Professor Dr. Cédric Sueur
Recommender
PCI Network Science

November 2, 2024

Manuscript: "Discrepancies in the perception of social support relationships (Stage 1 Registered Report)"

Dear Professor Sueur,

Thank you again for your invitation to revise and resubmit our manuscript. We are very grateful to you for providing us with such outstanding reviews. Our gratitude also goes to the Reviewers for their valuable time, intellectual generosity, and precise and helpful reading.

We have made extensive changes to our paper in response to the reviewers' feedback. All revisions have been highlighted in yellow in the "Tracked changes document" for ease of reference. We are encouraged by the recognition of the potential of our study and are committed to addressing the concerns raised.
We believe that the revisions outlined above address all of the reviewers' concerns and have substantially improved the manuscript. We are grateful for the constructive feedback and are confident that these changes strengthen the manuscript's contributions to the field. We hope that you and the reviewers find the revised version suitable for further consideration.

In this response memo, we have pasted all the critical points and suggestions made by the reviewers. Our rejoinders are in **bold** directly below the comment to which they refer.

Thank you for the opportunity to revise and resubmit our manuscript. We look forward to your feedback.

Sincerely yours,
Heike Krüger and co-authors

Reviewer 1

"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."

- We appreciate the suggestion to include Neal et al. (2016) and Neal et al. (2014). Upon review, we have integrated this work into the revised manuscript as follows: "Observer accuracy, the ability to correctly perceive others' relationships, tends to be higher in smaller classroom networks, for same-sex relationships, and among female and socially prominent students (Neal et al., 2014; Neal et al., 2016)." (lines 80-83)

"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."

- We have chosen to retain the plain English phrasing ("provided, but not perceived" and "perceived, but not provided") to enhance clarity, especially for the adolescent population involved in the study. Additionally, we aim to avoid potential confusion with the statistical terms "false positives" and "false negatives," which carry specific connotations that do not fully capture the dual perspective inherent in the constructs we examine.

"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..."""

- Thank you for this suggestion. We have reordered the hypotheses to match the presentation of the respective literature and added them at the end of each subsection for clarity. This revision can be found in lines 122-126, 153-158, and 191-195.

“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?”

- To address this, we employed the netlogit command from the sna package in R, which permits missing values by excluding incomplete entries from both the dependent and independent matrices. While conventional MRQAP procedures generally require complete matrices for accurate permutation testing, netlogit accommodates missing dyads, thus enabling us to focus specifically on the dyads relevant to our analysis of discrepancies in perceived versus provided support.

“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.”

- We have chosen a less conservative alpha level of 0.1 because small effect sizes, while modest, may hold substantial implications for preventive interventions at the population level. This preventive approach differs from a clinical perspective, which typically aims to detect larger, individual-level changes following specific treatments. However, to provide clarity, we will present results at both the 0.05 and 0.1 significance levels for the Net4Health data to allow a nuanced interpretation of findings across both thresholds.

Reviewer 2

Dear authors,

“I have read your preprint with interest, I found that the subject is intriguing and the analyzing of large-scale networks can offer substantial evidence to the understanding of the subject. However, I have some substantial concerns that I would like to address before considering the manuscript for publication.

First of all, I was surprised to read an unfinished manuscript. I expected all sections to be present, but I found that the Discussion and Conclusion were missing and instead there is some proposal for future analysis. I don’t know if this is a standard practice for preprint journals, I believe the manuscript should be complete before submission. “

- Thank you for your comments and for highlighting this concern. The manuscript is structured as a Stage 1 Registered Report, where it is

standard practice to submit an incomplete manuscript. In Stage 1, we pre-register our theoretical framework, hypotheses, and analytic plan. Following the completion of the Net4Health analysis, we will include the full Results, Discussion, and Conclusion sections in a subsequent Stage 2 report (for examples see https://openresearch.nihr.ac.uk/articles/2-4/v1 (Stage 1 Registered Report) and https://journals.sagepub.com/doi/10.1177/26320843241270517 (paper)).

