

**The Effects of Narrative vs. Expository Messages on Social Support-Seeking  
in First-Year College Students**

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## Abstract

College students often experience high levels of loneliness and isolation. First-year students are particularly vulnerable due to environmental and social changes. People often hesitate to reach out for support in part due to a systematic underestimation of how positively others will respond to their social outreach. Our study aims to assess the feasibility of reading about peers' experiences as an intervention for improving the perceptions of peers' empathy and social support-seeking behaviours among first-year college students. Across two preregistered studies (Study 1: N=118; Study 2: N=85), we tested whether reading peers' challenges presented in either narrative (first-person storytelling) or expository (statistics/ factual) format could lead to changes in empathy perception and support-seeking behaviours. Based on prior studies showing positive effects of fiction-reading on social cognition, we hypothesized that reading narratives about other students' struggles will increase support-seeking behaviours. On the other hand, given the potential destigmatizing effect of normative statistics, we hypothesized that reading about statistics of students' struggles will increase students' perception of how empathic their peers are. Findings from Study 1 indicated that reading about student experiences in both styles did not consistently change empathy perception, but social support-seeking significantly increased. These results were partially replicated in Study 2. Given that social support is strongly associated with many mental health outcomes, this suggests that such an intervention design can be potentially beneficial and effective in promoting support-seeking in students. This in turn can increase social outreach, connection-making, belongingness and wellbeing.

*Keywords:* social cognition, social support, cognitive perception, empathy, intervention

## **Introduction**

By the time they enter college, most young adults have already formed a sophisticated understanding of social interaction. However, many factors are shown to continue to negatively affect their abilities to form meaningful social connections. In particular, connection-making and seeking social support have been shown to be impacted by the problem of undersociality.

Undersociality refers to the avoidance of social interactions due to the routine underestimation of how positively others will respond (Epley et al., 2022). Factors contributing to this miscalibration include (1) differential construal of sociality (evaluating one's own actions based on competence, but being evaluated by others based on warmth); (2) uncertainty in others' responsiveness (anticipating a range of outcomes to one's own social outreach that is broader than actually probable); and (3) asymmetric learning of oneself versus others (one's own expectations encourage avoidance of social outreach, resulting in less available social feedback from others).

The issue of undersociality is especially critical for college students, as they are an at-risk group for loneliness and depression (Buchanan, 2012; ACHA-NCHA, 2009). Poor wellbeing is frequently caused and/or worsened by loneliness, isolation, and social miscalibration, especially as students adjust to college life and attempt to find new social networks. This often leads to repression of negative experiences and fear of reaching out for support (Bhagchandani, 2017). These are major inhibitors to students' ability to form social connections and feel a sense of belonging, which poses a significant barrier to perceiving the community as a source of empathy and support. In turn, this can obstruct important social support-seeking from one's community in times of struggle. As such, evidence-based strategies are critically needed to improve college students' wellbeing via promoting social support seeking.

The overarching goal of our study is to promote social support-seeking behaviour through shifting students' perceptions of how empathic their peer community is. Prior interventions have attempted to foster social connection through facilitating opportunities for social interactions (Ellard et al., 2023). However, it is difficult and often unproductive to force direct social interactions, especially when people may already harbor anxious or aversive feelings (Beehr et al., 2010; Stathi et al., 2012). Here, we aim to explore novel intervention approaches to promote social connection. These challenges are particularly augmented for first-year students, who often have to create and adjust to brand new social networks while they are in an unfamiliar environment and far away from existing emotional support systems (Crissman Ishler, 2004; Tognoli, 2003). As such, our studies targeted first-year college students as a key demographic.

### **Narrative vs. Expository Reading**

Our study examines whether reading about peers' experiences can improve first-year college students' perceptions of peer empathy and encourage them to seek social support. We tested two writing styles: narrative and expository.

We adapted the narrative approach from prior research comparing the effects of fiction and nonfiction reading. We designed this approach to explore how storytelling can influence students' perceptions and support-seeking behaviour. Fiction reading has been shown to enhance social cognition (Dodell-Feder and Tamir, 2018) and is associated with a stronger ability to understand the mental states of both others and oneself, or "mentalizing" (Mar, 2018; Bal & Veltkamp, 2013). Longitudinal studies have found that exposure to fiction starting in childhood is correlated with a stronger mentalizing ability (Mar et al. 2009; Mar, 2018).

Our second approach of Expository reading is adapted from nonfiction-style writing. Normative information about difficult experiences shared by other college students has been

shown to increase students' perception of their peers' empathy (Jordan et al., 2010). People tend to underestimate the prevalence of others' negative experiences, leading them to feel more alone in their struggles and ruminate more (Jordan et al., 2011). Descriptive statistics about common difficult experiences in college may independently have a positive effect on helping students feel less alone in their struggles. This in turn may increase a sense of belonging and a willingness to reach out to others for support.

We measured these possible effects by randomly assigning participants to a reading stimulus written in either (1) a "Narrative" style, adapted from fiction-style writing and utilizing writing techniques characteristic of fiction narratives, including a first-person narrator and emotional, prosaic language; or (2) an "Expository" style, adapted from nonfiction and emphasising survey statistics describing general college student experiences, rather than personal storytelling.

### **Academic vs. Social Struggles**

Past literature in student wellbeing within academic institutions has largely prioritized student responses to academic challenges. The connection between academic stress and wellbeing is well studied, and academic outcomes are often used as a proxy of mental health for college students (Barbayannis et al., 2022). However, the problems of undersociality and the loneliness epidemic are rooted in a social context. This includes social challenges such as perceiving a barrier to accessing one's community for social support, avoiding outreach, and by consequence creating and reinforcing a genuine barrier. Emerging literature has increasingly shown that college students struggle with interpersonal experiences such as isolation and strained social relationships, at rates that have shown a significant increase following the Covid-19 epidemic (Lee et al., 2024; Vaterlaus et al., 2021). As such, it is also critical to investigate the

challenges faced by students beyond the academic sphere, and to examine the dimension of social struggles as well.

