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Peer victimization but not social anxiety negatively influences predicted enjoyment during peer interactions

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Abstract

We often underestimate how much others enjoy initial interactions with us - a phenomenon known as the liking gap. While widely documented, less research has explored how individual differences such as social anxiety and negative social experiences influence the liking gap. To test this, female and non-binary dyads ($N = 23$) varying in severity of social anxiety and exposure to peer victimization, completed semi-structured dialogues with strangers. Following the interaction, participants rated their own enjoyment and their assumption of their partner's enjoyment of the interaction. Consistent with past literature, participants underestimated their partner's enjoyment. The magnitude of the liking gap was greater for participants with more exposure to peer victimization, but not social anxiety. The relationship with peer victimization was specifically linked to incorrect perceptions about their partner's enjoyment. This suggests that the liking gap may be susceptible to individual differences in peer victimization, rather than a broader phenotype of social anxiety.

Keywords

Peer victimization; Social perception; Liking gap; Negativity bias; Social anxiety

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Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: Vishnu Murty & Johanna Jarcho reports financial support was provided by National Science Foundation. Vishnu Murty & Johanna Jarcho reports financial support was provided by National Institutes of Health. If there are other authors, they declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.xjmad.2025.100105.

1. Introduction

Successful social engagement is necessary to form friendships, which enhances wellbeing [1–3]. An obstacle in forming friendships is the liking gap, a tendency to underestimate how much people like us [4]. Negative biases during the anticipation of social judgment may drive the liking gap [4–7]. Such bias may stem from fear of social rejection, as is common in social anxiety, prior exposure to social rejection, as is common via peer victimization, or some combination therein. Determining the source of bias could inform interventions aimed at improving social competence. However, no study has tested relations between the liking gap and fear of—or prior exposure to—social rejection. This study characterizes the liking gap in young adults with varying levels social anxiety symptoms and exposure to peer victimization.

The liking gap may be driven by different cognitive mechanisms that divert attention away from veridical social cues, including excessive focus on self-critical thoughts [4–7]. Thus, the liking gap may be exacerbated by social anxiety, which is characterized by self-focused cognitions about fear of negative evaluation [8,9]. Alternatively, recent exposure to peer rejection or aggression with intent to harm, may influence the liking gap. Peer victimization is a common form of negative social feedback[10] and affects 20–25 % of college students [11]. Peer victimization is linked to numerous maladaptive social outcomes [12–14], but its relation to the liking gap is untested. While greater childhood peer victimization is associated with more severe social anxiety symptoms [15–17], less is known about this relation in young adults[18,19]. Since both peer victimization and social anxiety are associated with the tendency to anticipate negative social feedback or experiences [6,17,20–22], they may interact to potentiate the liking gap.

This study quantified the relation between social anxiety, exposure to peer victimization, and the liking gap in young adults following a semi-structured dialogue between strangers. We assessed the difference between participant enjoyment and assumptions about their partner's enjoyment. We then tested which better relates to the liking gap: social anxiety or peer victimization.

2. Methods

2.1. Transparency and openness

We report how we determined our sample size, all data exclusions, manipulations, and measures in the study. Data, analysis code (R, version 4.1.2), and research materials are available at <https://osf.io/wm4j9/>.

2.2. Participants

Dyads ($N = 23$; $N_{\text{Total}} = 46$, 20.30 ± 1.80 years) were recruited from Temple University and consented to IRB-approved procedures. Given higher rates of social anxiety among young women[23,24], demographics of the University, and the relatively small sample size, we sought to maximize power by studying women (see S2.2 for further information and Table S1 for demographics).

2.3. Dialogue task

We designed a novel task to test the liking gap. Pairs of strangers engaged in a zoom-based dialogue moderated by an experimenter. Dialogue prompts were selected based on ratings provided by a separate sample to ensure they would yield insight and varied in valence (see Supplement for more information). Participants were introduced and received instructions via the moderator's shared screen. Each participant's zoom screen was configured so their partner's face took up the full screen and the moderator's screen appeared in the upper right-hand corner.

