I hear you (not): Sharers’ expressions and listeners’ inferences of the need for support in response to negative emotions

Pauw, L.S.; Sauter, D.A.; van Kleef, G.A.; Fischer, A.H.

Published in:
Cognition & Emotion

DOI:
10.1080/02699931.2018.1536036

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: https://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.
I hear you (not): sharers’ expressions and listeners’ inferences of the need for support in response to negative emotions

Lisanne S. Pauw, Disa A. Sauter, Gerben A. van Kleef and Agneta H. Fischer

Department of Social Psychology, University of Amsterdam, Amsterdam, The Netherlands

ABSTRACT
When in emotional distress, people often turn to others for support. Paradoxically, even when people perceive social support to be beneficial, it often does not result in emotional recovery. This paradox may be explained by the fact that the sharing process disproportionately centres on support that is not helpful in the long run. A distinction has been made between two types of support that are differentially effective: Whereas socio-affective support alleviates momentary emotional distress, cognitive support fosters long-term recovery. But can listeners tell what support the sharer needs? The present study examines the hypothesis that sharers communicate their support goals by sharing in such a way that it allows listeners to infer the sharer’s needs. In Experiment 1, we manipulated participants’ support goals, and showed that socio-affective support goals led participants to express more emotions, whereas cognitive support goals resulted in greater use of appraisals. In Experiments 2 and 3, we tested whether these differential expressions would affect the support goals that listeners inferred. We found no evidence for such an effect: Listeners consistently perceived the sharer to predominantly want socio-affective support. These findings help explain why many social sharing instances revolve around socio-affective support, leading to subjectively experienced benefits, but not to genuine recovery.

When people are in emotional distress, they are strongly inclined to tell others about their experience, a phenomenon termed social sharing (Rimé, 2009; Rimé, Finkenauer, Luminet, Zech, & Philippot, 1998). Paradoxically, even though people believe social sharing to be very beneficial, it often does not result in actual long-term emotional recovery (Zech & Rimé, 2005). This discrepancy between the subjective benefits and actual objective benefits may be explained by people not seeking and/or receiving the kind of support that is best for them in the long run (see Rimé, 2009). Two primary types of support have been distinguished: socio-affective and cognitive support. Socio-affective support includes comfort, validation, and understanding, while cognitive support is directed at changing the way the other thinks about the situation by recreating meaning and reappraisal (Rimé, 2009).

Previous research has found that individuals generally seek socio-affective support (Duprez, Christophe, Rimé, Congard, & Antoine, 2014; Pauw, Sauter, Van Kleef, & Fischer, 2018), which also seems to be the most normative and frequently used response (Brans, Van Mechelen, Rimé, & Verduyn, 2013; Liu et al., 2017; Pauw, Sauter, Van Kleef, & Fischer, submitted). However, repeatedly sharing one’s emotions while only obtaining socio-affective support may be detrimental to sharers’ emotional recovery. Whereas socio-affective support temporarily alleviates emotional distress, cognitive support is more effective in bringing about long-term recovery (Batenburg & Das, 2014; Brans et al., 2013; Lepore, Fernandez-Berrocal, Ragan,
& Ramos, 2004; Lepore, Ragan, & Jones, 2000; Mor & Winquist, 2002; Nils & Rimé, 2012; Rimé, 2009). When support seeking and provision are predominantly focused on socio-affective support, sharing runs the risk of turning into a perpetual process of co-rumination (Curci & Rimé, 2012). Co-rumination involves frequently discussing problems together and dwelling on negative emotions, and has been found to predict greater friendship quality, but also depression and inadequate emotional adjustment (e.g. Rose, Carlson, & Waller, 2007). While socio-affective support thus yields short-term benefits and fosters interpersonal closeness, it does not help the sharer change the way they look at the situation. The role of receptive others has also been highlighted in research on coping with bereavement, cancer, and other life crises, where responsiveness appears key to engendering benefits of sharing (Stanton et al., 2000). Importantly, the provision of another (e.g. more positive) perspective is considered a crucial element for facilitating recovery (e.g. Lepore & Helgeson, 1998; Lepore & Revenson, 2007; Lepore, Silver, Wortman, & Wayment, 1996). Merely focusing on the negative emotional experience, whether by oneself or with others, continues to elicit negative emotions, and thus the need to share, thereby impeding long-term emotional recovery (Curci & Rimé, 2012; Stanton et al., 2000).

It is possible that sharers play a role in the outcome of the sharing process by over-emphasising their socio-affective support needs. While a considerable body of research has investigated the effectiveness of social sharing and different types of support (e.g. Rimé, 2009), very little is known about how support is brought about. The aim of the present paper was twofold: First, we examined the hypothesis that sharers express their emotions differently depending on the type of support that they seek (Study 1). Second, we studied whether listeners in turn pick up on these cues to infer the sharers’ support goals (Studies 2 and 3).

### Communicating Support Goals Through Social Sharing

Theory and research suggest that expressing one’s emotions is a way of communicating one’s needs, desires, and goals to others (Fridlund, 1994; Keltner & Haidt, 1999; Van Kleef, Van Doorn, Heerdink, & Koning, 2011). It follows that sharers may express their emotions differently depending on the type of support they seek. People’s emotional and situational goals shape the emotion regulation strategies they use to obtain these goals (e.g. English, Lee, John, & Gross, 2017; Tamir & Millgram, 2017). Drawing upon such instrumental accounts of emotion regulation, we propose that different support goals are reflected in different ways of conveying an emotional story. For example, sharers may emphasise their sadness when seeking socio-affective support, whereas they may focus more on features of the upsetting situation if they are hoping that the listener will help reappraise it. Listeners, in turn, may infer these goals from sharers’ emotional expressions and respond accordingly.