We added granularity to our outcome measures by differentiating whether the struggles were situated in an academic or social context. The former asked questions regarding how participants would approach academic struggles such as keeping up with a demanding workload, finding internships, managing time effectively, or dealing with test anxiety. The latter asked about struggles including having an argument with a roommate, dealing with a breakup with a romantic partner, or feeling isolated from the community. We examined if the experience of reading about students' experiences may differentially impact participants' perceptions and support-seeking behaviours for academic versus social struggles.

Compared to social challenges, academic challenges also tend to be more visible within an academic institution and therefore more likely to be transparently shared. Due to the relative normalcy of academic struggles in college, we anticipated that at baseline, participants may already report high support-seeking and empathy perception in an academic context. As such, we hypothesized that participants may experience a more significant increase in empathy perception and support-seeking in the context of social struggles.

We hypothesized that both Narrative- and Expository-style reading would lead to a significant increase in social support-seeking overall. Our first formal hypothesis was:

**Hypothesis 1<sup>1</sup>:** Reading about a peer's vulnerable experience, regardless of the writing style it is delivered in, will lead to a significant increase in social support-seeking.

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<sup>1</sup>Note: Our hypotheses deviated from the preregistration. See Appendix B for details.

Previous findings show that exposure to fiction narratives is correlated with higher social cognition, while exposure to descriptive statistics may be linked to normalizing difficult experiences. Based on this, we propose the following hypotheses that compare between Narrative and Expository conditions:

**Hypothesis 2a:** Participants in the Narrative condition will report a significantly higher increase in support-seeking behaviour compared to participants in the Expository condition.

**Hypothesis 2b:** Participants in the Expository condition will report a significantly higher increase in empathy perception compared to participants in the Narrative condition.

To test these hypotheses, we present two studies in which we examined the changes in empathy perception and social support-seeking behaviour after reading a short paragraph about a peer's vulnerable experience. These experiences were presented in one of two different writing styles, Narrative or Expository. Featured readings were developed based on real common stressors reported by first-year students at the target institutions. In Study 2, we sought to replicate Study 1 with a different pool of first-year students.

## **Study 1**

### **Method**

#### ***Participants***

118 participants (70.3% women, 28.8% men; 39.8% Asian, 5% Black or African-American, 22.9% Latinx, 21.2% White or European-American, 0.9% Native Hawaiian or Pacific Islander, none reported as American Indian or Alaskan Native, 10.2% multiracial) were recruited through the Sona Systems online credit pool for the introductory psychology course at a private four-year university in California, and through a research program credit pool for students in

local partnered community colleges. 26.3% of the participants were recruited from the private California university, and 73.7% were recruited from partnered community colleges.

Participation was restricted to actively enrolled students currently in their first year of college who were at least 18 years of age and had not previously participated in this study. The sample size was chosen based on resource constraints from running the study within a university setting (Lakens, 2022). Study procedures and exclusion criteria were preregistered on OSF (<https://doi.org/10.17605/OSF.IO/SKF7B>).

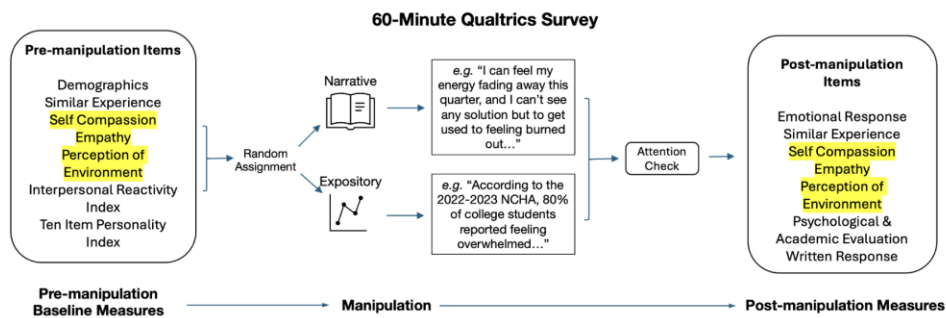
Participants earned 1.0 online research credit for completing the 60-minute online study, counting either towards their introductory psychology course participation or their community college research program participation. For participants attending the private four-year university, the study survey was available online to the Sona Systems credit pool from January 6, 2025 (first day of the Winter quarter) to March 14, 2025 (deadline to fulfill research participation credit for the introductory psychology course, established by the teaching team). For participants attending partnered community colleges, the study survey was available online to the community college research program credit pool from January 21, 2025 to March 13, 2025. This timeline was established externally by the research program.

We verified that participants understood the content of their reading stimulus by including an attention check question immediately following the reading stimulus. This question also served as a manipulation check, as participants were prompted to answer whether they had just read about a “story” or “statistics” of a student’s struggle. Participants’ data was excluded if they failed the attention check. Differential attrition was checked prior to conducting analysis.

### ***Procedure***

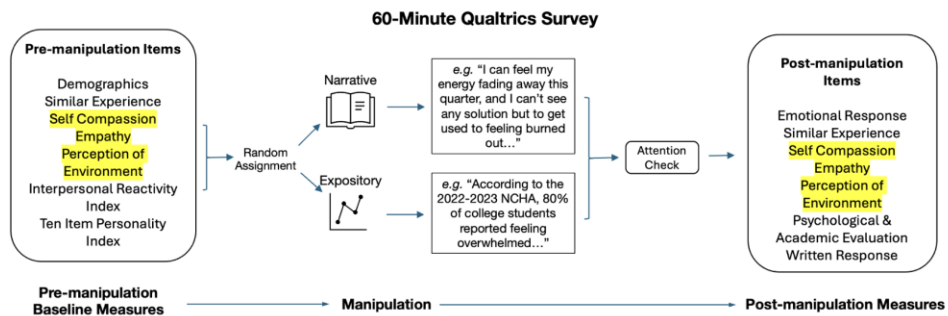
The study survey was created online and distributed anonymously via Qualtrics, and was designed to be completed in approximately 60 minutes, corresponding to 1.0 research credit compensation. Figure 1 outlines the full survey flow, completed by participants in a single online session.