"Second, I found the Methods and Results sections confusing. Many details were omitted from the Methods sections, to only be found or understood when reading the Results section. This implies that the reader needs to go back and forth between the two sections to understand the analysis, which is time-consuming and not optimal. I suggest that you be more explicit and specific in the Methods, with all relevant elements being clearly stated. I provide more specific details in the following parts of my reviews. Thirdly, another significant issue concerns the operationalization of the predictor variables. This paper is about the discrepancies between perceived and received social support, but the measurement of received (or enacted) support seems to be instead the perception of "providing supports" to others. As far as I know, enacted supports is generally measured during specific stressful events (e.g., death of a close relative) (see Birditt, Antonucci and Tighe, 2012) or within a time frame (e.g., last month), for instance using the ISSB questionnaire (Barrera, Sandler and Ramsay, 1981). Another used approach is to use daily diaries, or similar tools such as EMA, to collect information about supportive interactions when they happen (e.g., Neff, Nguyen and Williamson (2020)). Instead, the only information collected in the survey is about the perception of receiving ("Who will help you when you are sad or something is bothering you [. . .]") providing ("Which classmates do you help when they are sad of something is bothering them [. . .]") support (see page 6 for SOCIALBOND). It may be argued that the perception of providing support is a proxy for enacted support, but this is not the same thing as stating that we are actually measuring it. This is a major issue, as the authors are actually comparing two perceptions of social support, and not the discrepancies between perceived and received social support. Therefore, the results are not conclusive for the research question."

- Thank you for raising this important point regarding our operationalization of social support variables. Our research question focuses on (mis)perceptions of support rather than objective measures of enacted support. In the Stage 2 report, we will explicitly address the limitation that our measures do not capture specific instances of received support but rather reflect perceptions of support provision. We will propose a line of future research in which objectively measured support at one time point (e.g., during a stressful event) could be compared with later perceived support, as this approach could provide further insight into discrepancies between perceptions and actual support receipt.

“Fourth, the introduction, at some extent, is too broad and omits key details which could help the reader to understand the study’s context more clearly. For example, the author provides a really general definition of social support (see page 2) that does not reflect the more specific conceptualization used in this paper; “emotional support” is a form of support often used in the literature and 1 that derives from a categorial view of support (see Cohen and Wills (1985)). Similarly, “mental health” and “loneliness” are introduced as outcomes, but also with broad definitions. While the authors chose to approach mental health from the perspective of depression, emotional well-being and psychological distress could provide a more profound understanding of the subject and the actual use of mental health in this paper. Indeed, mental health is measured through the MHI-5 scale of the SF-36, which is a proxy for depression, but also an actual measure of emotional well-being (i.e., the balance between positive and negative emotions through time) (see Dieiner, Sapyta and Suh, 1998). Also, the authors used the GHQ-12 in Net4Health, which is a measure of psychological distress, and not necessarily depression.”

- Thank you for these insights, which we will incorporate into the limitations and discussion sections in the Stage 2 report. After completing Stage 1, we will further differentiate the distinct aspects of mental health, particularly regarding how measures like the MHI-5 and GHQ-12 tap into depression, emotional well-being, and psychological distress. This will allow us to address the distinctions in mental health conceptualizations and their relevance to our findings.

“I understood the depression was used to fit the Beck cognitive theory of depression, and its theoretical link with discrepancies between perceived and received social support. Still, a broader perspective may help understand the associations between mental health, loneliness and social relationships (Buttle and Sbarra, 2013; Cacciopo and Cacciopo, 2014; Cacciope and al, 2000; Hawkley and Cacciopo, 2010). Moreover, highlighting the relations between mental health and loneliness may help explain the similar effect sizes found in the nested regressions with either loneliness or mental health as outcomes as they are most likely to be correlated. Further, it would help to provide a clear definition of loneliness and how it fits in a theory of mental health (see the multiple papers of Cacciopo on the subject). “

- Thank you for these valuable references and suggestions. To clarify, mental health and loneliness are treated as explanatory variables in our analysis, not as outcomes. The restructuring of hypotheses in the revised manuscript should make this distinction more evident. Additionally, we have included a subsection that outlines the relationship between mental health and loneliness and their conceptual relevance to our study (lines 167-178). This should provide a clearer theoretical foundation for understanding these variables and their interaction within the context of social support and network perception discrepancies.

“Five, and closely related with the previous point, there is a missing discussion in the introduction about the relations between social relationships, loneliness and mental health. Here we are interested how mental health and loneliness explain perception about the social networks, still, the inverse relation is also important to understand the full picture. There is substantial literature showing that the presence and quality of social relationships change the person perceptions about its social environments, mainly if it is somewhat “secure” or “distressful”. Ultimately, this perception, may influence a person mental health, with extensive studies on potential inflammatory process underlying this link (See Leschak and Eisenberger, 2019; Slavich, 2020). This more recent understanding of the role of social perception on health needs to be taken into account when exploring this subject.”

