Alexithymia is a personality trait characterized by: difficulty identifying feelings; difficulty describing feelings; and externally oriented thinking (1). Past research has found strong connections between alexithymia and deficits in emotion regulation and emotion recognition. Although alexithymia is not a new construct, the literature has yet to fully explore associations between alexithymia and an individual's thoughts of others' emotional experiences. The purpose of the current study was twofold. The first goal was to explore the relationships between alexithymia and ratings of the extent that others experience emotions in general. The second goal was to investigate associations between alexithymia and ratings of the extent that others experience positive emotions and negative emotions. It was predicted that higher alexithymia scores would be associated with lower ratings of the extent that others experience emotions; however, no significant relationship was found between TAS-20 scores and the ERSO Total (r = .08, p > .05). These results imply that although individuals with alexithymia have difficulty identifying emotions from a person's facial expressions, they do think that the person is experiencing emotion. Additionally, it was predicted that higher alexithymia scores would be associated with higher ratings of extent that others experience negative emotions, and lower ratings of the extent that others experience positive emotions. The results indicate that as alexithymia scores increased, ratings of the extent that others experience positive emotions decreased (b = -.02, SE = .01, p < .05) and ratings of the extent that others experience negative emotions increased (b = .02, SE = .01, p < .01). These findings from the current study support this hypothesis and suggest that individuals with higher alexithymia scores tend to think others experience more negative emotions and fewer positive emotions.
is most important for the current study, is the ability to manage negative emotions. A study by Stasiewicz et al. (2012) explored the relation between alexithymia and emotion regulation, more specifically the ability to come to terms with negative emotions, and found that higher TAS-20 scores were negatively related to a variety of emotion regulation skills (12). Individuals with higher alexithymia scores had more trouble managing negative moods and coping with emotions, which are important parts of emotion regulation. People without alexithymia were able to move on after experiencing negative emotions while people with alexithymia had more trouble coming to terms with their emotions. These results may suggest that individuals with alexithymia may have a predisposition towards negative feelings since these individuals have difficulty managing and coping with negative emotions.

Alexithymia and Emotion Recognition

Emotion recognition is the ability to identify emotions from some form of stimuli, and thus directly relates to one of the key characteristics of alexithymia: difficulty identifying feelings (15). Unlike emotion regulation which focuses on one’s ability to manage his/her own emotions, emotion recognition focuses on the ability to accurately identify emotions. There are two types of stimuli that are used to test emotion recognition: verbal and nonverbal. An example of a verbal stimuli is an emotion word, while a nonverbal stimuli can be an emotion scenario or a facial expression. Traditionally, alexithymia has been more strongly related to an inability to recognize emotion in verbal cues (16), which would be in accordance with findings that high alexithymia scores relate to a lower verbal IQ (17). However, it has also been found that high alexithymia relates to deficits in emotion recognition in both verbal and nonverbal situations (16). The majority of studies that have investigated nonverbal stimuli have researched facial expression emotion recognition, and have found that higher alexithymia scores relates to lower emotion recognition for facial expressions (15, 16, 18). The research on emotion recognition that does investigate the recognition of emotions in others are facial expression studies that did not intend to study others versus self, but rather the difference between the recognition of verbal and nonverbal emotional cues (16). Although it was not the main purpose of the research, these findings seem to suggest that individuals with higher alexithymia scores will not only have difficulty identifying feelings in themselves, but also have more difficulty than individuals with low alexithymia scores in identifying the emotions of others.

Positive and Negative Emotions in Alexithymia

Positive and negative emotion identification has been a topic of much alexithymia literature. As previously discussed, past research has found a strong negative relationship between alexithymia and emotion regulation skills, and more specifically, one’s ability to cope and manage negative emotions (12). This deficit in the regulation of negative emotions seems to imply that individuals with alexithymia may identify more negative emotions in themselves since these individuals have difficulty regulating these specific emotions. This conclusion is supported by a study by Yelsma (2007) found that alexithymia was associated with heightened negative emotion awareness and lower positive emotion awareness (19). Further support is provided by the findings that the TAS-20 correlates positively to the Neuroticism dimension of the Revised NEO Personality Inventory, and negatively with the Positive Emotions subscale of the Extraversion dimension (20). These findings demonstrate that alexithymia is related to heightened negative affect and lower positive affect. A study by Connelly and Denney (2007) also found that alexithymia was associated with higher negative emotion awareness. This study additionally found that this heightened negative affect was present regardless of the environmental factors that the participant experienced; even when the participants were not experiencing any environmental factors to induce more negative emotions, individuals with higher alexithymia scores still identified that they experienced more negative emotions and fewer positive emotions (21). These studies demonstrate that alexithymia is related to higher negative emotion identification and lower positive emotion identification in oneself. However, the studies discussed do not discuss how an individual with alexithymia would think about the positive and negative affect of others.