When each prompt was displayed, a green speech bubble paired with a tone cued the participant to begin speaking. The participant then responded for 2.5 minutes, after which a red stop sign paired with a tone signaled the end of time. The same prompt was then presented for the other participant to respond. Participants alternated who answered each prompt first. Prompt and participant response order were randomized. After the task participants were put in separate Zoom rooms and completed questions about their own enjoyment and the assumed enjoyment of their partner during the dialogue on a 1 (*no enjoyment*) to 7 (*most enjoyment*) Likert Scale (see Figure S1 for more details).

2.4. Social anxiety symptoms

The social phobia subscale of the Screen for Adult Anxiety Related Disorders (SCAARED; Cronbach's $\alpha = .947$) [25] includes 7 statements rated on a 3-point Likert scale. Symptom severity is the sum of responses and scores 1–7 reflect clinically relevant symptoms.

2.5. Exposure to peer victimization

The victimization subscale of the Peer Victimization Questionnaire (PVQ; Cronbach's $\alpha = .788$) [26], includes 12 questions about Victimization during the “past couple of months” rated on a 5-point Likert scale.

2.6. Analyses

To characterize a liking gap, we compared each participant's assumption about their partner's enjoyment with their partner's actual rating of enjoyment using a paired *t*-test. We also calculated a liking gap score for each participant by subtracting actual from assumed partner enjoyment. Negative values reflect an underestimation of their partner's enjoyment (i.e., the liking gap).

Given the potential association between peer victimization and social anxiety symptoms [15–17], we performed a Pearson's correlation between the two factors. Next, we performed two simple linear regressions of the liking gap with social anxiety symptoms (liking gap ~ social anxiety) and exposure to peer victimization (liking gap ~ peer victimization). An additional linear regression included both peer victimization and social anxiety (liking gap ~ peer victimization + social anxiety).

We next related these measures to the liking gap. The first model included the factor (social anxiety or peer victimization) most closely associated with the liking gap and actual partner enjoyment, while controlling for assumed enjoyment (actual enjoyment ~ [social anxiety or

peer victimization] + assumed enjoyment). The second took the same approach but modeled assumed enjoyment as the dependent variable while controlling for actual partner enjoyment (assumed enjoyment ~ [social anxiety or peer victimization] + actual enjoyment).

3. Results

Our novel paradigm successfully elicited the liking gap: when making assumptions, participants underestimated their partner's actual enjoyment ($M_{actual} = 6.30$; $M_{assumed} = 5.50$; $SD_{both} = 0.90$; $t(45) = -5.64$; $p = 1.058e-06$, 95 % CI $[-1.06, -0.50]$; Fig. 1 A). This was a large size effect ($d = 0.86$) observed in 63.04 % of participants (Table S3).

Most participants reported clinically relevant social anxiety ($n = 25$; $M = 7.09$; $SD = 3.70$) and endorsed 1 experience of peer victimization ($n = 35$; $M = 2.85$; $SD = 3.08$). There was no relation between social anxiety symptoms and peer victimization ($r(46) = .14$, $p = .36$, 95 % CI $[-0.16, 0.41]$). There was also no relation between social anxiety and the liking gap ($F(1, 44) = 1.33$, $p = 0.26$, $R^2 = .007$, 95 % CI $[-0.12, 0.03]$; Fig. 1b, yellow). However, there was a relation between the liking gap and peer victimization ($F(1, 44) = 7.42$, $p = 0.009$, $R^2 = .124$, 95 % CI $[-0.20, -0.03]$; Fig. 1b, red). Specifically, greater exposure to peer victimization was associated with a larger liking gap ($\beta_{\pm se} = -0.116 \pm 0.042$, $t = -2.724$). Finally, the negative relation between peer victimization and the liking gap remained significant even after controlling for social anxiety ($F(2, 43) = 4.05$, $p = 0.01$, $R^2 = .119$; $\beta_{\pm se} = -0.111 \pm 0.043$, $t = -2.570$).