- Thank you for emphasizing this perspective. We have revised the introduction to incorporate findings on how perceptions of social environments—specifically whether they are viewed as secure or distressful—can influence mental health and may be linked to inflammatory processes, as highlighted in recent studies (Leschak & Eisenberger, 2019; Slavich, 2020). This updated section now addresses the role of subjective social perception: “This discrepancy between enacted and perceived support highlights the role of individual perception in social relationships. Previous research indicates that people’s perceptions of their social environments, whether perceived as secure or distressful, can significantly impact mental health, potentially through inflammatory processes (Leschak & Eisenberger, 2019; Slavich, 2020).” (line 64-68)

“Lastly, a more methodological concern, I am a bit surprised about the discussion on merging the two networks for QAP regression (yet it is not clear from reading the method if it is really what was done). My concern is that mental health, loneliness, but also age, are not measured the same way. How did the authors manage this issue? “

- Currently, only the SocialBond data has been analyzed, as some co-authors do not yet have access to the Net4Health data. The manuscript primarily outlines the replication framework, demonstrating how the analyses conducted on SocialBond data can be extended to the Net4Health dataset once the Stage 1 report is accepted. A combined meta-analysis of both datasets is not planned. Rather, following the acceptance of Stage 1, we plan to conduct a separate meta-analysis for the school-level models within the Net4Health dataset.

“Also, missing data were not treated similarly for the two networks, which can lead to biased results. We would need more information about the imputation process in the Net4Health network, but also how the authors managed these multiple discrepancies.”

- We appreciate your attention to the handling of missing data, which is indeed a crucial methodological consideration. We recognize that

variations in missing data management across the two networks could potentially introduce bias. For the Net4Health data, we plan to address this by conducting a comparative analysis, evaluating results from both a multiply imputed dataset and a complete case approach. This approach will enable us to assess any impact of missing data treatment on our findings and ensure methodological consistency.

"Specific Points by Sections

Here are my notes page by page on each subsection. In some cases it will overlap with the more general previous comment, but it can help pinpoint where change can be made.

Introduction:

• Page 2:

– The definition of social support is really general and does not reflect the conceptualization used in this paper."

- Thank you for this observation. Please refer to our response to the following comment, where we have addressed the refinement of the social support definition to align it more closely with the specific conceptualization used in this study.

"– On "both through a direct positive influence of social support and through a buffering effect on the negative effects of everyday stressors". The papers cited for this point are discussion about those hypotheses on how social relationships may influence health. Yet they do not provide clear evidence of these pathways. Therefore, it should be rephrased to reflect the uncertainty of theses hypothesis."

- We have revised the paragraph to reflect the uncertainty of these pathways: "Previous research suggests that perceptions of social support and the availability of network resources are potential sources of variation in mental health (for systematic reviews and meta-analyses, see e.g., Gariépy et al., 2016; Harandi et al., 2017; Rueger et al., 2016; Wang et al., 2018). Social support has been discussed both as a potential direct positive influence on mental health and as a possible buffer against the adverse effects of everyday stressors (e.g., Berkman et al., 2000; Cohen & Wills, 1985; Demirer et al., 2021; Thoits, 2011)". (lines 52-58)

"– Emotionnal support needed to be introduced."

- Thank you for noting this. We have now included a definition of emotional social support, clarifying its specific relevance within our conceptual framework: "Social support is a multifaceted construct, often categorized into three distinct types: emotional, instrumental, and informational support (House & Kahn, 1985). Emotional support, also referred to as esteem support, encompasses all forms of reassurance,

empathy, and acceptance directed toward an individual, aiming to enhance their emotional well-being (Cohen & Wills, 1985; Thoits, 2011).” (lines 48-52).

“– It is confusing to have the research objective so soon, followed by more information about the context of the study.”

- We have revised the structure of the introduction to address this feedback, placing the research objective at the end of the introduction to ensure that the contextual background logically leads into the study objective.

“• Page 3:

– Objective social embeddedness is not defined. As quantity and quality of social relationships?”