The Current Study

The first objective of the current study is to investigate how alexithymia is associated with ratings of the general emotional experiences of others, and to fill a gap in the literature that results from the research focusing on the self. In the alexithymia literature, there is a dearth of research on how alexithymia relates to one’s thoughts on others’ emotional experiences. Facial recognition studies have found that individuals with alexithymia had difficulty recognizing emotions from facial expressions of others (15, 16, 18). This suggests that alexithymia does relate to how people perceive others’ emotional experiences because there is a deficit in the recognition of facial expressions. Additionally, current research also indicates that individuals with high alexithymia scores have lower emotional recognition and rate emotion words as less emotionally stimulating (14). In accordance with these findings, it was hypothesized that higher alexithymia scores would be related to lower ratings of the extent to which others experience emotions.

The second objective of the current study is to explore associations between alexithymia and ratings of the extent to which others experience positive and negative emotions individually, and not emotion in general like the first objective of the study. Past research has found associations between alexithymia and heightened negative emotion identification and lower positive emotion identification in one’s self (19, 20, 21). However, the literature has yet to explore whether this trend extends to how alexithymic individuals think about the emotional experiences of others. With respect to these previous studies, it was predicted that higher alexithymia scores would be associated with higher ratings of extent that others experience negative emotions, and lower ratings of the extent that others experience positive emotions.