In line with this reasoning, Horowitz et al. (2001) showed how support goals are implied by the way in which a problem is framed or communicated. They presented participants (“listeners”) with an emotional situation framed with a focus on the sharer’s inability to cope (“I don’t know what to do”) or on the sharer’s feelings (“I feel awful”). They found that framing focused on coping elicited problem-focused supportive reactions, whereas framing focused on emotions elicited emotion-focused supportive responses. Further studies support the idea that different support-seeking behaviours elicit different kinds of support (see Barbee & Cunningham, 1995). For example, sharing one’s emotional state has been found to be associated with greater overall support provision (Liu et al., 2017). Furthermore, more direct support-seeking behaviours such as talking about one’s feelings or crying are reciprocated with more comforting and problem-focused support provision, whereas more indirect support-seeking behaviours such as sighing or hinting at the problem elicit more avoidant responses like the listener dismissing or avoiding the problem (Derlega, Winstead, Oldfield, & Barbee, 2003; Hendriks, Croon, & Vingerhoets, 2008).

These past studies suggest that different support-seeking behaviours reflect different support goals, and are likely to elicit contingent responses. However, these studies do not tell us whether individuals do in fact express their emotions differently depending on their support goals. In one study, Trees (2005) directly examined the relationship between desired support and emotional expressions among young adults. She found that both emotion and problem-focused support goals were associated with greater vocal fluency and disclosure of feelings, but not of details about the problem itself. Yet, instead of picking up on these signals, the adolescents’ mothers relied on non-verbal cues, which did not vary as a function of support goals. However, the
relative frequency of the different support-seeking behaviours was never compared directly between the two different support goals.

Taken together, previous research suggests that sharers communicate their support goals to listeners via different support-seeking behaviours, including emotional expressions. Support seekers could thus carry partial responsibility for the effectiveness of the sharing outcome: By differentially expressing themselves, sharers may bring about the support that they desire, which will likely be socio-affective in nature. Given the overall desirability yet limited effectiveness of socio-affective support, this would help explain why sharers overall perceive sharing to be beneficial, despite the absence of long-term emotional recovery (Zech & Rimé, 2005).

Overview of Present Research

Studies to date that have examined how support-seeking behaviour affects support provision have not directly compared socio-affective and cognitive support. Furthermore, previous work has focused mainly on the effects of emotional expressions and support seeking behaviours on listeners’ responses. However, almost no studies have tested whether and why sharers differentially express themselves to begin with, and whether listeners are capable of inferring the expresser’s support needs based on their emotional expressions (see Trees, 2005 for an exception).

The present set of studies aimed to experimentally test these sharing dynamics. First, by experimentally manipulating support goals, Study 1 tested the effect of support goals on sharers’ emotional expressions. Participants shared an emotional event as if they were video calling with a friend online; their stories were transcribed and then coded for their use of emotions and appraisals. Studies 2 and 3 built on these findings, testing the impact of the differential expressions observed in Study 1 on the support goals inferred by listeners.1

Study 1

Study 1 was set up to test the idea that sharers’ support goals drive the way they express themselves. Firstly, we hypothesised that when individuals seek socio-affective support, they focus more on their emotions when talking about the situation. Expressing emotions should elicit socio-affective support, as it evokes empathy in the listener (e.g. Hendriks et al., 2008; Liu et al., 2017; Trobst, Collins, & Embree, 1994). Complementing this work, emotion suppression has been associated with reduced social support (for a meta-analysis see Chervonsky & Hunt, 2017). Furthermore, there is evidence suggesting that people display sadness to elicit support (Von Culin, Hirsch, & Clark, 2017; Zeman & Shipman, 1996), suggesting that sharers have an (explicit or implicit) awareness of the consequences of expressing their emotions.

We further hypothesised that when seeking cognitive support, sharers express more how they think about the situation (i.e. appraisals). Communicating appraisals (i.e. cognitive evaluations or interpretations of the emotion-eliciting event) should facilitate the elicitation of cognitive support, as it provides the listener with a perspective to reappraise. Furthermore, by more indirectly conveying how one feels about the situation, sharers may seem less emotional, which could also foster more cognitive responses. Research on intrapersonal emotion regulation has shown that individuals choose to engage in more cognitive forms of emotion regulation (i.e. reappraisal) when emotional intensity is relatively low (Sheppes et al., 2014). Similarly, listeners also provide less cognitive support in response to sharers as a function of higher emotional intensity (Christophe & Rimé, 1997; Rimé, 2009).

To examine whether individuals express their emotions differently depending on the type of support that they seek, we asked participants to share an emotional event to a camera, as if they were video calling with a friend. Beforehand, we manipulated their support goals by means of a bogus article on the relative effectiveness of either socio-affective or cognitive support. The participants were then instructed to share their emotions such that they were seeking socio-affective or cognitive support, depending on the condition. In the control condition, participants read a text about the effectiveness of social sharing in general; they did not receive any further instructions before sharing. Our hypotheses were twofold. First, we predicted that those who were instructed to seek socio-affective support would express more emotions when sharing, both compared to those seeking cognitive support and to those seeking no specific type of support. Second, we predicted that those seeking cognitive support would use more appraisals compared to those seeking socio-affective support and those seeking no specific type of support.
Methods

Participants and procedure

A total of 187 participants (76% female), with a mean age of 22.4 (SD = 5.3), ranging from 18 to 59, took part in this study. Participants were recruited via the university lab website, and were compensated with research credits or money. Upon arrival in the lab, participants signed an informed consent form. Participants were told that they would be sharing a personal story with a friend as if they were having a video call. To get acquainted with the procedure, they first completed a practice session of maximally three minutes in which they were asked to greet their friend and tell them about their day. During the practice session, the experimenter was present to ensure participants understood the instructions. Next, participants read a bogus article about the effectiveness of socio-affective support, cognitive support, or mere sharing, depending on the assigned support goal condition. After recalling a personal event that made them feel worried, they were asked to continue the supposed video call. The instructions varied depending on the assigned goal condition. Participants shared their story relatively anonymously: They called in the experimenter to start and stop the camera, and were told that the experimenter would never get to see their video, but only the anonymous transcripts. Afterwards, participants filled out questionnaires on their support goals, their understanding of the article, the event they had shared, the person they had imagined sharing with, and some demographic information. At the end of the study, participants were asked about suspicions regarding the event they had shared, the person they had imagined sharing with, and some demographic information.3 At the end of the study, participants were asked to share an emotional story with their imagined friend while seeking the target type of support in the following way:

Support goal manipulation

We manipulated participants’ support goals in two ways: First, participants read a fake article that described a study investigating the effects of sharing negative emotions with others. Depending on the condition, the article described emotional recovery being aided by either socio-affective or cognitive support. In the control condition, the article merely described how sharing one’s emotions with others brought about emotional recovery (see Supplement 1.1 for English translations of these articles). Indeed, the articles affected participants’ beliefs about the effectiveness of the two types of support in the intended way (see Supplement 2.1 for details on the manipulation check). Second, in the experimental conditions, participants were subsequently explicitly instructed to share their emotional story with their imagined friend while seeking the target type of support in the following way:

Previous research shows that people who feel upset are best helped by a dissenting opinion and a different perspective [comfort and empathy]. However, there is very little known about what people do to acquire that dissenting opinion and different perspective [comfort and empathy] from others. To gain more insight into this, we would now like to ask you to share an emotional event in such a way that you think you stand the biggest chance that your conversation partner will provide a dissenting opinion and a different perspective [comfort and empathy].

In the control condition, participants were simply instructed to share their story:

Previous research shows that people who feel upset benefit from talking about this with others. However, little is known about what people tell exactly. To gain

Materials

Emotion recall

Participants were asked to think back at a situation in their lives in which they were worried about a relationship ending or potentially losing someone. In order to stimulate participants to think of relatively similar events, we suggested (but did not limit them to) thinking about a bad period in a romantic relationship, a good friend or family member with whom they had had an argument, or a close friend or family member moving away. They were instructed to fully immerse themselves in the situation. Indeed, most frequently described topics included a large variety of romantic relationship issues (e.g. cheating, break-ups, or doubts), health issues of close others (illness, sometimes death), arguments with friends or family, close others moving, and broken relationships. These issues indeed evoked feelings of worry (M = 45.70, SD = 32.45), doubt (M = 42.48, SD = 30.00), and anxiety (M = 31.68, SD = 29.29), but also a high degree of sadness (M = 58.27, SD = 25.49), frustration (M = 45.99, SD = 30.81), and anger (M = 34.02, SD = 29.87). Further details on the relative comparisons are provided in the Supplemental Materials (Supplement 2.1).
more insight into this, we would now like to ask you to share an emotional event.

See Supplement 1.2 for more details on the additional instructions.

**Manipulation check: self-reported support goals**

By way of a more conservative manipulation check, we asked participants to what extent they had been seeking socio-affective and cognitive support. We used 20 items of the Social Sharing Motives Scale, adapted to the current study (Duprez et al., 2014). A parallel analysis (see Russell, 2002; or Reise, Waller, and Comrey, 2000) suggested a three-factor solution. Consequently, an exploratory factor analysis using promax rotation restricted to three factors yielded eight items loading onto a first factor tapping into Cognitive Support Goals (α = .91). These items were all focused on obtaining a different perspective (e.g. “When sharing my experience with my (imagined) friend, I wanted to learn their perspective on the situation”). Six items loaded onto a second factor constituting Socio-Affective Support Goals (α = .87), with an example item being “When sharing my experience with my (imagined) friend, I wanted to feel I could rely on someone”. Finally, five items loaded on a third factor, tapping into Clarification and Meaning. Given that we wanted to assess the effectiveness of our manipulation of socio-affective and cognitive support goals (with a specific focus on reappraisal), we dropped the third factor from our analyses (see Supplement 2.1 for more details on the scale construction process). All items were rated on a 100-point slider ranging from 0 (not at all) to 100 (very much).

<table>
<thead>
<tr>
<th>Word Category</th>
<th>M (SD)</th>
<th>ICC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotion Terms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Emotion Terms</td>
<td>2.09 (2.32)</td>
<td>.77</td>
</tr>
<tr>
<td>Valence-Only Emotion Terms</td>
<td>0.73 (1.12)</td>
<td>.72</td>
</tr>
<tr>
<td>Appraisals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appraisal Unpleasant</td>
<td>3.19 (2.36)</td>
<td>.87</td>
</tr>
<tr>
<td>Appraisal Pleasant</td>
<td>1.32 (1.86)</td>
<td>.81</td>
</tr>
<tr>
<td>Appraisal Unexpected</td>
<td>0.66 (1.36)</td>
<td>.75</td>
</tr>
<tr>
<td>Appraisal Unfair</td>
<td>0.76 (1.41)</td>
<td>.70</td>
</tr>
<tr>
<td>Appraisal Low Coping</td>
<td>3.21 (3.13)</td>
<td>.82</td>
</tr>
<tr>
<td>Emotion Regulation Strategies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Request for Other’s View</td>
<td>0.34 (0.87)</td>
<td>.90</td>
</tr>
<tr>
<td>N</td>
<td>187</td>
<td>.30</td>
</tr>
</tbody>
</table>

Note. According to Cicchetti’s (1994) guidelines, inter-rater reliability is considered fair for ICC values between .40 and .59, good for values between .60 and .74, and excellent for values between .75 and 1.00.

**Emotional expressions**

All emotional stories were transcribed by a naïve research assistant and anonymized. Given that existing text analysis programmes such as LIWC (Pennebaker, Boyd, Jordan, & Blackburn, 2015) code broad affective categories based on individual words, we opted to directly code the frequency of emotion terms, appraisals, and explicit requests for the other’s opinion (see Supplement 1.3 for the complete coding scheme; Fischer, Feldkamp, & Sauter, 2018).

Four coders were trained to code the data, and 10% of the original material was coded by all coders to calculate inter-rater reliability. Following Hallgren’s guidelines (2012), inter-rater reliability was assessed using a two-way mixed, absolute agreement, single-measures intra-class correlation coefficient (ICC; McGraw & Wong, 1996) to assess the degree to which coders agreed upon the frequency of each category across subjects. See Table 1 for the coded (sub)-categories and associated ICCs. The remaining texts were coded by one of the four coders.