**Figure 1**  
*Study Procedures for Study 1 and Study 2. Corresponding pre-manipulation baselines and post-manipulation measures are highlighted in yellow*



Note: study procedure was the same for Study 1 and Study 2.

**Figure 1**  
*Study Procedures for Study 1 and Study 2. Corresponding pre-manipulation baselines and post-manipulation measures are highlighted in yellow*



Note: study procedure was the same for Study 1 and Study 2.

Participants were randomly assigned to one of two conditions, Narrative or Expository, which determined the style of reading sample shown to them. This was achieved through

randomization via Qualtrics by selecting the option of randomly presenting only 1 of 12 total samples to each participant.

In the pre-manipulation section of the survey, participants completed basic demographic measures including age, gender, race, and household income. These were followed by a series of questions about participants' empathy perception and support-seeking behaviours, which were assessed once before manipulation and once after manipulation. Following the pre-manipulation items, participants completed a few other baseline scales.

After completing the pre-manipulation section of the survey, participants were prompted to read a short paragraph about the experiences of college students in the U.S. They were reminded to pay attention in order to answer questions about the reading. Participants were then shown one reading sample of either Narrative or Expository style, randomly selected from the pool of 12. Participants in the Narrative condition were told that their reading sample was written anonymously by a peer at their college. Participants in the Expository condition were told that the content featured in their reading sample was generated based on reports from peers at their college. The Qualtrics survey was coded to display the reading sample for one minute before the "Next" button appeared and allowed participants to proceed to the post-manipulation survey.

Immediately following the reading sample, participants were required to complete an attention check, comprising a single multiple-choice question: "What was the sample you just read about?" To successfully pass the attention check, participants had to select the answer choice containing both the correct style of writing ("Some statistics" or "A student's story") and the nature of the content ("about academic struggles" or "about social struggles").

In the post-manipulation section of the survey, participants were prompted to answer a set of questions from the pre-manipulation survey. Participants were also asked to report on their

general psychological and academic wellbeing, as well as their emotional response to the reading sample on both a positive and a negative scale. The last question of the survey asked participants to write a brief message. Participants received this question in slightly differing language depending on the condition: in the Narrative condition, participants were prompted to write a message to “the student who wrote the sample,” while participants in the Expository were prompted to write a message to “a student who is currently going through a situation like the reading sample described.”

***Measures***

We assessed our four main outcome variables of interest, once before the reading manipulation and once after manipulation: (1) empathy perception for social struggles, (2) empathy perception for academic struggles, (3) social support-seeking for social struggles, and (4) social support-seeking for academic struggles. (See Table 1 for a complete list of outcome variables and their associated measures.)

Participants were prompted to answer these questions in the context of both academic and social struggles. These terms were respectively defined at the start of each section as “e.g., keeping up with a demanding workload, finding internships, managing time effectively, dealing with test anxiety,” and “e.g. argument with a roommate, breakup with a romantic partner, feeling isolated from the community.” Variables in the academic dimension were processed from measures asking participants about academic struggles only, and variables in the social dimension were processed from measures asking participants about social struggles only.

**Table 1.** Study 1 and Study 2 Measures, Categorized by Social or Academic Dimension. *Note: measures were the same across Study 1 and Study 2.*

Variable	Measures
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<p>Empathy Perception (Social Struggles)</p>	<p>Please answer the following questions about social struggles (1 = Extremely unlikely to 7 = Extremely likely)</p> <p>* If approached for support by a peer who is facing a social struggle, the average Stanford undergrad will think less of them. (-)</p>
<p>Empathy Perception (Academic Struggles)</p>	<p>Please answer the following questions about academic struggles (1 = Extremely unlikely to 7 = Extremely likely)</p> <p>* If approached for support by a peer who is facing an academic struggle, the average Stanford undergrad will think less of them. (-)</p>
<p>Social Support-Seeking (Social Struggles) (Study 1: Cronbach's <math>\alpha=0.69</math>, Study 2: Cronbach's <math>\alpha=0.74</math>)</p>	<p>The next time you are facing a social struggle... (1 = Extremely unlikely to 7 = Extremely likely)</p> <p>* How likely are you to talk to a friend about it?</p> <p>* How likely are you to talk to an unfamiliar peer about it?</p> <p>* How likely are you to seek out professional psychological help (e.g., therapists, psychological services)?</p> <p>Please answer the following questions about social struggles (1 = Extremely unlikely to 7 = Extremely likely)</p> <p>* When I am facing a social struggle and ask for support, I am afraid people will think less of me. (-)</p> <p>* I avoid reaching out for support when I am facing a social struggle, because I worry that my struggles are not really important or valid. (-)</p> <p>How likely would you want others to help you if... (1 = Extremely unlikely to 7 = Extremely likely)</p> <p>* You were experiencing a social struggle?</p>

<p>Social Support-Seeking (Academic Struggles) (Study 1: Cronbach's <math>\alpha=0.74</math>, Study 2: Cronbach's <math>\alpha=0.63</math>)</p>	<p>The next time you are facing an academic struggle... (1 = Extremely unlikely to 7 = Extremely likely)</p> <ul style="list-style-type: none"> <li>* How likely are you to talk to a friend about it?</li> <li>* How likely are you to talk to an unfamiliar peer about it?</li> <li>* How likely are you to seek out professional psychological help (e.g., therapists, psychological services)?</li> </ul> <p>Please answer the following questions about academic struggles (1 = Extremely unlikely to 7 = Extremely likely)</p> <ul style="list-style-type: none"> <li>* When I am facing an academic struggle and ask for support, I am afraid people will think less of me. (-)</li> <li>* I avoid reaching out for support when I am facing an academic struggle, because I worry that my struggles are not really important or valid. (-)</li> </ul> <p>How likely would you want others to help you if... (1 = Extremely unlikely to 7 = Extremely likely)</p> <ul style="list-style-type: none"> <li>* You were experiencing an academic struggle?</li> </ul>
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## ***Materials***

**Reading Samples.** Reading samples were the primary stimuli of our study, with the main manipulation being which style of writing the reading sample was delivered in, Narrative or Expository.