- We have revised the manuscript to differentiate between social isolation and loneliness, providing definitions for each construct to enhance clarity: "A conceptual distinction must be drawn between social isolation and loneliness, as these constructs represent different facets. Social isolation is an objective measure, reflecting an individual’s actual lack of social embeddedness within social networks. In contrast, loneliness captures the subjective experience of social isolation, defined as the dissatisfaction individuals feel with the quality or quantity of their available social relationships (de Jong Gierveld, 1987; de Jong Gierveld et al., 2018). Loneliness emerges when the perceived level of social connection falls short of an individual’s desired degree of social engagement (Perlman & Peplau, 1981).“ (lines 160-166)

“• Page 4:

– It would help to have a “current paper” section, to help the reader to understand the context of the study. The general objective on page 2 could be here followed by the hypothesis, with a clear restatement of the literature gap.”

- Thank you for this helpful suggestion. We have expanded the introduction to provide additional context on various research areas within network cognition. Additionally, we have restructured the introduction of our hypotheses, aligning each hypothesis more closely with the relevant research gap. This revised structure should make the literature gap and the study’s objectives clearer.

“Methods

• Page 5:

– Complete social networks. Do you mean sociocentric network?”

- Thank you for this clarification. To improve understanding, we have replaced "complete social networks" with "sociocentric social networks" throughout the manuscript.

"– There should globally be more information about the SOCIALBOND and Net4Health networks. Links to website can be broken with times, as they are not published with a specific DOI."

- We have expanded the data paragraphs for both the SOCIALBOND and Net4Health datasets to include more detailed information (lines 214-232). This ensures accessibility to relevant information without solely relying on external links.

"• Page 6:

– It is not clear what is the transposed matrix here. Are the discrepancy matrices are binary square matrices of provided/received support between all alters? If so transposition of a square matrix should be equivalent? I think I'm missing the point here, and it should be more explicit."

- Thank you for highlighting this point. To clarify, we have expanded the description of the matrix transformations in the methods section: „The next step is to subtract the two matrices from each other. However, before doing so, the perceived social support matrix must be multiplied by two to ensure that, after subtraction, the four cross-categories remain distinguishable and do not cancel each other out to zero. Once this adjustment is made, the provision of supportT matrix is subtracted from the perceived social support matrix. Four different combinations of perspectives can then be distinguished" (lines 282-287)

"– Also, table 1 show 4 categories of dyads, which could be simply identified using edges lists, and not a matrix. So it further questions what is the previous discussion about transposed matrix."

- Thank you for this observation. We use the perceived social support matrix and the provision of support^{T} matrix to identify the four possible cross-combinations from Table 1 through matrix subtraction. While it is true that edge lists could also be used for this purpose, our selected QAP regressions are matrix-based. Therefore, we deemed the matrix approach to be the most suitable for maintaining consistency with our analysis framework.

"• Page 7:

– Give more information about the MHI-5. How many questions for positive/negative emotions. On which period (4 weeks if I remember)? Do you use the standardized Z score (as it is expected)? Which translation (is it published and validated)? "

- We have expanded the description as follows: „The MHI-5 has been validated to capture symptoms related to depression and anxiety in children and adolescents (Rivera-Riquelme et al., 2019) and focuses on mental health status over the past four weeks. The MHI-5 includes three items addressing negative emotions and two items addressing positive emotions. Following Hays et al. (1993), each item was recoded to a 0–100 scale, with higher scores indicating better mental health. The overall mental health score was then calculated as the mean of the five items The scale was translated into German for this study.“ (lines 300-305).

“– What are the reported gender used?”

- To clarify, we have included the specific categories collected in the SocialBond dataset, which are also used in the analysis. For SocialBond, gender was self-reported as a dichotomous item: “boy” or “girl” (line 308).

“– Socioeconomic background: To what extent an children’s access to money is a good proxy of its socioeconomic background? Parents may or may not give money to their children. Is their literature on to validate this measure?”

- We have expanded the manuscript to explain the rationale for this measure and provide supporting references: „Due to the absence of parental data, the study relies on adolescents' perceptions of financial limitations as a proxy for socio-economic status, as adolescents lack accurate knowledge of household income. Two items are used to assess the extent to which the adolescent's financial resources limit their daily lives: “how often do you lack the money to take part in activities (for example, school trips, cinema visits or things your friends do)?” and “how often do you lack money for something you would like to have (for example, for clothes or games consoles)?”. This measure has been found to correlate with the broader socio-economic family background (Currie et al., 2008).“ (lines 310-317).