**Emotion terms** were comprised of two subcategories: specific emotion terms referring to one’s own specific affective state (e.g. “I feel sad”), and valence-only emotion terms referring more generically to one’s affective state in terms of valence (e.g. “I feel bad”). Their combined ICC was .75, reflecting good inter-rater reliability. **Appraisals** (ICC = .88) were based on Scherer (1997) and included appraisals regarding the (un)pleasantness of the situation (e.g. “Something very bad happened”), the unexpected-ness of the situation (e.g. “I really didn’t see this coming”), (low) coping potential (e.g. “I don’t know what to do”) and unfairness (e.g. “I found it so disrespectful”). Finally, we exploratorily also coded explicit requests for the other’s opinion, referring to any attempt to actively involve the imagined conversational partner and ask for an emotional response, advice, their view or experience (e.g. “What do you think about this situation?”; ICC = .90).

**Results**

**Manipulation check: self-reported support goals**

To test whether participants reported differential support goals depending on their assigned support goal condition, we conducted a mixed ANOVA with Support Goal Condition (socio-affective support vs. cognitive support vs. control condition) as a
between-subjects variable and Self-Reported Goal Type (self-reported goal to receive socio-affective vs. cognitive support) as a within-subjects factor (see Table 2 for all means and standard deviations).

There was a main effect of Self-Reported Goal Type \((F[1, 184] = 29.09, p < .001, \eta^2_p = .14)\), indicating that overall, participants reported a stronger goal to obtain socio-affective compared to cognitive support. Furthermore, there was a main effect of Support Goal Condition \((F[2, 184] = 4.95, p = .008, \eta^2_p = .05)\), qualified by a significant interaction between Support Goal Condition and Self-Reported Goal Type \((F[2, 184] = 4.40, p = .145, \eta^2_p = .02)\). Contrary to our expectations, the support goal manipulation did not significantly affect participants’ self-reported goal to seek socio-affective support, \(F(2, 184) = 1.95, p = .145, \eta^2_p = .02\). However, the support goal manipulation did successfully affect participants’ self-reported goal to seek cognitive support, \(F(2, 184) = 7.76, p = .001, \eta^2_p = .08\). As expected, Bonferroni-corrected pairwise comparisons showed that those who were in the cognitive support goal condition reported higher motivation to obtain cognitive support compared to those in the socio-affective goal condition \((p = .006)\) and those in the control condition \((p = .001)\). Taken together, the manipulation was thus partially successful: While we did not succeed in manipulating participants’ goal to receive socio-affective support, we were able to successfully up-regulate participants’ goal to obtain cognitive support in the cognitive support goal condition.

Main Analysis: Effect of Support Goals on Emotional Expressions

To test our hypothesis that support goals have a significant effect on the use of emotion and appraisal terms, we conducted a MANOVA with Support Goal Condition (socio-affective support vs. cognitive support vs. control condition) as a predictor of emotion and appraisal terms. However, as participants’ total number of words was significantly associated with the frequency of emotion terms \((r = .40, p < .001)\) and appraisals \((r = .50, p < .001)\), proportionally frequency scores were used in all further analyses.

There was an overall effect of Support Goal Condition, \(F(4, 368) = 4.06, p = .003, \eta^2_p = .04\). Support goals exerted a significant main effect on expressed emotion terms, \(F(2, 184) = 3.13, p = .046, \eta^2_p = .03\). Bonferroni-corrected pairwise comparisons revealed that those in the socio-affective support goal condition expressed relatively more emotions than those in the cognitive goal condition \((p = .035)\), but not more than those in the control condition \((p = .413)\). In terms of appraisals, Support Goal exerted a significant main effect on use of appraisals, \(F(2, 184) = 5.05, p = .007, \eta^2_p = .05\). As predicted, those in the cognitive goal condition expressed relatively more appraisals than those in the socio-affective goal condition \((p = .006)\). They did not, however, express relatively more appraisals compared to those in the control condition \((p = .101);\) see Table 3 for all means and standard deviations).

We exploratorily examined whether explicit requests for the other’s view may depend on the type of support that the sharer seeks. Therefore, an ANOVA was conducted with Support Goal Condition on explicit requests for the other’s view.\(^6\) This revealed a significant main effect of Support Goal, \(F(2, 184) = 12.94, p < .001, \eta^2_p = .12\). Bonferroni-corrected pairwise comparisons indicated that those in the cognitive support goal condition made more explicit requests for the other’s view compared to those in the socio-affective support goal condition \((p = .002)\) and those in the control condition \((p < .001)\). The latter two groups did not differ \((p = .383)\).

Table 2. Means (M) and Standard Deviations (SD) of self-reported goals to obtain Socio-Affective (SA) and Cognitive (C) support per support goal condition.

<table>
<thead>
<tr>
<th>Self-Reported Goals</th>
<th>SA goal M(SD)</th>
<th>C goal M(SD)</th>
<th>Control M(SD)</th>
<th>Total M(SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socio-Affective Support (SA)</td>
<td>66.62 (20.37)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>66.43 (17.75)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>60.50 (20.63)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>64.53 (19.72)&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Cognitive Support (C)</td>
<td>53.16 (21.94)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>64.01 (13.75)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>51.62 (20.90)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>56.31 (19.87)&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>N</td>
<td>62</td>
<td>63</td>
<td>62</td>
<td>187</td>
</tr>
</tbody>
</table>

Note. Numeric superscripts (123) refer to comparisons between different goal conditions, within one dependent measure (i.e. horizontal comparisons). Letter superscripts (abc) refer to comparisons between self-reported socio-affective and cognitive support goals (i.e. vertical comparisons). Shared superscripts indicate the absence of a statistical difference based on Bonferroni-corrected pairwise comparisons (i.e. \(p > .05\)).
Discussion

In Study 1, we investigated whether people express their emotions differently depending on the type of support that they seek from the other. While we were successful in manipulating participants’ beliefs about the effectiveness of both types of support, we were not entirely successful in manipulating their support goals. Specifically, participants reported an equally strong goal to receive socio-affective support across conditions. This finding fits with previous research showing that individuals are consistently strongly inclined to seek socio-affective support (see Pauw et al., 2018). We were, however, successful in up-regulating participants’ goals to receive cognitive support – a goal that was overall less strong than the motivation to receive socio-affective support.