A total of 12 original reading samples, 6 Narrative and 6 Expository, were developed by the researchers. Among the 6 reading samples in each condition, half described an academic-

related struggle (e.g., keeping up with a demanding workload, finding internships, managing time effectively, dealing with test anxiety), while the other half described a social struggle (e.g. argument with a roommate, breakup with a romantic partner, feeling isolated from the community). The contents of the reading samples were developed based on common stressors reported by first-year students at the private four-year university in California, in a previous unrelated study (Pei et al., in press). In analysis, there were no significant pre-post differences by stimuli subcategory, so we collapsed social and academic subcategories in preprocessing.

To ensure that certain reading samples were not unintentionally more or less impactful due to factors other than writing style or topic, we analyzed and adjusted all 12 reading samples to be approximately equal in word count, positive valence, and negative valence. We conducted this analysis using a ChatGPT script from Rathje et al. (2024). (See Appendix A for examples of reading samples.)

### ***Data Analysis***

Data was omitted on the basis of several exclusion criteria. Incomplete or blank participant entries were not included in the final analysis. Participants who answered the post-reading attention check question incorrectly were also excluded. All data analyses were conducted using R version 4.3.1 and RStudio version 2023.06.0+421 (R Core Team). Missing values were accounted for using listwise deletion.

To examine overall baseline to post-manipulation changes in the main outcome measures of interest ((1) perception of peers' empathy and (2) support-seeking behaviours), we conducted paired t-tests of the pre-manipulation score and the post-manipulation score for each variable. We separated variables by social and academic dimensions. To examine the effect of condition on the main outcome measures of interest, we constructed linear regression models using the

interaction terms condition and time (pre-manipulation vs. post-manipulation) as predictors on each of the outcome measures, controlling for gender, race, pool (private California university or community college), and reading subcategory (whether the reading sample featured academic or social content). To examine the effect of reading subcategory (academic vs. social struggles) on the outcome measures, we constructed linear regression models using reading subcategory and time as interaction terms, controlling for gender, race, pool, and condition.

We collapsed outcome variables across social and academic measures, because we did not observe any significant differences on this dimension.

## Results

Table 2 presents the pre-manipulation to post-manipulation changes and condition effects for the four main outcome variables. The results indicate an overall increase in support seeking behaviours, supporting our hypothesis H1. However, there were minimal observable pre/post differences by condition and reading stimuli subcategory. As such, H2a and H2b were not supported.

**Table 2.** Pre-Post Change in Study Variables (N=118).

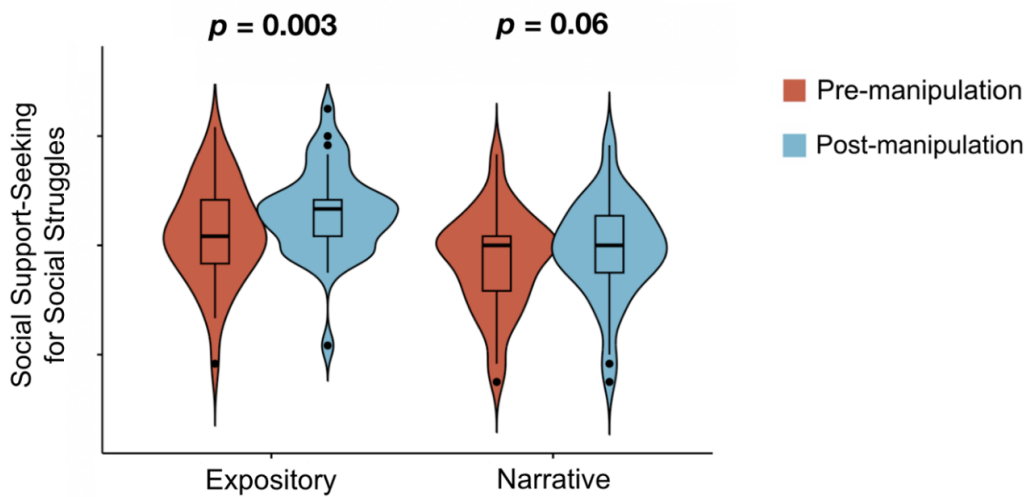
Variable	Pre-Manipulation	Post-Manipulation	Time	Time x Condition
Empathy Perception (social struggles)	4.68 (SD = 1.38)	4.95 (SD = 1.43)	$t(df = 117) = -1.87, p = 0.06$	$t(df = 140) = 2.06, p = 0.043$
Empathy Perception (academic struggles)	5.08 (SD = 1.35)	4.82 (SD = 1.39)	$t(df = 117) = 1.96, p = 0.05$	$t(df = 140) = -0.90, p = 0.37$
Social Support-Seeking (social struggles)	3.94 (SD = 0.86)	4.14 (SD = 0.81)	$t(df = 117) = 3.54, p = 0.0006$	$t(df = 140) = -0.56, p = 0.57$

Social Support-Seeking (academic struggles)	4.2 (SD = 0.86)	4.37 (SD = 0.76)	$t(df = 117) = -2.62, p = 0.01$	$t(df = 140) = -0.46, p = 0.65$
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Both conditions increased in social support-seeking from pre-manipulation to post-manipulation. Across all participants, regardless of whether they read a sample featuring an academic or social struggle, social support-seeking increased in the context of both social struggles ( $p < 0.001$ ) and of academic struggles ( $p = 0.01$ ). The increase in social support-seeking overall was significant, regardless of academic vs. social stimuli type and question type ( $p < 0.0001$ ) (See Figure 2).

