



Peer Community In Network Science

Social Support Discrepancies in Adolescence: Dual Perspectives on Perception, Gender Dynamics, and Mental Health

Cédric Sueur  based on peer reviews by **Zachary P. Neal** and **Alexandre Naud** 

Heike Krüger, Thomas Grund, Srebrenka Letina, Emily Long, Julie Riddell, Claudia Zucca, Mark McCann (2024) Discrepancies in the perception of social support relationships (Stage 1 Registered Report). OSF preprints, ver. 5, peer-reviewed and recommended by Peer Community in Network Science. <https://doi.org/10.31219/osf.io/uc2qy>

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Social support encompasses various functions within social networks, facilitating emotional, instrumental, and informational exchanges that promote well-being (House et al. 1988; Thoits 2011; Sueur et al. 2021). Emotional support, such as empathy and reassurance, directly contributes to psychological health and can buffer against stress. However, perceived social support often correlates more strongly with well-being than enacted support, which may sometimes yield contrary effects, as studies have shown (Haber et al. 2007; Chu et al. 2010). This discrepancy between perceived and provided support underscores the role of individual perception in social dynamics (Sueur et al. 2024).

The cognitive triad theory by Beck (1979) suggests that depressive thought patterns—negative views of self, environment, and future—distort perceptions, which may affect social support recognition. Individuals with depression often struggle to perceive or remember supportive behaviors accurately, filtering out positive feedback (Gotlib and Joormann 2010). These biases highlight the importance of subjective interpretation in social relationships, with social cognition research suggesting that social support exhibits trait-like stability and that pre-existing cognitive schemas shape support perception (Mankowski and Wyer 1997).

Gender differences in support perception have been widely documented, with young women generally perceiving and offering more social support than men (Rueger et al. 2016). Socialization influences may explain these discrepancies; for instance, girls often learn to express warmth and empathy more readily, enhancing

both their recognition of and access to support (Brashears et al. 2016). Consequently, support dynamics are not only shaped by individual mental health and social network structure but also by sociocultural factors that influence emotional processing and relationship assessment.

Krüger et al. (2024) brings innovative elements to understanding social support discrepancies among adolescents by employing a dual-perspective network analysis. Unlike traditional studies that focus on either the support provider's or receiver's perspective, this research uses both perspectives within adolescent social networks to reveal the degree of mismatch in support perception. For example, "provided but not perceived" and "perceived but not provided" support discrepancies were identified, illuminating how gender influences support dynamics. Findings reveal that young men are more likely to experience unnoticed support provision, suggesting that gender norms around emotional expression could hinder recognition of support in male-provided interactions.

Additionally, the study finds that discrepancies are more common in opposite-sex dyads than same-sex ones, highlighting how gender-based socialization impacts support perceptions. Adolescents, especially in cross-gender interactions, may face interpretative challenges in recognizing support, possibly due to gendered expectations around emotional engagement. This gender-focused insight into social support perception is unique, providing a new layer of understanding for support network dynamics in adolescence.

Another innovative aspect is the study's integration of mental health and loneliness as variables. Contrary to previous assumptions, these factors do not significantly impact support perception discrepancies, challenging the view that mental health primarily skews support perception. This finding suggests that social support recognition issues may be less about individual mental health status and more about relational dynamics and social norms.

In methodological terms, the use of multi-level modeling to account for school-level variations and individual differences further advances social support research by offering a more granular view of how environmental and personal factors intersect to shape support perceptions among adolescents. It would be particularly interesting to explore how this methodology could be applied to animal social network analyses (Sueur et al. 2012; Battesti et al. 2015; Borgeaud et al. 2017; Romano et al. 2018), especially given evidence that loneliness exists in monkeys (Capitanio et al. 2014, 2019). For example, studies could investigate whether similar discrepancies exist in animal groups, such as unrecognized affiliative behaviors or mismatches in perceived versus actual social bonds. By adapting this approach, researchers could examine how social perception and interaction influence group cohesion, stress buffering, and overall well-being in animal societies, potentially offering a deeper understanding of the evolutionary and ecological drivers of social support in non-human species.