Despite the only partially successful manipulation, both our hypotheses were confirmed, albeit with modest effects. Those seeking socio-affective support used more emotion terms, whereas those seeking cognitive support used more appraisal terms. In both cases, participants in the control condition fell somewhere in between. Finally, we exploratorily found that those who sought cognitive support also made more explicit requests to hear the other’s view, compared to those seeking socio-affective support and those in the control condition. These requests included asking the listener for their opinion, feelings, thoughts, or advice, which could be conducive to acquiring cognitive support.

Study 2

The question we sought to address in Study 2 was whether listeners infer different support goals from sharers’ differential expressions. Establishing listeners’ understanding of sharers’ needs is important, as it may shed light on potential discrepancies between support needs and support provision, which may impact both the perceived and actual effectiveness of social sharing. We therefore examined whether listeners infer more socio-affective support seeking when sharers express more emotions, and more cognitive support needs when sharers use more appraisal terms. We conducted an online study in which participants read two brief stories in which another person shared an emotional experience. In these stories the emphasis on emotions, appraisals, or neither of these two was manipulated. Participants were asked to infer the sharer’s need for socio-affective and cognitive support.

Methods

Participants

Sample size was determined based on the effect size observed in Study 1. Based on the observed effect size of $\eta_p^2 = .03$ (omnibus effect of goal condition on emotional expressions) and the associated post-hoc power of .80, the current study with a similar design required a sample of 189 participants. To allow for potential dropouts, a total of two hundred participants were recruited online via MTurk. No participants were excluded. The final sample of 200 participants (47% male) had a mean age of 36.2 years ($SD = 11.3$), ranging from 20 to 73 years.

Procedure

Participants first signed informed consent online. After answering some demographic questions, including a trick question, they were randomly presented with the first out of two stories. They were asked to imagine catching up with a friend whom they had not seen for a week and who told them the presented story. After reading the first story, they were asked to
indicate to what extent they thought their friend had been looking for certain types of responses, which tapped into socio-affective and cognitive support. After answering several manipulation check items regarding the focus of the story (see Supplement 2.2 for further details), they read the second story and answered the same set of questions. Finally, participants filled out some additional demographics and were debriefed. In total, the study took 5 to 10 min to complete.

**Materials**

**Emotional expressions**
The emotional expressions were manipulated in the two stories (see Supplement 1.4 for the complete stories). One story was about the protagonist just having discovered that her boyfriend had cheated on her. The other story described the protagonist having recently been laid off unexpectedly. There were three versions of each story. In the appraisal condition, the story included eight negative appraisals of the depicted situation, referring to the unexpectedness of the situation, its unpleasantness and unfairness, and the protagonist’s low coping potential. The emotion condition included eight negative emotion terms that corresponded to the eight appraisals. The emotions varied depending on the story, but mostly described how shocked, angry, sad and helpless the protagonist felt. Finally, in the control condition, the story was told in the exact same manner, but without appraisals or emotions.

**Inferred support goals**

Inferred socio-affective and cognitive support goals were measured by asking participants to rate to what extent they thought the protagonist wanted to receive eight different types of supportive responses (Pauw et al., submitted). Ratings were made with a 100-point slider bar (0 = not at all, 100 = very much) and averaged across both stories. As expected, a promax rotated factor analysis yielded two factors: Socio-AFFECTive Support (Story 1, \( \alpha = .82 \); Story 2, \( \alpha = .84 \)) and Cognitive Support (Story 1, \( \alpha = .87 \); Story 2, \( \alpha = .88 \); see Supplement 2.2 for all items and their associated factor loadings). An example item of Socio-AFFECTive Support is wanting the other to “be empathic”. An example of Cognitive Support is wanting the other to “help them look at the situation from a different perspective”.

**Perceived severity and emotional distress**

Exploratory, participants also rated the perceived severity (i.e. “How severe do you think the situation is?”), and perceived emotional distress (i.e. “How upset do you think the person feels?”) using a 100-point slider bar (0 = not at all, 100 = very much). We again averaged the ratings for both stories. We were interested to see whether sharers’ expressions would impact listeners’ inferences about the sharers’ emotional state, as well as of the listeners’ own construal of the situation. Furthermore, this allowed us to study whether perceived emotional distress and severity may function as mediators of the potential effect of the sharers’ expressions on inferred support goals.

**Results**

**Inferred support goals**

To test our hypothesis that emotional expressions affect listeners’ inferences of sharers’ support goals, we conducted a Repeated Measures ANOVA with Emotional Expression (emotions vs. appraisals vs. control condition) as a between-subjects factor, and Inferred Support Goal Type (inferred socio-affective and cognitive support goals) as a within-subjects factor. Contrary to our hypotheses, there was no main effect of Emotional Expression on inferred support goals (\( F[2, 197] = 0.43, p = .651, \eta_p^2 < .01 \)), nor was there an interaction effect between Emotional Expression and Inferred Support Goal Type (\( F[2, 197] = 2.13, p = .121, \eta_p^2 = .02 \)). There was, however, a significant main effect of Inferred Support Goal Type (\( F[1, 197] = 276.22, p < .001, \eta_p^2 = .58 \)), indicating that participants inferred protagonists to be seeking more socio-affective support than cognitive support (see Table 4 for all means and standard deviations).

**Exploratory analyses: perceived severity and emotional distress**

We exploratorily tested whether the different conditions affected (1) how severe participants perceived the event to be and (2) how emotionally upset they perceived the protagonist to be. We conducted a MANOVA with Emotional Expression condition as the predictor of perceived severity and emotional distress. We did not find a significant omnibus effect of Emotional Expression, \( F(4, 394) = 0.99, p = .414, \eta_p^2 = .01 \). Thus, regardless of how the story was told, participants...
perceived the event to be equally severe, and believed the protagonist to be equally distressed (see Table 4 for all means and standard deviations).