**Figure 2**

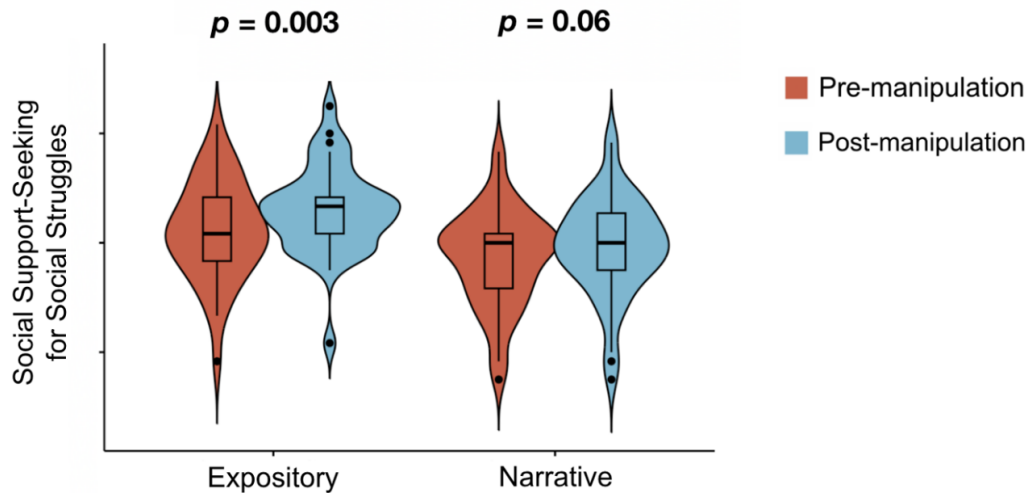
*Pre-Post Increase in Social Support-Seeking Across Both Conditions*



Main effect of time on social support-seeking for social struggles. Participants in the Expository condition demonstrated statistically significant increase in social support-seeking, and participants in the Narrative condition demonstrated marginally significant increase in social support-seeking.

**Figure 2**

*Pre-Post Increase in Social Support-Seeking Across Both Conditions*



Main effect of time on social support-seeking for social struggles. Participants in the Expository condition demonstrated statistically significant increase in social support-seeking, and participants in the Narrative condition demonstrated marginally significant increase in social support-seeking.

## Study 2

### Method

#### *Participants*

85 participants (69.4% women, 29.4% men; 55.2% Asian, 20.7% White or European-American, 1% Black or African-American, 13.8% Latinx, none reported as Native Hawaiian or Pacific Islander, none reported as American Indian or Alaskan Native, 9.3% multiracial) were recruited through the research program credit pool for students in local partnered community colleges, and digital flyers advertised through student interest-based mailing lists. 84.7% of the participants were recruited through digital flyers at the private California university, and 15.3% were recruited from partnered community colleges. The sample size was chosen based on

resource constraints from running the study within a university setting (Lakens, 2022). Inclusion and exclusion criteria were the same as Study 1.

Similar to Study 1, participants completing the study through the credit pools earned 1.0 online research credit for completing the 60-minute online study, counting either towards their introductory psychology course participation or their research program participation, depending on which university credit pool they were enrolled in. For participants attending partnered community colleges, the study survey was available online to the community college research program credit pool from April 14, 2025 to May 7, 2025. The timeline of the research program extended beyond May 7, but the research team only analyzed and included data in this paper from May 7 and before, due to external program deadlines by the university. Participants completing the study through externally advertised digital flyers received \$15.00 as compensation, funded by a university student grant.

As in Study 1, we verified that participants understood the content of their reading stimulus by including an attention check question immediately following the reading stimulus, which also served as a manipulation check. Participants' data was excluded if they failed the attention check. Differential attrition was checked prior to conducting analysis.

### ***Measures***

Study 2 measures were the same as Study 1 (See Table 1).

### ***Materials***

**Reading Samples.** The reading samples from Study 1 were used as stimuli in Study 2.

### ***Procedure***

Participants underwent the same procedure as in Study 1, completing one 60-minute online survey on Qualtrics that assessed the four main outcome variables twice, once pre-

manipulation and once post-manipulation (see Figure 1). Reading samples and survey questions remained unchanged from Study 1.

### **Data Analysis**

Data cleaning and analyses processes were the same as Study 1.

We collapsed outcome variables across both Narrative and Expository conditions, as well as the social and academic dimensions, because we did not observe any significant differences by condition or dimension.

### **Results**

Table 3 presents the pre-manipulation to post-manipulation changes and condition effects for the four main outcome variables. The data again indicates an overall increase in social support-seeking in social contexts, supporting H1. There were minimal observable pre/post differences by condition and reading stimuli subcategory. As such, H2a and H2b were again not supported.