Once peer victimization was identified as the factor most closely associated with the liking gap, we tested the extent to which it related to assumptions about partner enjoyment and actual partner enjoyment. There was no relation between peer victimization and actual partner enjoyment, even after controlling for assumptions about the partner's enjoyment ($F(2, 43) = 7.41$, $p = .14$, $R^2 = .22$; Fig. 1c, purple). However, peer victimization was associated with assumptions about partner enjoyment, even after controlling for actual partner enjoyment ($F(2, 43) = 11.92$, $p = 0.003$, $R^2 = .36$; Fig. 1c, blue). Specifically, greater exposure to peer victimization was associated with more negative assumption about partner enjoyment ($\beta_{\pm se} = -0.114 \pm 0.037$, $t = -3.062$). Results remain consistent after accounting for outliers (see Supplement).

4. Discussion

Social relationships are important to well-being. However, strong relationships are built on having positive experiences and holding accurate perceptions about others' experiences of us. The latter is challenged by the liking gap[4], and our results suggest peer victimization may potentiate its expression. Specifically, we demonstrate that the liking gap is more closely related to actual experiences of peer victimization than general fears of negative social encounters, as with social anxiety.

Our novel paradigm systematically produces a liking gap such that during an initial dialogue with a stranger, individuals assumed their partner's enjoyment as lower than it actually was. We showed that recent experiences of peer victimization were associated with a larger liking gap. This result is the first potential evidence showing the liking gap is linked to

external factors, namely past negative social experiences. Moreover, this bias was driven by assumptions about one's partner's enjoyment, not their actual enjoyment. This is consistent with prior work showing that peer victimization is associated with anticipation of negative social feedback [13,14]. Together our data suggests that peer victimization does not make an individual less enjoyable to converse with but may bolster the *belief* that they are not enjoyable to interact with. To our knowledge, this is the first demonstration of how peer victimization, a common form of negative social feedback, may bias meta-cognition in the context of dyadic interactions.

Our data give new meaning to the phrase “you never get a second chance to make a first impression”: even if you made a good first impression on a stranger, you might not have made a good impression on yourself. Previous studies demonstrate that people doubt their conversational abilities and would rather keep to themselves in a social context than attempt dialogue with a stranger [27,28]. We propose that this reflects a vicious cycle stemming from past social experiences, such as peer victimization, but also biased interpretation of even positive peer interactions. This may perpetuate negative schemas about an inability to build positive relationships and in turn, reduce motivation to pursue them.

Despite prior work demonstrating an association with anticipation of negative social feedback [6,9], there was no relation between social anxiety and the liking gap. Indeed, relations between the liking gap and peer victimization remained even after controlling for social anxiety. Thus, while our data cannot speak to whether the liking gap is driven by conscious comparison to past negative social experiences, actual exposure to negative events, rather than chronic fears about them, seem to have a greater influence on social biases.

Unlike prior work[12,15–17], peer victimization and social anxiety were not associated in this sample. This discrepancy may reflect our focus on young adults - much prior work was performed in children and adolescents, or our assessment of concurrent, rather than childhood or adolescent exposure to peer victimization. Given that peer feedback is particularly salient to youths, exposure to peer victimization during this developmentally sensitive time may have an outsized effect on social anxiety symptoms. However, because some studies in young adults show associations between the anxiety and victimization [29–31], further work is needed to better map these relations.

The current study is not without limitations. First, our sample size was relatively small for individual difference analyses [32]. While our paradigm elicited a large size liking gap effect and a significant relation emerged between peer victimization and the liking gap, peer victimization explained a relatively modest amount of variance. This may be a function of small sample size and underscores the preliminary nature of the results and need for replication in larger samples. Because we studied college-aged, largely female participants, it is critical to test effects across other gender identities, age groups, and clinical populations. Further investigation in vulnerable groups is particularly important given social anxiety is often associated with higher levels of negative biases about social experiences [12,21,33,34]. Finally, our measure of peer victimization did not include cyber-bullying, which is increasingly common among young adults [29,31].