Furthermore, in order to gain a better understanding of the determinants of inferred support goals, we exploratorily tested whether perceived severity and emotional distress predicted inferred socio-affective and cognitive support goals. Due to heteroscedasticity for inferred socio-affective and cognitive support goals, we conducted two robust regression analyses with 2000 bootstrap samples. The model predicting socio-affective support goals was significant, $F(2, 197) = 53.26, p < .001$. Perceived emotional distress was a significant positive predictor of inferred socio-affective support goals, $B = 0.59$, $SE = 0.09$, $p < .001$, 95% CI [0.42, 0.77], whereas perceived severity was not, $B = 0.05$, $SE = 0.08$, $p = .498$, 95% CI [−0.10, 0.21]. The model predicting cognitive support goals was also significant, $F(2, 197) = 8.10$, $p < .001$. However, unlike socio-affective support goals, inferred cognitive support goals were positively predicted by perceived severity, $B = 0.33$, $SE = 0.12$, $p = .009$, 95% CI [0.10, 0.58], but not by perceived emotional distress, $B = 0.10$, $SE = 0.13$, $p = .473$, 95% CI [−0.18, 0.33]. It should be noted, however, that whereas the findings for socio-affective support goals hold when conducting the analyses for both stories separately, the findings for cognitive support goals do not and are therefore not further interpreted (see Supplement 2.2 for more detailed analyses). In sum, these results indicate that the more listeners perceive the sharer to be in emotional distress, the more they think socio-affective support is desired.

**Discussion**

This study was set up to test whether the different emotional expressions found in Study 1 would affect what support goals sharing partners infer. Disconfirming our hypotheses, we found no such effect. These null findings may be explained by a ceiling effect: Regardless of the type of expression, across all stories the sharer was perceived as extremely upset, and participants perceived the situation as very severe. The impact of the situation and distress may thus have overridden any potential effects of emotional expression. Independently of whether the situation was described with more emotion or appraisal terms, participants inferred that the sharer was mostly in need of socio-affective support. This may be explained by the exploratory finding that the more emotionally distressed the sharer was perceived to be, the more listeners assumed they were in need of socio-affective support.

**Study 3**

To address the potential ceiling effect in Study 2, we conducted another study with the same design, but using stories of lower emotional intensity. Furthermore, following up on our exploratory observation in Study 1 that cognitive support goals were associated with an increased use of explicit requests for the other person’s view, we included an additional condition in which the sharer explicitly requested the other person’s view to test whether this indeed was interpreted as conveying a need for cognitive support.

**Methods**

**Participants and procedure**

Sample size was again determined based on a minimal effect size of interest deducted from Study 1, which resulted in a required minimum group size of 216. We requested 228 MTurk workers, to allow for
dropouts. Four participants were excluded because they failed the trick question at the beginning, and were thereby directed to the end of the survey. This yielded a final sample of 224 participants (54% male), with a mean age of 34.8 years ($SD = 11.3$), ranging from 18 to 68 years. All participants signed informed consent online.

**Materials**

As in Study 2, participants were presented with two stories, told in different ways depending on the experimental condition. These stories were similar to those in Study 2, but we reduced the emotional intensity by inducing more uncertainty with regard to the outcome of the situation (see Supplement 1.5 for the final stories). In addition to the emotion, appraisal and control condition, a fourth condition was included. Like the control condition, these stories did not include emotion words or appraisals, but instead three explicit requests for the other person’s view. More specifically, the protagonist asked the listener directly about their experience, feelings, and thoughts. We used the exact same measures as in Study 2 (see Supplement 2.3 for details on the manipulation check).

**Results**

**Inferred support goals**

In order to test our hypothesis that emotional expressions would affect the support goals that people infer, we conducted a Repeated Measures ANOVA with Emotional Expression (emotion vs. appraisal vs. explicit request vs. control condition) as between-subjects variable, and Inferred Support Goal Type (inferred socio-affective and cognitive support goals) as a within-subjects variable. There was no main effect of Emotional Expression on inferred support goals ($F[3, 220] = 0.53, p = .661, \eta^2_p = .01$).

There was, however, a significant interaction between Emotional Expression and Inferred Support Goal Type ($F[3, 220] = 5.41, p = .001, \eta^2_p = .07$). Univariate tests showed that Emotional Expression exerted a simple main effect on inferred socio-affective support goals, $F(3, 220) = 3.12, p = .027, \eta^2_p = .04$. Bonferroni-corrected pairwise comparisons showed that the use of appraisals led to stronger inferred socio-affective support goals compared to explicitly requesting another perspective ($p = .024$). None of the other comparisons were significant (see Table 5 for all means and standard deviations). Our hypothesis that expressing emotions would lead to the inference of stronger socio-affective support goals was thus not supported. Furthermore, and contrary to our hypothesis, Emotional Expression did not have a simple main effect on inferred cognitive support goals, $F(3, 220) = 1.49, p = .218, \eta^2_p = .02$. Finally, replicating Study 2, a significant main effect of Support Goal Type emerged, $F(1, 220) = 160.56, p < .001, \eta^2_p = .42$. This strong effect indicated that participants again inferred the protagonist to be seeking socio-affective support much more than cognitive support.

**Perceived severity and emotional distress**

Like in Study 2, we conducted a MANOVA to test whether Emotional Expression condition predicted perceived severity and emotional distress. We found no significant omnibus effect of Emotional Expression, $F(6, 440) = 1.84, p = .092, \eta^2_p = .02$. Thus, regardless of how the story was written, participants perceived the event and protagonist’s distress to be equally severe (see Table 5 for all means and standard deviations).

<table>
<thead>
<tr>
<th>Emotional expression condition</th>
<th>Appraisals</th>
<th>Emotions</th>
<th>Control</th>
<th>Explicit request</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
</tr>
<tr>
<td>Emotional intensity protagonist</td>
<td>79.78 (13.86)</td>
<td>78.89 (14.61)</td>
<td>74.10 (16.54)</td>
<td>71.68 (18.05)</td>
<td>76.10 (16.11)</td>
</tr>
<tr>
<td>Perceived severity participant</td>
<td>64.36 (16.81)</td>
<td>62.73 (18.07)</td>
<td>62.45 (18.52)</td>
<td>61.83 (17.02)</td>
<td>62.83 (17.52)</td>
</tr>
<tr>
<td>Inferred socio-affective support goals</td>
<td>84.20 (13.79)</td>
<td>80.73 (14.74)</td>
<td>78.00 (17.39)</td>
<td>75.54 (16.73)</td>
<td>79.59 (15.96)</td>
</tr>
<tr>
<td>Inferred cognitive support goals</td>
<td>61.60 (19.56)</td>
<td>58.13 (21.11)</td>
<td>63.72 (20.34)</td>
<td>65.68 (18.76)</td>
<td>62.28 (20.03)</td>
</tr>
<tr>
<td>$N$</td>
<td>55</td>
<td>57</td>
<td>55</td>
<td>57</td>
<td>224</td>
</tr>
</tbody>
</table>