**Table 3.** Pre-Post Change in Study Variables (N=85).

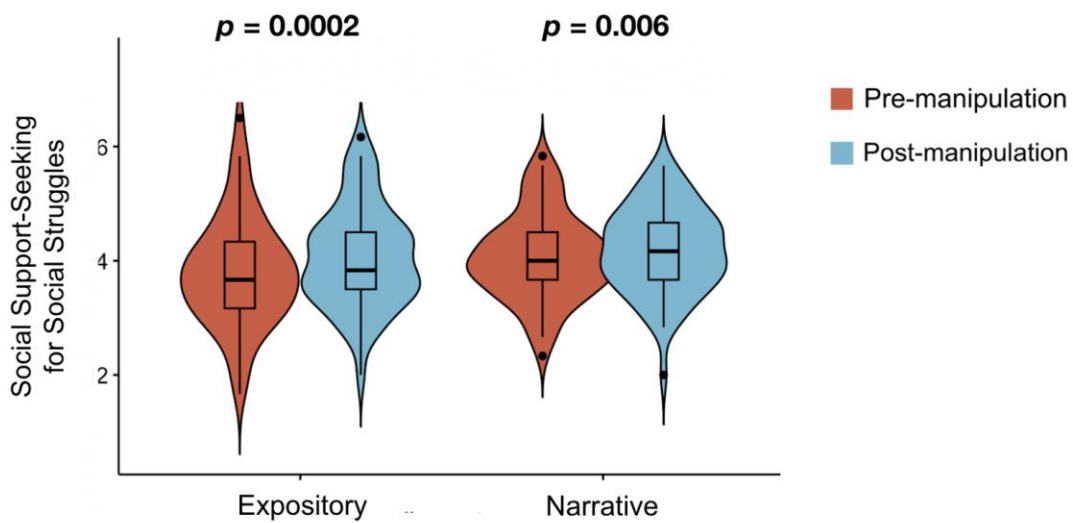
<b>Variable</b>	<b>Pre-Manipulation</b>	<b>Post-Manipulation</b>	<b>Time</b>	<b>Time x Condition</b>
Empathy Perception (social struggles)	4.88 (SD = 1.36)	4.96 (SD = 1.25)	$t(df = 84) = -.58,$ $p = 0.56$	$t(df = 152) = -0.48, p$ $= 0.63$
Empathy Perception (academic struggles)	5.08 (SD = 1.43)	4.64 (SD = 1.42)	$t(df = 84) = -1.45,$ $p = 0.15$	$t(df = 152) = -0.04, p$ $= 0.97$
Social Support- Seeking (social struggles)	3.94 (SD = 0.93)	4.22 (SD = 0.91)	$t(df = 84) = -$ $4.85, p < 0.0001$	$t(df = 152) = -0.62, p$ $= 0.53$

Social Support-Seeking (academic struggles)	4.15 (SD = 0.92)	4.17 (SD = 0.89)	$t(df = 84) = -.35, p = 0.73$	$t(df = 152) = 0.90, p = 0.37$
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As in Study 1, both conditions increased in support-seeking for social struggles from pre-manipulation to post-manipulation. Across all participants, regardless of whether they read a sample in Narrative or Expository style, social support-seeking increased specifically in the context of social struggles ( $p < 0.0001$ ) (See **Figure 3**).

**Figure 3**

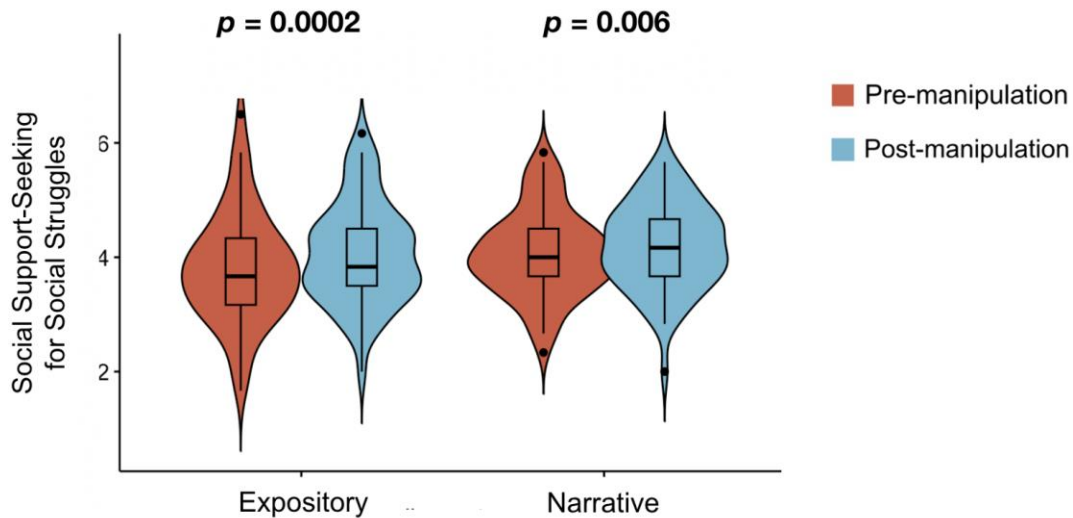
*Pre-Post Increase in Social Support-Seeking Across Both Conditions*



Main effect on time on social support-seeking for social struggles. Both conditions increase from pre- to post-manipulation.

**Figure 3**

*Pre-Post Increase in Social Support-Seeking Across Both Conditions*



Main effect on time on social support-seeking for social struggles. Both conditions increase from pre- to post-manipulation.

### **Discussion**

The aim of this study was to examine the feasibility and effectiveness of intervention methods based on altering students' perception of their peers' empathy and responsiveness. The intervention was designed to improve social wellbeing for first-year college students. Results were encouraging and suggested that exposure to a peer's vulnerable experience, regardless of the writing style it was presented in, led to increases in social support-seeking. Specifically, participants reported being more willing to reach out for support if they found themselves in a similar struggle in the future.

