

# What is the ideal size of a ‘get together’?

## Background

Social species interact in groups. Evolutionarily speaking, grouping behaviour offers opportunities to find food, facilitate bonding, meet sexual partners, and protect against predators. In contemporary human society, we further derive a variety of social and emotional benefits from interacting in groups, including the opportunity to express oneself, learn about and relate to others, and develop a sense of connectedness and belonging. While these may seem like abstract concepts, there are many practical reasons that understanding social grouping behavior is valuable. In particular, one issue that may come up when describing social groups is the number of participants in an interaction group.

Understanding the size of interaction groups can inform how many seats a wedding table should have, how many people you should invite out to dinner, how many team members a group project should have, or the size of a social support group. In all of these situations, an understanding of human grouping behaviour can improve the experience of individuals and the quality of their interactions.

## Purpose

The purpose of this brief is to examine the literature on the ideal size of interaction groups. In doing so, we understand that there are many different social environments with differing needs across them and as such cannot speak to every social gathering. However, it is also reasonable that humans might have a somewhat natural tendency to gravitate towards certain interaction group sizes, whether that be large or small. This review will provide insight into those natural tendencies and thereby inform choices that we might make about planning our social interactions.

## Evidence from Existing Studies

Early research by James ([1951](#)) examined the typical group size for subcommittees of the United States Congress and other naturally occurring groups and reported that these typically had 2-7 people, with an average group size of 3. In the decades following, Bakeman and Beck ([1974](#)) and Burgess ([1984](#)) replicated these findings by observing thousands of groups and demonstrating a similar range across shopping malls, dining halls, libraries, swimming pools, TV soap operas, and other casual settings. Advancing these studies, Calsyn & Becker ([1976](#)) set out to understand some of the forces that give rise to these remarkably consistent results across a wide range of group settings. To do this, they observed a lounge at an academic conference to document the fluidity of groups as people enter and exit conversations. In doing so, they observed that among 15,486 groups, groups tended to be small (65.5% were one person, 25.5% were dyads, 6.9% were triads, and 2.1% consisted of 4 or more people). Further they found that the probability of an individual exiting a group over a specified period of time was significantly correlated with group size. Groups of 2 had a 34.8% probability of at least one

person leaving, groups of 3 had a 42.3% probability and groups of four had a 85.7% probability of someone exiting. In other word, groups appear to be somewhat constrained in size – either by time pressures placed on the individuals or some other social force – to about 4 or individuals. Contemporary studies continue to replicate the general conclusions of these findings and highlight the rarity of interaction groups larger than 4 (Dezecache & Dunbar, [2012](#); Krems & Dunbar, [2013](#))

Kosse ([1989](#)) and Dunbar ([1993](#)) argue that the apparent constraints on the number of relationships an individual can maintain arises from natural thresholds on the brain's capacity for memory information processing. As such, it is reasonable to assume that the size interaction groups might also be limited by our cognitive capacities. Indeed, the work focused on social relationships generally suggests that we typically rely on about 5 emotionally close and supportive relationships (Dunbar et al., [1995](#)). This value is not far off from what the previously discussed studies observed, suggesting that if psychological, cognitive, or physiological capacities limit group size, the underlying mechanisms may mutually restrict both the number of meaningful social relationships a person can maintain overall and the number of people an individual can interact with during a given social interaction (See Henzi et al., [2007](#) for an investigation documenting this empirical relationship). In either case, it appears that this value would be around 4 or 5 (Dunbar et al., [1995](#)). Notably, Cowan ([2001](#)) has identified that, in general, humans can only hold about four “chunks” of information in their brain during memory tasks – which might also reflect the cognitive constraints associated with relationships and interactions. Similarly, studies examining literature and drama have also indicate that the stories we tell and entertainment we consumes rarely invites readers or viewers to consider the mind states of more than four or so characters at a time (Stiller et al., [2003](#); Krems & Dunbar, [2013](#)). Clearly, these various studies are suggestive of some natural cognitive limits, such as those hypothesized to influence interaction group size.

