese men in their preferences for emotional support [94]. Thus, the extent to which women rely on each other for emotional support may vary, with women in individualistic societies having greater emotional reliance than those in collectivist societies. Furthermore, a study by Morling *et al.* [98] found that pregnant women in the United States experienced more positive pregnancy outcomes when they prioritized the individual coping strategy of acceptance, whereas pregnant women in Japan experienced more positive outcomes when they prioritized social assurance as a coping strategy. Thus, the ways in which women benefit from social support ties may also vary, with women in collectivist cultures placing greater emphasis on interdependent rather than independent outcomes relative to women in individualist cultures.

At the same time, having a strong social network may be of greater importance in collectivist societies than in individualist societies. Indeed, not having a best friend and lacking reciprocity in close friendships was associated with loneliness among women in Greece, a collectivist society, but not in the United States [99]. Similarly, negative-quality social relationships were associated with depressed affect for women in Japan and France but not in the United States [100]. Thus, although direct reliance on social support in the face of ongoing stressors may be more detrimental, or at least less helpful, to women in collectivist societies, the lack of an ongoing social support network, regardless of the presence of stressors,

may also be more detrimental to women in collectivist societies. However, the individualist–collectivist distinction is but one of many sociocultural dimensions that may explain cross-culture differences in social support. In order to better understand the extent to which social support benefits can be generalized across cultures, more research is needed on the intersection between gender and culture in regard to what women's social ties can offer for physical, psychological and relational health.

5. Conclusion

The current research suggests that social support is fundamental to health and well-being and that the nature of women's social ties (i.e. high self-disclosure, intimacy, etc.) may make social support especially important and beneficial for women. Women not only seek out social support more often than men but are also more skilled at providing responsive social support to others and are more sensitive to the absence of strong social ties in general. Future work is

needed to uncover the biological pathways that might link these patterns to outcomes such as physical health and psychological well-being. It is also not clear the extent to which any differences in men's and women's social support behaviours stem from present-day cultural norms. The majority of research has focused heavily on western industrialized samples and studies that examine cross-cultural and contextual differences often ignore gender. Thus, in order to more fully understand the nature of female social bonds and their role in health, well-being and reproduction, more research is needed that explicitly examines gender differences across variable social and cultural contexts.

Data accessibility. This article has no additional data.

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