In support of our hypothesis (H1), across two studies, participants in both conditions reported an increase in social support-seeking following reading (5.4% increase in Study 1, 4.5% increase in Study 2). This was driven by an increase in the context of social struggles (4.8% increase in Study 1, 7.1% increase in Study 2). The same increase was not observed for academic

struggles. One reason for this could be due to academic challenges being more prevalent and openly discussed within university settings, and therefore less stigmatized than social struggles. In other words, students may already feel comfortable reaching out for support when they are facing academic challenges. Academic struggles have been also increasingly linked to mental health, which can motivate academic institutions to provide more resources to specifically support students who are struggling academically (Barbayannis et al., 2022).

We also did not observe significant differences by condition. As such, H2a and H2b were not supported. This may be due to the content of the reading samples. The reading samples in both Narrative and Expository conditions describe the experience of struggling, reaching out, and feeling better after receiving support. Narrative samples are written in the perspective of a struggling student rather than an empathic student who is offering support, and Expository samples condition provide statistics about struggling students rather than students who offer support. These features directly promote the act of social support-seeking. Comparatively, perceiving the empathy of the supportive peers is more indirect. Given the extensive literature showing that social norms are a powerful tool to motivate changes in intentions and behaviours (Reno et al., 1993; Cialdini, 2005; Schultz et al., 2007; Horne & Kennedy, 2017), participants across both conditions may have perceived the dominant social norm to be the act of social support-seeking, rather than the existence of an empathic peer community.

It is critical to note that our current design found a significant increase in social support-seeking, independent from changes in peer empathy perception. This suggests that students may not perceive their peers' empathy levels as a barrier to asking for support, and that students might be more likely to reach out for help if they view it as normative. Furthermore, evidence in support of H1 shows that exposure to the experiences of struggling peers who reach out for help,

regardless of the format, leads to an increase in social support-seeking. This suggests that modelling support-seeking behaviours may be key to increasing students' openness to seeking and receiving support. Given that social support-seeking is strongly associated with many mental health outcomes, the increase in first-year students' social support-seeking after the minimal one-time exposure to our manipulation suggests that such a design can be beneficial and effective in elevating social support-seeking in students.

### **Research Implications**

This study has a number of important implications for future research on both the impacts of reading narratives on wellbeing and the effects of exposure to vulnerable peer experiences. Much of the existing literature has been focused primarily on building methodological theory about the impacts of narrative. For instance, prior research has focused on the effects of journaling and engaging in other narrative formats on pain-related beliefs and neuroticisms (Asghari & Nicholas, 2006; Smeets et al., 2014). Writing about one's own experiences has also been shown to elevate self-compassion and body image, and decrease shame (Stern & Engeln, 2018; Kelly & Waring, 2018; Johnson & O'Brien, 2013). These findings emphasise the benefit of sharing vulnerability but focus on the sharer. Benefits for others (i.e. reading others' writing in different styles, rather than writing with a focus on oneself) is less known.

Our study addresses this gap by applying the current theory to first-year college students, a particularly vulnerable population due to the environmental and social shifts they encounter. Our results emphasise how sharing vulnerabilities can also have powerful ripple effects in improving social support-seeking in the receiver. Findings also provide a feasible design for a low-risk, low-cost, and high-accessibility intervention for bolstering social connection and wellbeing. Our results show that first-year students indeed feel moved to reach out for help when

reading about the struggles of others. This finding updates the current theory with a novel dimension.

Our findings also provide a practical contribution by informing the development of scalable on-campus interventions for fostering support-seeking, such as encouraging students to process and share their own struggles through writing. Our findings support this application as an effective intervention design for combating the problem of rising loneliness levels and mental health struggles in college students, and improving the wellbeing of first-years. Additionally, our study design brings a methodological advancement in investigating the difference in impact between accessing vulnerable experiences through Narrative vs. Expository formats. Through our study, we combined existing findings with the literature on the mental health benefits of journaling. By doing so, we have found that providing space for empathetic connection within both a personalized narrative format and a normative statistics format can serve as an effective and accessible intervention design.

Taken together, our work brings both conceptual and methodological advances in understanding the role of narrative, and how reading others' writing can influence college students' willingness to seek support from their peers. The main finding of post-reading increased social support-seeking points to a new modality of external regulation-based interventions for college students. Additionally, storytelling is an interdisciplinary modality that can be easily introduced in a diverse range of settings. These findings have meaningful implications for how it can be leveraged in a relatively low-risk, low-cost, and high-accessibility intervention design for social connection and wellbeing in college.

Future studies can continue to examine the rich dimensions of data collected by this study, including but not limited to linguistic data, emotion data, and personality data, as well as

psychological wellbeing and academic wellbeing correlates. For instance, future studies can examine how different intervention strategies may work differently for subpopulations, depending on factors such as personality, baseline empathy levels, and gender.

We present our study as a pilot to investigate the feasibility and preliminary outcomes of a one-time exposure to the main manipulation. The design has the potential to expand into a longitudinal, easily accessible intervention that can integrate genuine repeated dyadic interactions, rather than a unidirectional reading experience, resulting in an intervention that is co-created by its participants.

In sum, our study demonstrates promise as a feasible intervention format for increasing social support-seeking in first-year college students. Social struggles are less represented than academic struggles in the existing literature but are equally critical to develop supportive solutions for. Even with the minimal one-time dosage of our reading manipulation, participants reported increased support-seeking specifically in the context of social struggles. Social support-seeking is key for students to feel more open to reaching out for peer support and help themselves in challenging times, rather than perceiving themselves as alone and invalid in their struggles and isolating themselves as a result.

### **Limitations**

Our study was limited in a number of ways. Firstly, our sample sizes for both studies were small and did not meet the target sample size for an effect size of  $d=0.25$  and 80% power. Our sample sizes were chosen based on resource constraints within the university setting, which is a common approach for sample size selection (Lakens, 2022). Future research should examine if our findings emerge in larger, sufficiently powered samples.

Our study also notably lacked a control condition. Due to a limited recruitment pool, we did not want to further underpower the data by dividing a small number of participants among three conditions. In the future, we would like to include a control condition in which participants read a sample of irrelevant and emotionally neutral material, such as a grocery list or computer instruction manual.