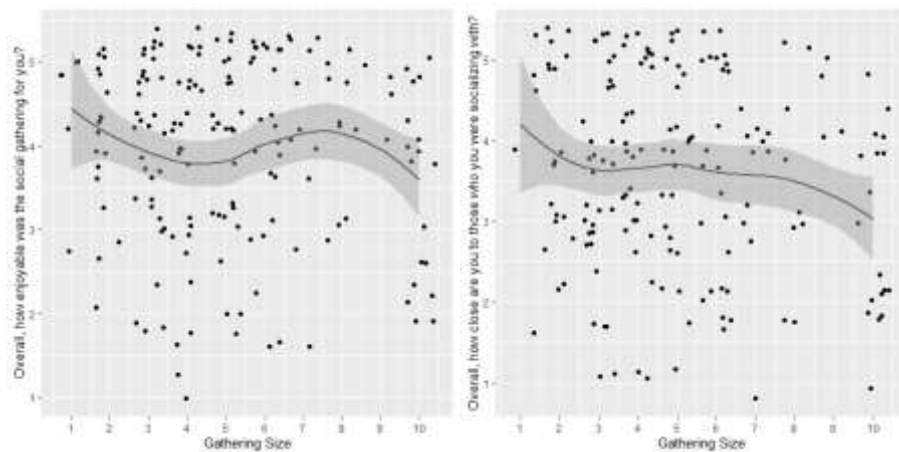
While a variety of factors may contribute to the apparent group size restraint of four (Krems & Wilkes, [2019](#)), it is obvious that social interactions become increasingly complex and cognitively demanding as the number of participant's increase. Individuals in larger groups must have higher capacity for social cognition (e.g., perspective taking, metalizing skills, theory of mind interactions) in order to skillfully manage social interactions (Stiller & Dunbar, [2007](#); Krems et al., [2016](#)). Furthermore, social interactions in large groups may be less rewarding given that as the number of participants in an interaction increases the average amount of time each participant has to share their thoughts or express themselves decreases – perhaps resulting in a less enjoyable, rewarding, and intimate social interaction (Dunbar et al., [1995](#)). Supporting this idea, Fay & Carletta ([2000](#)) report that as group size exceeds five, conversational dynamics shift from dialogues to monologues influenced by a single dominant speaker (e.g., classroom lectures). These larger groups may therefore produce less well suited for information exchange, problem solving, and social connection – particularly given that social sensitivity and turn-taking are important features of successful group interactions (Woolley et al., [2010](#)). Similar findings are also observed when discussing social networks and relationships more generally: larger networks are associated with less emotional closeness per network tie (Roberts et al., [2009](#)).

## Analyses from the Canadian Social Connection Survey

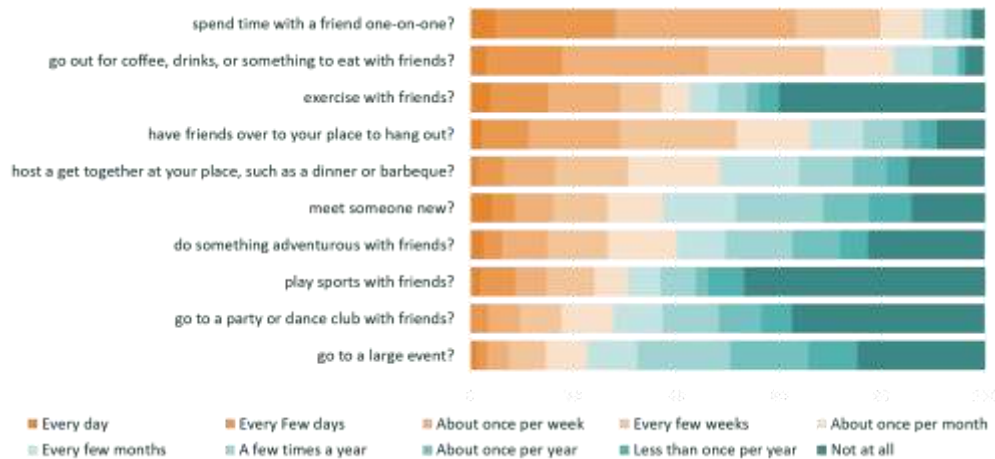
In the Canadian Social Connection Survey, we do not directly ask about the size of interaction groups during social encounters. However, in the 2022 survey we did ask a random sub-sample