“• Page 8-9:

– Socioeconomic background: What is “economic self-assessment” means? “

- We have expanded the description of the measure in the Net4Health dataset to clarify its meaning: „Socio-economic status is measured using adolescents' relative economic self-assessment. Students were asked to evaluate their family’s financial standing on a scale from 1 to 10, with 1 representing "the best off people in Scotland (families with the most money)" and 10 representing "the worst off people in Scotland (families with the least money). Previous research indicates that the subjective social status is a valid proxy for objective socio-economic indicators (Goodman et al., 2001).“ (lines 364-369)

“– Missing data: Is leastwise deletion meaning removing dyads on the edge lists? Simply complete case analysis would be more coherent with missing data terms. More over, why not using multiple amputations as in Net4Health. “

- We agree with your suggestion and have revised the terminology to reflect "complete case analysis," which more accurately describes our approach to managing missing data in dyadic analyses. The paragraph now reads: "In Socialbond, missing values on relevant variables were managed through a complete case analysis approach." (lines 379-380)

"– What is the complete procedure of missing data in Net4Health? How can we be sure that the imputation is valid? Maybe an appendix if too long for the main text. "

- Thank you for highlighting this point. As of now, the Net4Health data has not been analyzed, and parts of the author team do not yet have access to the data, following the rules for Stage 1 reports. Once access is granted, we plan to compare model results from both multiply imputed datasets and complete case datasets. This comparative approach will allow us to assess any potential bias due to imputation and validate the robustness of our findings.

"– Please better explain MRQAP models as they are not common outside network analysis. Maybe explaining that it is an extension of the mantel test with multiple covariance matrices. "

- Thank you for this suggestion. We have revised the manuscript to provide additional context and clarify the distinction from conventional regression models, as well as the relationship to the Mantel test: „In social networks, the dyads within a network boundary are not independent, as indiviudals in network data can influence each other. This dependency violates a core assumption of traditional regression models, which require independent observations to produce unbiased estimates. Multiple Regression Quadratic Assignment Procedure (MRQAP) models (Krackardt, 1987; Krackhardt, 1988) can be used to analyse the relationships between variables in the context of network data. MRQAP models build on the Mantel test (Mantel, 1967), which is widely used to assess correlations between two similarity matrices. MRQAP extends this by allowing for multiple predictor matrices, to be included simultaneously, enabling the analysis of how multiple covariates impact a dependent adjacency matrix in the context of network data." (lines 384-392).

"– Also how did you manage to generate the multiple covariate / outcomes matrices from the individual level variables? We see later your "diff." measures, but they need to be defined before. "

- As part of the operationalization section, we have now added a detailed description of the creation of the ego, alter, same, and diff matrices. This clarification should provide a clearer understanding of how we generated the covariate and outcome matrices from individual-level variables (see lines 322-336 and lines 374-375).

"– To what extent observations are not independent? As far as I understand the data, there is no dyadic measures that could influence other dyads, like for example an eigenvector centrality that would be associated with for a specific node, to the eigenvector centrality of its neighbours. In your cases, it would be important the dyads are independent, as it is a requirement for the MRQAP model. Moreover, permutations as far as I know is done to manage data with unknown distribution, not dependent data. Here it is not clear why you used permutations. Moreover, is there any assessment of heteroscedasticity? If so, is MRQAP robust to variance heterogeneity?"

- Thank you for these insightful questions. As discussed by Krackhardt (1987; 1988), dyadic data inherently violate traditional regression assumptions of independence due to the interconnectedness of individuals within network structures, where networked relationships can create dependencies. MRQAP specifically addresses this by permuting nodes rather than edges, thus maintaining the original relationship structure while testing the observed associations against random assignments. This process helps control for dependency between dyads, even in the absence of directly dependent measures like eigenvector centrality. This is crucial, as network data often exhibit structural autocorrelation, which MRQAP can manage through permutation testing to yield unbiased coefficient estimates. As for heteroscedasticity, while MRQAP does not specifically adjust for heteroscedastic variance among dyads, its robustness is increased by focusing on the distribution of regression coefficients under permutations. This method inherently reduces biases from variance structure discrepancies by treating all permutations equally, which provides a more reliable test in the presence of heteroscedasticity compared to standard methods.

"– Permutations of nodes should be clearly stated, as opposed to edges permutation. Why choose nodes instead of edges? "

- In our netlogit syntax, nodes are permuted rather than edges. This choice is intentional, as we aim to test whether the observed relationships are driven by the attributes of the nodes rather than by the specific configuration of edges. Permuting nodes enables us to evaluate the significance of node attributes in shaping network relationships while preserving the underlying network structure. This approach follows the QAP method outlined by Krackhardt (1987; 1988), who demonstrates that node permutations effectively account for autocorrelations in dyadic data.