Note. Numeric superscripts (123) refer to comparisons between different expression conditions, within one dependent measure (i.e. horizontal comparisons). Letter superscripts (abc) refer to comparisons between socio-affective and cognitive support goals (i.e. vertical comparison). Shared superscripts indicate the absence of a statistical difference based on Bonferroni-corrected pairwise comparisons (i.e. $p > .05$).
Furthermore, we again conducted two robust regressions in which perceived emotional distress and severity were entered as predictors of inferred socio-affective and cognitive support goals. We found that the model predicting socio-affective support goals was significant, $F(2, 221) = 81.24, p < .001$. Replicating Study 2, perceived emotional distress was a significant positive predictor of inferred socio-affective support goals ($B = 0.59, SE = 0.07, p < .001$, 95% CI [0.46, 0.72]), whereas perceived severity was not ($B = 0.09, SE = 0.06, p = .110$, 95% CI [−0.02, 0.19]).

The model predicting cognitive support goals was also significant, $F(2, 221) = 25.55, p < .001$. Replicating Study 2, perceived severity was a significant positive predictor of inferred cognitive support goals ($B = 0.41, SE = 0.08, p < .001$, CI [0.25, 0.57]). Perceived emotional distress was a marginally significant predictor of inferred cognitive support goals ($B = .16, SE = 0.08, p = .051$, CI [−0.002, 0.31]). In sum, greater perceived emotional distress again led participants to infer a greater need for socio-affective support, whereas greater perceived severity of the situation mostly led participants to infer a greater need for cognitive support (see Supplement 2.3 for more details).

**Discussion**

Study 3 was designed to overcome the ceiling effect we observed in Study 2, which may have masked potential effects of emotional expressions. In Study 3, we successfully reduced the overall emotional intensity of the described situations. Furthermore, we added a fourth condition in which the sharer explicitly asked the listener about their feelings and thoughts regarding the situation. However, replicating Study 2, we found no effect of emotional expression: independent of how the story was told, participants overall inferred much stronger socio-affective support goals than cognitive support goals. Further replicating Study 2, the more emotionally distressed participants perceived the sharer to be, the more they thought the sharer was seeking socio-affective support. Moreover, the more severe the listener perceived the situation to be, the more they thought the sharer was in need of cognitive support. The perception of the gravity of the sharer’s emotional state thus seems a more important determinant of inferred support needs than how the situation is conveyed.

**General discussion**

**Main findings and theoretical implications**

The aim of the present set of studies was firstly to investigate whether, when sharing an emotional event with others, sharers communicate differently depending on the kind of support they seek. To this end, we manipulated participants’ support goals and subsequently asked them to share a personal emotional event as if they were video calling with a friend (Study 1). In line with our hypotheses, we found that individuals seeking socio-affective support used more emotion terms, whereas those seeking cognitive support used more appraisal terms. Study 2 followed up on these findings, testing whether these differential expressions of emotion are also interpreted by naïve listeners as conveying different support needs. Participants read stories emphasising emotions, appraisals, or neither. Contrary to our predictions, the way in which the emotional story was written did not affect the inferred support goals. Across all conditions, participants ascribed the sharer a very high degree of emotional distress, which predicted a higher perceived need for socio-affective than cognitive support. In Study 3 we replicated these findings using less emotionally intense situations, discounting a ceiling effect as a potential alternative explanation for the absence of significant effects in Study 2. Study 3 additionally included a condition in which the sharer explicitly asked for the listener’s view; this condition also failed to affect listeners’ perceptions of sharers’ support goals.

Together, the findings of both Study 2 and 3 thus suggest that emotions and appraisals are interpreted as representing two sides of the same coin: expressing an emotional response to the situation. Indeed, a wealth of research suggests that emotions and appraisals constitute two interrelated components of emotions and that people can infer others’ emotional state on the basis of their appraisals or feelings. These conclusions are corroborated by the results of our manipulation check, which indicated that participants interpreted stories using emotion words versus appraisals as describing how the sharer thought and felt about the situation to the same degree (see Supplement 2.3), as well as the finding that communicating the story in different ways did not affect listeners’ perception of the severity of the sharer’s situation.
In terms of our original research question, sharers thus seem to express themselves differently depending on the type of support they seek. However, listeners appear not to pick up on these cues even when these are quite explicit in nature. Instead, and in line with findings by Trees (2005), regardless of how sharers told their story, listeners always inferred that sharers sought socio-affective support to a much larger extent than cognitive support. Although this bias rendered listeners insensitive to sharers’ cues, the general inference on the part of the listeners may in fact be accurate: Sharers indeed reported wanting to receive predominantly socio-affective support, which is in line with previous research (Duprez et al., 2014; Pauw et al., 2018; Rimé, 2009). Sharers’ generally high motivation to receive socio-affective support is understandable given the immediate emotional relief and enhanced interpersonal closeness that socio-affective support can engender (e.g. Nils & Rimé, 2012). Although sharers may sometimes desire cognitive support, socio-affective support is always appreciated, thereby offering a safe default option for support providers (Pauw et al., 2018). Furthermore, it allows for a relatively quick fix that saves support providers from having to engage in more in-depth emotional processing and the associated discomfort it may bring about in the providers themselves (see Rimé, 2009). Taken together, our findings may partially explain the theorised and observed predominance of socio-affective support in social sharing (Brans et al., 2013; Liu et al., 2017; Pauw et al., submitted; Rimé, 2009). As has previously been argued by Rimé (2009), this preponderance may be driven both by sharers’ strong motivation to seek socio-affective support, as well as listeners’ inclination to provide socio-affective support.