of 214 participants about their last social gathering. Based on these gatherings, we found that the median number of individuals at a social gathering was 5 (Q1-Q3: 3-9). Restricting our analysis to the 182 social events with 10 or fewer participants, we examined whether gathering size was associated with how enjoyable the social gathering was for the participant. In doing so, we recognize that the size of a social gathering is not necessarily the size of the interaction groups at these gatherings. Nevertheless, as shown in the figure below, as group size approaches four, the enjoyment derived from the event decreases – perhaps because in these small social gatherings, the number of interaction groups remains one, meaning that participants must spend the social gathering at the upper end of their cognitive capacity by maintaining interactions with an interaction group size above what is naturally stable. As the gathering size increases from five to eight, the self-rated enjoyment of the social gathering increases – perhaps because multiple interaction groups form allowing people to spend more time interacting in groups smaller than four.



Speaking to the decline in enjoyment among larger groups (i.e., those greater than eight), we observed that the emotional closeness with attendees of a social gathering decreased as group size increased ( $p = 0.032$ ). This is necessarily so due to limitations on the number of emotionally close relationships an individual has and the fact that as social gathering size increases, it is more likely that less close individuals will be present. This added dimension reinforces the idea that there are some natural benefits to smaller social gatherings.



In the 2022 Canadian Social Connection Survey, we also asked participants about their preferences for social connection. The results highlight a general preference for greater frequency of smaller, more intimate social gatherings. For example, 63% wanted to spend time with a friend one-on-one at least weekly compared to only 29% wanting to have friends, 17% wanting to have a get together, and 7.5% wanting to go to a large event at that same frequency. Clearly, there is a strong preference for most of our social interactions to be intimate.

## Discussion

Based on our literature review and data analyses, we argue that the weight of existing evidence suggests that there are cognitive limits on conversation sizes and that these limits restrict a typical conversation to about 4 participants – beyond which the group becomes unstable and less efficient. While few if any studies have explicitly measured the practical implications for these findings in natural social settings, there does seem to be some evidence that relatively small, more intimate social settings could be more rewarding and beneficial to participants. When larger group sizes are necessary for some events, planners may therefore want to leverage facilitation techniques that allow for multiple social interaction groups of less than four or so participants. Furthermore, we recognize that some situations might also benefit from larger interaction groups – such as when the focus should be on a single speaker rather than on dialogue between participants. In any case, more research is needed to understand the dynamics of social gatherings with respect to the formation and dissolution of interaction groups, how individuals move between interaction groups throughout the course of social gatherings, and to what extent these various factors might affect social satisfaction, reward, emotional depth, and productivity. Such studies might include both observational and experimental designs, and could be conducted across various social settings and activities to ensure the robustness or specificity of situational findings.

## Conclusion

Based on the available literature and data from the Canadian Social Connection Survey, we argue that individuals and organizations can benefit from paying more careful attention to the natural social behaviours of individuals – particularly with respect to group size – and accounting for these in their programming decisions. Doing so can help ease the cognitive and social demands of social interactions and help individuals develop and maintain social relationships in natural ways. We think that this is particularly relevant to organizations running support groups and other inherently social activities in which it is valuable to engage each individual to meet their social needs. That said, we recognize that there are a variety of considerations that must be undertaken when designing such interventions. More research is needed to understand these various factors when considering the development of social interventions.

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