Our results show that the liking gap emerges specifically from bias, not from behavioral cues emitted or detected by a dialogue partner. Thus, intervention to address bias, rather than behavior, may have greater utility in those exposed to victimization. Indeed, prior studies have demonstrated that just knowing about the liking gap phenomena generally encourages people to pursue social interactions with others with more confidence [35–37]. Thus, integrating an intervention as simple as providing peer victimized individuals with information that they may be more susceptible to the liking gap could go a long way towards reducing it.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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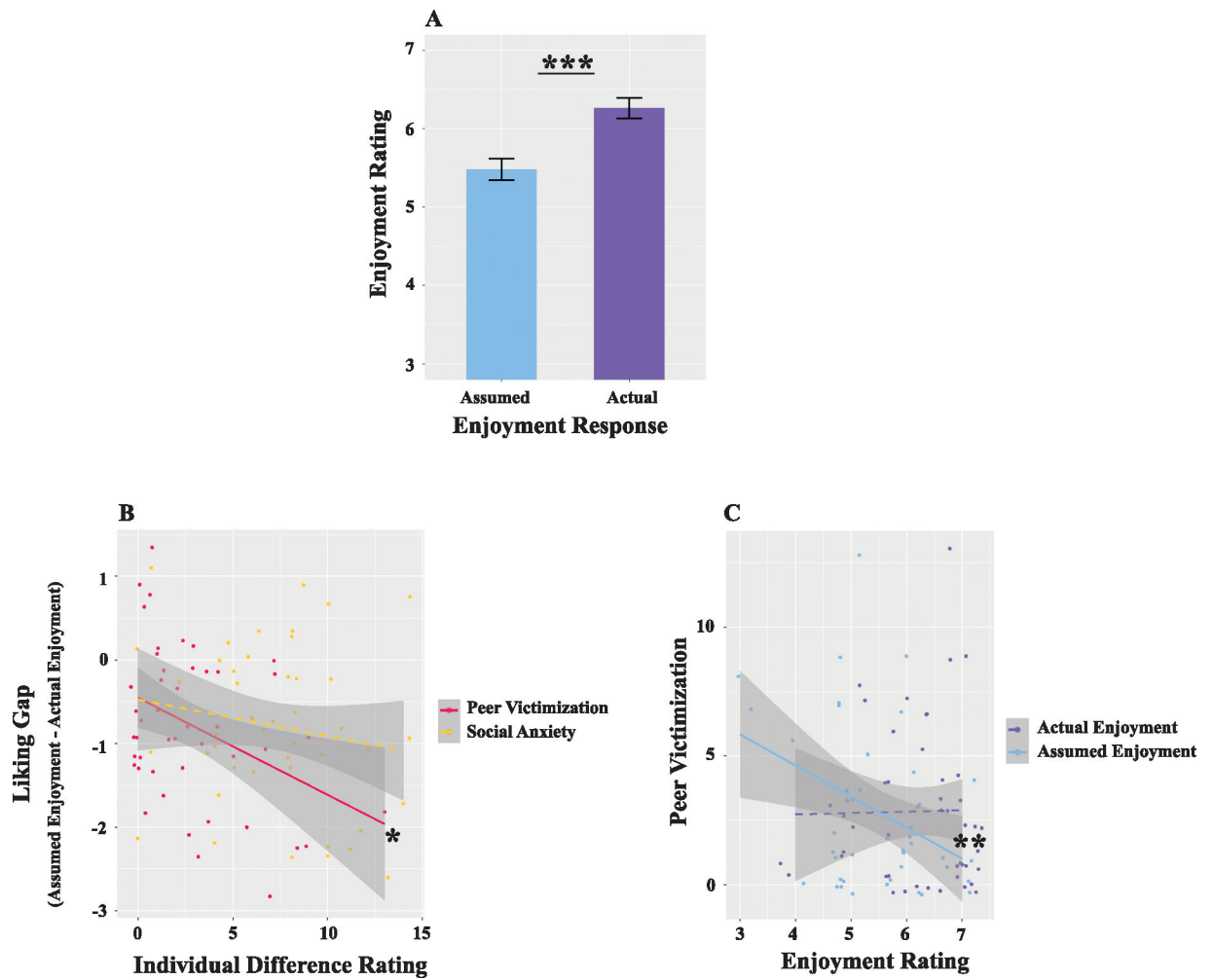


Fig. 1.

(A) Differences in Assumed versus Actual Enjoyment Ratings. (B) The relationship between the liking gap and individual differences in peer victimization while controlling for social anxiety. (C) The relationship between peer victimization with actual and assumed enjoyment. Data are jittered for depiction purposes to account for overlapping points.