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Reviews

Evaluation round #1

DOI or URL of the preprint: <https://doi.org/10.31219/osf.io/uc2qy>
Version of the preprint: 3

Authors' reply, 02 November 2024

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Decision by [Cédric Sueur](#) , posted 19 August 2024, validated 19 August 2024

The first review of the scientific paper is generally positive, noting that the study is clear, well-justified, and offers a solid analytic plan, though it provides minor suggestions for clarification and improvement, such as refining the language used and ensuring the hypotheses align with the literature review. The second review raises significant concerns about the completeness and clarity of the manuscript, pointing out issues with missing sections, confusing methods, and problematic operationalization of key variables, while also suggesting that the introduction needs to be more focused and include relevant literature. Both reviewers agree that the study has potential but requires substantial revisions before it can be considered for recommendation. Based on the feedback provided, the appropriate decision would be major revision. These issues suggest that substantial revisions are necessary before the manuscript can be considered for recommendation.

Reviewed by [Zachary P. Neal](#), 05 July 2024

This Stage-1 Registered Report describes using Net4Health data to replicate of a prior analysis of network perception biases using SOCIALBOND data. It is very clear, and the analytic plan is well justified. I have only a few minor suggestions and requests for clarification, and look forward to seeing the results of the proposed analysis.

Line 68 - This paragraph briefly reviews some past work on perceptual biases in networks. It may be helpful to also look at Neal et al (2016; DOI: 10.1016/j.socnet.2015.07.002) and Neal et al (2014, DOI: 10.1111/cdev.12194) which examined perceptual biases in a similar context to your own.

Line 81 - I like your phrases "provided, but not perceived" and "perceived, but not provided." However, when discussing errors, it is more common to describe these as "false negatives" and "false positives," respectively. You might consider using these more common terms instead, or alongside your own.

Line 165 - It would be helpful if the hypotheses appeared in the same order as they respective literatures were presented (e.g., gender-related hypotheses first). It would be even more helpful if the hypotheses were provided at the end of each respective subsection. For example, you might conclude the Gender subsection with a new paragraph of the form "Therefore, we offer two hypotheses. First, we hypothesize that Girls are more likely to perceive the emotional social support provided to them (H1). Second, we hypothesize..."

Line 334 - You explain that only dyads in which the ego and alter agree on the perception and provision of emotional social support (coded = 0) and those in which ego perceives support from alter, but alter does not report the provision of support (coded = 1) are analysed for the calculation of explanatory factors for the discrepancy "perceived, but not provided." The reason for this makes sense. However, conventional implementations of MRQAP require a complete matrix (necessary for performing the permutations), but this seems to imply that any given model is examining only certain cells in the matrix. How does MRQAP handle the missing dyads?

Line 452 - Please clarify why you use the more liberal $\alpha = 0.1$ significance threshold, rather than the more conventional and conservative $\alpha = 0.05$.

== QUESTIONS ==

Does the title clearly reflect the content of the article? Yes, No (please explain), I don't know ==> the title could explicitly identify this as a Stage 1 Registered Report

Does the abstract present the main findings of the study? Yes, No (please explain), I don't know ==> Not applicable because the manuscript is a Stage 1 Registered Report

Are the research questions/hypotheses/predictions clearly presented? Yes, No (please explain), I don't know

Does the introduction build on relevant research in the field? Yes, No (please explain), I don't know

Are the methods and analyses sufficiently detailed to allow replication by other researchers? Yes, No (please explain), I don't know

Are the methods and statistical analyses appropriate and well described? Yes, No (please explain), I don't know

In the case of negative results, is there a statistical power analysis (or an adequate Bayesian analysis or equivalence testing)? Yes, No (please explain), I don't know

Are the results described and interpreted correctly? Yes, No (please explain), I don't know

Have the authors appropriately emphasized the strengths and limitations of their study/theory/methods/argument? Yes, No (please explain), I don't know

Are the conclusions adequately supported by the results (without overstating the implications of the findings)? Yes, No (please explain), I don't know ==> Not applicable because the manuscript is a Stage 1 Registered Report

Reviewed by **Alexandre Naud** , 15 August 2024

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