The current design also did not follow up longitudinally with participants due to anonymous participation via academic credit pools. Our intervention methods may show decreased effectiveness in long-term trials. The opportunity for maintaining contact with participants was further limited, because participants were only eligible if they were actively enrolled in the quarter-long psychology course or research program. However, this can also be taken as an additional strength of our study. Even at the minimal dosage, participants reported a significant post-manipulation increase in social support-seeking. In future studies, we are interested in observing whether this effect would be sustained over a longer period, as well as the effects of presenting participants with reading samples multiple times throughout a longitudinal study.

Additionally, our participant population was unbalanced in both studies. In Study 1, the number of eligible participants enrolled in the university introductory psychology course was the smallest of the year. This was not abnormal; historically, this psychology course has consistently had the lowest enrollment in the winter term. However, this caused participation from partnered community colleges to be over-represented. In Study 2, the digital flyer was distributed to students at the private university earlier than the community college research program's credit pool. Due to the early external university deadline for halting data collection, participants from the private university were over-represented in the participant population. As a further

consideration, due to participants being recruited solely from psychology program credit pools, the participant population was inherently self-selecting and may have contained certain biases resulting in potentially skewed data.

Future studies may recruit through more diverse methods and from a more diverse population, including from non-first year classes. It may benefit researchers to administer the study within an unrestricted or less restrictive study period, as our study encountered a series of challenges due to the university setting. These challenges included restrictive university schedules such as holidays and exam periods, course enrollment logistics, competing studies in the same credit pools, and a limited pool of eligible participants. These challenges may be mitigated by recruiting participants through broader crowdsourcing platforms such as MTurk and Prolific, and by running the study over a longer period of time.

Finally, future studies may also more carefully investigate participant preferences for quantitative or qualitative information presentation. This can be measured through items such as declared field of study, which was a challenge for this study as first-year students are commonly undeclared. This may lend more insight into which styles of writing are most effective for certain populations, and whether personal preferences may factor into or outweigh the current literature's findings on general fiction versus nonfiction exposure.

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## Appendix A

PROMPT: Next, you will read a short paragraph about the experiences of college students in the U.S.. Please pay attention to this reading, and answer some questions following the reading. You have a minute to read the paragraph, and then you will see the "Next" button to proceed to next page.

### Narrative Condition, Social Subcategory

I recently broke up with my long term partner, which was more or less a mutual decision between us, but it has been causing me a lot of stress and sadness. Whenever I was struggling, or when I wanted to share good news, I always went to them first. Now I still automatically want to talk to them first, but then I remember we broke up. We're also still in the same club together, and I'm always anxious whenever I have to see them at meetings. All of this has been impacting my desire to hang out with my other club members or even attend meetings. Ever since the breakup I've been alone a lot more, but I don't feel like myself and don't really want to see anyone either.

I think people around me have noticed that I seem more down than usual lately, and they've been so great at asking me if everything's alright and just being there for me. Even people I didn't know that well before this have been really great at just being positive and helping cheer me up. At first, I didn't really want to share how I was feeling, because I was kind of worried that I was genuinely the only one having such a tough time. But whenever I get to vent to people or talk honestly about what's stressing me out, most of the time I end up feeling a lot better. They've been such a solid support system through everything and encouraged me to reach out for help when I need it, and it's honestly helped me feel closer with them. It really feels great to know that my wellbeing matters so much to them, and that they'd care about helping me feel better. I think I'll try to keep reaching out for help. I also really want to be there for them whenever they're stressed about anything, and I hope they reach out to me too.

### Expository Condition, Social Subcategory (Sample 2)

Many college students experience stress related to interpersonal struggles. According to the [University of Michigan's 2022-2023 Healthy Minds Report](#), about 37% of college students in the U.S. feel a lack of companionship from their peers some of the time.

In addition, many students report experiencing difficulties with their social relationships. In a [2012 National College Health Assessment](#) conducted on college students, approximately 35% reported having friendship or romantic relationship difficulties in the past year, and over 10% reported feeling that those difficulties negatively impacted their academics.

In a recent study with college undergraduates, many students shared the social challenges that they were facing. These include:

- Going through a breakup with a long term partner
- Feeling like they have nobody to talk to because their ex-partner was their main conversation partner
- Sharing extracurricular spaces with their ex-partner and feeling anxiety in the space
- Feeling stressed about interacting with their ex-partner in shared spaces
- Feeling unhappy being isolated from teams and club spaces due to breakup issues
- A lack of social interactions increasing overall stress and anxiety

Despite this, students are also finding ways to navigate these struggles and thrive by seeking help from others. In the same study, students also shared their experiences in receiving support while struggling. Common themes included:

- Initially feeling hesitant to open up about their struggles
- Receiving kindness and encouragement from friends, dormmates, and even people they had not closely interacted with before
- Discovering they have solidarity in their experiences and struggles
- Strengthening relationships and forming closer connections with others by sharing their experiences
- Feeling supported and comforted when venting
- Learning practical and effective strategies for managing stress and anxiety through supportive interactions
- Realizing that these challenges can create opportunities for personal development, connection-building, and growing resilience
- Feeling like their wellbeing really matters to others
- Gaining more confidence to seek help in the future
- Feeling inspired to extend similar support to others in need



## **Appendix B**

Due to adjustments to our main outcome measures, our reported hypotheses in this paper deviated from the original preregistered hypotheses.

Our preregistered hypotheses were:

H1: When comparing the pre- and post- ratings for participants in the Narrative condition, there will be a significant increase in

- H1a: self-compassion;
- H1b: empathy.

H2: In the Expository condition, there will be a significant increase in

- H2a: self-compassion perception;
- H2b: empathy perception.