Materials and Methods

Participants: Participants were 64 undergraduate students from the University of Massachusetts at Amherst. In the current study, there were more female participants (n = 53) than male (n = 11), and the mean age of the students was 19.93 years old. The participants predominantly reported their race as Caucasian (n = 47), five students indicated their race as Black, nine as Asian American, and three reported their
race as Other. Participants were recruited through the university’s SONA system, which is an online human subject recruitment system for universities. Individuals with cognitive impairment (Telephone Interview For Cognitive Status - Modified score < 30) were excluded from the study. All participants were native English speakers, and one participant was excluded due to missing data. **Procedure:** Data were collected as part of a larger study investigating emotion organization in younger and older adults (Principal Investigator: R Ready, PhD). The University of Massachusetts at Amherst’s Institutional Review Board approved the study. For the current study, individuals were informed on study procedures and consented to participate. The study consisted of an approximately two hour session during which participants filled out a demographic survey, the TAS-20, and both sections of the ERSO (the emotion rating scale of others). At the end of the session, participants were given a debriefing form and compensation for their participation. Compensation was comprised of one experimental extra credit for each half hour of participation. **Measures:** Self-report measure of alexithymia. The 20 Item Toronto Alexithymia Scale (TAS-20) is a self-report measure used to assess alexithymic traits in individuals using a 5-point Likert scale (Strongly Disagree to Strongly Agree). The test specifically measures the three distinct factors of alexithymia: difficulty identifying emotions (7 items), difficulty describing emotions (5 items), and externally oriented thinking (9 items). The TAS-20 is the most widely used assessment to measure alexithymia (22). Its reliability and validity have been supported over varying age groups, genders, ethnicities and education levels (22). The TAS-20’s internal consistency (Cronbach’s α >0.7) has been supported in both the young adult population as well as in adults (22, and 23). **Emotion ratings of others.** The Emotion Rating Scale of Others (ERSO) used in the current study is a measure created for this study. In order to maintain reliability, the ERSO was adapted from an existing and supported measure, the PANAS-X (Positive Affect and Negative Affect Scale). The ERSO was used to measure to what extent a participant thought others experienced positive emotion, negative emotion, and emotion in general. The adaptation consisted of all words in the PANAS-X but with a separate focus. The PANAS-X solely focuses on emotions within an individual self, which was not useful for the current study. For this study, the ERSO was created using the same scale and words as the PANAS-X but with a focus on the emotions of others rather than the emotions of oneself. The PANAS-X is widely used and accepted measure, which made it a good measure to adapt into the ERSO. The PANAS-X consists of a list of 60 terms that the participant rates on a 5 point Likert self-rate scale on the extent that they experience each of the terms listed in a given time span (as shown in Figure 1). The ERSO asks the participant to rate to what extent he/she has felt a certain emotion in the past few weeks. The test is used to measure positive and negative affect in individuals, which are often acknowledged to be the dominant dimensions of the emotional experience (24). Reliability and Validity of the PANAS-X was supported in a study by Watson & Clark (1994) which reported that the measure was internally consistent (Cronbach’s α >0.7). The ERSO was composed of the 60 words from the PANAS-X and the instructions were changed so that instead of the participant rating emotions in themselves, they were rating emotions in a person with whom they are familiar. The ERSO is made of two parts administered at two different times during the session. The first time the participant was given the ERSO, the instructions indicated to rate the emotions of a young adult who they know well (18-34 years old; “Other - Younger”). The second time the instructions indicated to rate the emotions of an older adult with whom they are also familiar (65 years old or older; “Other - Older”). This was done to ensure that age of the person that the participant was rating would not affect the ratings of emotions. Reliability for both sections of the ERSO was confirmed with an internal consistency analysis. Both the older and younger sections of the ERSO had high internal consistency (ERSO Older Cronbach’s α = .87; ERSO Younger Cronbach’s α = .85). The scores from two parts of the ERSO (ERSO Older and ERSO Younger) were added together and then averaged to find the participants ERSO Total score, which is what was used to measure emotion in general. The data collected from the ERSO was also used to assess the relationship between alexithymia and to what extent people thought others experienced positive and negative emotions. Using the positive and negative term guidelines from the PANAS-X, the terms in the ERSO could be split into two groups: positive words and negative words (ERSO Positive and ERSO Negative). Since the 60 words used in the ERSO were the same as the ones in the PANAS-X, the words were categorized in accordance with the PANAS-X. This ensured that the words used were reliable positive and negative terms and were tested in previous studies. To make sure that the separation of the ERSO into a positive and negative test did not affect the reliability of the measure, reliability analyses were performed for both the ERSO Positive and ERSO Negative. Both variables displayed strong internal consistency (ERSO Positive Cronbach’s α = 94; ERSO Negative Cronbach’s α = .96). **Preliminary Analyses:** Prior to conducting primary analyses, the data were organized into three groups: average ERSO score (ERSO Total), average ERSO score for positive terms (ERSO Positive), and average ERSO score for negative terms (ERSO Negative). The ERSO Total average scores were calculated by finding the mean 1-5 score between all the terms for each individual. The ERSO Positive and ERSO Negative averages were obtained by using the same method, but separating the 21 positive and 25 negative terms contained in the ERSO to create two separate groups, one that only included the mean score for all positive terms and one that only included the mean score for all negative terms.

![Sample of the ERoss measure administered to participants in the current study](image)

1. very slightly or not at all
2. a little
3. moderately
4. quite a bit
5. extremely

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<th>1 very slightly or not at all</th>
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<th>3 moderately</th>
<th>4 quite a bit</th>
<th>5 extremely</th>
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Discussion
The purpose of the current study was twofold; the first goal was to explore the relationships between alexithymia and ratings of the extent that others experience emotions, a correlation was run between ERSO Total and TAS-20 scores. As demonstrated in Table 1, no significant relationship was found between the two variables \((r = .08, p > .05)\). In order to explore the relationship between alexithymia and ratings of the extent that others experience positive and negative emotions, correlations were run between ERSO Positive and TAS-20 Scores and ERSO Negative and TAS-20 Scores. Both relationships between ERSO Positive and TAS-20 Scores and ERSO Negative and TAS-20 scores were found significant \((ERSO Positive r = -.31, p < .05; ERSO Negative r = .32, p < .01)\) (Table 1). To further investigate this relationship, a regression was run in which ERSO Positive was regressed on TAS-20 Scores as shown in Figure 2 and ERSO Negative was regressed on TAS-20 Scores as shown in Figure 3. As demonstrated in Table 2, it was found that TAS-20 Scores were a significant predictor of both ERSO Positive \((b = -.02, SE = .01, p < .05)\) and ERSO Negative \((b = .02, SE = .01, p < .01)\).