"– Here we understand what are the outcome matrices. To understand how it is unclear, I expected mental health/loneliness, and not discrepancy matrices. Moreover, I also figure out their specific structure, namely binary matrices. Their missing may information in previous sections. "

- Thank you for highlighting this. We have restructured the hypotheses in the introduction to clarify the categorization of the dependent variable.

Additionally, to prevent misinterpretation, we have updated the section headings in the operationalization section: the heading before the description of the discrepancy matrices now reads "Dependent matrix: Discrepancy matrix of emotional social support," and the heading for independent variables has been updated to "Explanatory matrices." These changes should provide clearer guidance on the nature and structure of the matrices.

"– How meta-regressions are managed? How the information from the AIC and BIC used? Is there some kind of leastwise deletion for the included variables? If so, why using AIC/BIC, as they mostly inform on predictive power of the model, and not on the relevance of the predictors. A better aproach for correlation study is to use a stepwise regression, with a specific criterion for inclusion/exclusion of the predictors based on the correlation coefficient. Also, these steps should be displayed in an appendix."

- AIC and BIC were not used to select variables for inclusion in our models; explanatory variables were selected based exclusively on theoretical considerations, and confounding variables were included to obtain estimators that are as unbiased as possible. We used AIC and BIC only to decide between fixed-effects and random-effects meta-regression models, following the recommendation by An (2015). To clarify, we have updated the analysis subsection to specify this: "Akaike's Information Criterion (AIC) and Bayesian Information Criterion (BIC) are used to decide between the fixed-effects and random-effects meta-regressions by selecting the one that has a smaller information criterion and therefore fits the data better (An, 2015)." (lines 424-427)

"Results

• Page 9:

– Why use mean and std.dev as network data are generally skewed? Median and IQR would be more appropriate. "

- Thank you for this suggestion. We have updated the descriptive statistics table to include median and IQR values to better account for the skewed nature of network data.

"• Page 10-11:

– What is T after outdegree provided support in descriptive results? "

- We appreciate the opportunity to clarify this. The "T" notation refers to the transpose in the provision of support matrix. As described in the operationalization section: „The provision of support^{T} matrix indicates in the rows whether the respective ego is receiving emotional support from the respective alter, based on the reports of the providing alter." (lines 275-280)

"– Table 4: The fact that the variables are not clearly explained previously make the table hard to understand. Also, for categorial variables, state the reference state. "

- Thank you very much for the suggestion, in addition to the already mentioned extension of the description of the variables, a specification of the reference categorisation was added in all tables for categorical variables.

"• Page 12:

– What about unintentional support? This should be in the discussion. "

- Thank you for raising this point. Unintentional support is reflected in our analysis by the discrepancy category "Perceived, but not provided," which includes all dyads where ego perceives support that alter does not report as given. We will clarify this in the discussion to ensure that this interpretation is explicitly noted.

"• Page 12 - end

– The rest of the discussion about effect size and statistical power seems to be more appropriate in an appendix, with a more general presentation of "what will be done" in the method section. "

- Thank you for this suggestion. In Stage 1 reports, information on effect size and power is typically included to determine whether the planned analyses are feasible and meaningful for the given dataset. We plan to move this information to an appendix in the final paper, as suggested.

"– Inference criteria: Not sure why using the word inference here when discussing p-value threshold for significance. Also, it is said to be at 0.10, while using 0.05 in table 4. And why using 0.10 instead of 0.05? It is not clear based on two-tailed effect."

- We have opted for a less conservative alpha level of 0.10, as smaller effect sizes may hold meaningful preventive implications at the population level. This preventive approach differs from a clinical perspective, which often aims to detect larger individual-level changes following treatment exposure. To ensure clarity, we will present both 0.05 and 0.10 significance levels in the Net4Health data results, allowing readers to interpret findings across both thresholds.

"– Reliability and Robustness | Exploratory analysis: Are you present "what will be done in the future". For myself, I don't follow why it is here in this manuscript. As stated earlier, I'm not familiar with preprint, but I would prefer to read only completed information."

- Including exploratory analyses and future steps is standard in Stage 1 reports, where the primary aim is to review and pre-register hypotheses and planned analyses. Due to limited access to the Net4Health data at this stage, it is not yet possible to determine the empirical feasibility of the exploratory points (e.g., potential power limitations within certain categories). Once data access is available, these exploratory analyses will be re-evaluated for inclusion based on their feasibility.