It thus seems that listeners are in fact likely to fulfil sharers’ needs, even in the absence of effective communication of these needs. It may be that either by projecting one’s own needs, or through learning from repeated sharing interactions, listeners come to make the assumption that sharers generally seek socio-affective support. However, when sharers do seek cognitive support, the question is whether listeners will accurately infer this need. Our results point to listeners failing to infer cognitive support goals from sharers’ use of appraisals. Particularly given the importance of cognitive support for long-term emotional recovery (Nils & Rimé, 2012; Rimé, 2009), future studies are needed to establish whether sharers may communicate these motives through other cues.

Though not what we had predicted, our finding that listeners are insensitive to sharers’ cues does align with the results of a study by Trees (2005). This points to the possibility that listeners may be basing their judgments on cues that are not necessary indices of sharers’ support needs. Consistent with this idea, perceived emotional distress was used by listeners to infer sharers’ need for socio-affective support (Studies 2 and 3). We had originally predicted that the use of emotion words would convey emotional distress, and thereby an understanding of the sharers’ socio-affective support needs. Although our current findings do not fully support this causal pathway, they suggest that the perception of distress prompts listeners to assume a desire for socio-affective support. Taken together, these observations point to a potential role of emotional intensity in shaping support provision and hint at the possibility that support providers may rely primarily on their own appraisals of the situation to guide their judgments of how the sharer feels and what type of support they seek.

Limitations and future directions

Several limitations of this study should be noted. First, the studies did not examine actual sharing interactions. While high in experimental control, this approach may have limited the extent to which sharers were actively seeking support. However, the fact that sharers’ support goals were generally quite strong and resistant to manipulation suggests that their behaviour at least partially reflected their natural way of sharing. A related criticism is that speaking in front of a video camera (Study 1) may have made participants feel uncomfortable and thereby less likely to disclose personal feelings. There are several reasons to believe that this was not the case. First, a practice session was included to get participants acquainted with the procedure. The experimenter was always present during this session to ensure that participants were comfortable with the procedure. Second, research suggests that anonymity fosters self-disclosure, as it reduces the fear of evaluation and need for impression management (e.g. Lucas, Gratch, King, & Morency, 2014). Thus, the experimental setting in Study 1 may in fact have encouraged disclosure, by having participants share personal stories in the absence of a listener. Finally, participants shared highly personal events (e.g. break-ups, infidelity), and some participants became
emotional to the point of tears. We are thus confident that the video call approach elicited emotional sharing behaviour.

Finally, the current study focused on verbal expressions of emotion. Even though social sharing primarily occurs through verbally relaying one’s emotional story, this is not to say that support seeking, as well as the ability to infer support goals, may not additionally occur via non-verbal behaviours. To address the shortcomings outlined above, future studies would benefit from studying a range of cues occurring during real dyadic interactions in naturalistic settings.

**Concluding remarks**

Taken together, the current findings support the idea that sharing interactions too often revolve around socio-affective support seeking and provision (Rimé, 2009). Our findings suggest that sharers may not succeed in conveying their cognitive support goals because listeners tend to infer a dominant need for socio-affective support, even when sharers explicitly ask others to provide a different perspective. Unfortunately, socio-affective support in the absence of cognitive support can engender a perpetual cycle, where the resulting relief and feelings of closeness, as well as the unchanged appraisal of the situation, continue to fuel sharing without aiding recovery (Curci & Rimé, 2012; Rimé, 2009). Thus, returning to the paradox discussed in the general introduction, the current set of findings helps explain both the short-term benefits that individuals experience when they share, as well as the absence of long-term recovery by social sharing (Nils & Rimé, 2012; Zech & Rimé, 2005).

**Notes**

1. All study protocols were approved by the local ethics committee of the Department of Psychology of the University of Amsterdam.

2. The current sample was drawn from a total sample size of 299 participants. Originally, a total of 311 individuals participated in this study. Of these 311 participants, 18 participants were excluded from our analyses for the following reasons: Two participants did not speak Dutch; four participants did not successfully recall an emotional event to discuss; eight participants did not want to be recorded on camera; four did not follow instructions (e.g. did not share an event). Due to a programming error, the remaining 299 participants included three times as many participants in the cognitive support goal condition compared to the other two conditions. Therefore, we drew a random subset of the cognitive goal condition so that the sample size would match those of the other two conditions.

3. We additionally measured self-reported experienced and expressed emotional intensity. These findings go beyond the scope of this article, but are available from the first author upon request. For exploratory reasons, we also included the Emotion Regulation Questionnaire among a subset of the sample that we additionally ran after discovering our programming error. This measure was therefore only administered among those in the socio-affective support goal and control condition, and is therefore not examined in the present study.

4. As part of emotion terms, we additionally coded emotion-related actions referring to the self, as well as other-related emotions (see Supplement 1.3). Furthermore, we also coded appraisals relating to expectedness, fairness, and high coping potential. However, due to too low inter-rater reliability, these subcategories were not included in our analyses.

5. We additionally coded several emotion regulation strategies, namely suppression, reappraisal, distraction, and explicit requests for the other’s opinion. For the purposes of the present study, we were only interested in emotion regulation strategies employed while sharing. The only current emotion regulation that could be reliably coded was explicit requests for the other’s opinion. We point the interested reader to Supplement 1.3 for discussion of the other categories that were not used in the current study.

6. The total number of words did not correlate with the number of explicit requests, \( r = .03, p = .651 \). Therefore, unadjusted frequencies of explicit requests were used in the analyses. This yields the same pattern of results as when proportionalized frequencies are used.

7. One originally socio-affective support item (i.e. “to provide care”) did not differentiate between the two types of support. Since the reliability significantly increased when removing this item for both stories, we dropped this item.

8. Conducting all analyses for the two stories separately yielded the same pattern of results.

9. All effects are similar across the two stories, except the significant interaction effect between Support Goal Type and Emotional Expression Condition, which was only found for the infidelity story.

**Acknowledgements**

We thank Gijs van Amerongen, Wies Brock, Lotte Lucassen, Stephanie Ponsioen and Daniel van Ringelenstein for their help with data collection and coding of Study 1.

**Disclosure Statement**

No potential conflict of interest was reported by the authors.
Funding

This work was supported by Open Research Area (ORA) Plus [grant number 464-13-050].

ORCID

Gerben A. van Kleef http://orcid.org/0000-0003-0823-7654

References