Results
Primary Analyses
The mean TAS-20 score for the sample was found to be 42.6 \((SD = 11.12)\), and the ERSO Total mean was found to be 2.47 \((SD = .32)\). To test the hypothesis that alexithymia would be significantly related to lower ratings of the extent that others experience emotions, a correlation was run between ERSO Total and TAS-20 scores. As demonstrated in Table 1, no significant relationship was found between the two variables \((r = .08, p > .05)\). In order to explore the relationship between alexithymia and ratings of the extent that others experience positive and negative emotions, correlations were run between ERSO Positive and TAS-20 Scores and ERSO Negative and TAS-20 Scores. Both relationships between ERSO Positive and TAS-20 Scores and ERSO Negative and TAS-20 scores were found significant \((ERSO Positive r = -.31, p < .05; ERSO Negative r = .32, p < .01)\) (Table 1). To further investigate this relationship, a regression was run in which ERSO Positive was regressed on TAS-20 Scores as shown in Figure 2 and ERSO Negative was regressed on TAS-20 Scores as shown in Figure 3. As demonstrated in Table 2, it was found that TAS-20 Scores were a significant predictor of both ERSO Positive \((b = -.02, SE = .01, p < .05)\) and ERSO Negative \((b = .02, SE = .01, p < .01)\).

Table 1. Correlations between TAS-20 and ERSO Total, Positive and Negative \((* = p < .05,** = p < .01)\).

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<th>ERSO TOTAL (Emotion in General)</th>
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<td>TAS-20</td>
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Table 2. Slope of regression lines of ERSO Positive and ERSO Negative on TAS-20 \((* = p < .05,** = p < .01)\).

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<th>ERSO POSITIVE</th>
<th>ERSO NEGATIVE</th>
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<tr>
<td>TAS-20</td>
<td>(b = -.02^*)</td>
<td>(b = .02^{**})</td>
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Figure 2. Graph of ERSO Positive regressed over TAS-20.
and less positive emotion (19, 20, 21). The current study found that the same anhedonic trend is present when individuals with alexithymia are asked to think about the emotional experiences of others. Thus, these results imply that alexithymia is related to the mechanism of projective reduplication, and this phenomenon may explain why individuals with alexithymia score others’ emotional experiences similar to their own. Also, past research has found that alexithymia is significantly related to cold/distant and nonassertive social functioning (26). This observed adversity to social interaction may be attributed to the results in the current study that individuals with alexithymia think others experience more negative emotions. If an individual thinks that others experience more negative emotions, they may be averse to interacting with them.

The main goal of the current study was to explore how alexithymia is associated with the ideas of others’ emotional experience. These results support the thesis that individuals with alexithymia think others experiencing negative emotions to a greater extent and positive emotions to a lesser extent. These findings indicate that not only does alexithymia affect how an individual perceives his/her own emotions, but it also affects how that individual thinks about the emotional experiences of others. Additionally, the results from the current study provide insight into specifically how these individuals conceive others’ emotional experiences. The findings from the current study indicate that individuals with higher alexithymia scores think that others experience negative emotions to a greater extent and positive emotions to a lesser extent. This research contributes to the line of research on how alexithymia relates to one’s thoughts of others’ emotional experience, which is a new topic that has yet to be fully explored. However, it is an important aspect of alexithymia research that has many important implications.

Although there are many implications for this research, the most notable relates to therapy development. In order to effectively help a patient in therapy, empathy and emotional understanding need to be established between the therapist and the patient (27). Alexithymia may disrupt this connection by making it hard for the patient to identify his/her own emotions and the emotions of the therapist, thus making it difficult for empathy to develop between the patient and therapist. The connection between empathy and alexithymia has been explored in studies such as Parker et al. (2001), that found that alexithymia is empirically related to a decrease in empathy, and Vanheule et al. (2007) that found that alexithymia is related to decreased interpersonal functioning (28, 26). Findings from the current study in tandem with the studies mentioned suggest that alexithymia may complicate the therapeutic alliance. To compensate for this, it may be useful for therapists to test their patients for alexithymia in order to better understand them emotionally and help therapists design more individualized therapies, which could facilitate a better relationship and more effective therapy (29). By implementing the results from the current study and developing a further understanding of the emotional complexities of alexithymia, therapists will better be able to help patients with alexithymia.

The current study was limited in three main ways: the creation of the ERSO, the name of the study that was used for recruitment, and limited demographic diversity. The first limitation of the current study was the creation of the ERSO, which is measure lacking support for its psychometric properties, and with no past literature using it. The creation of this measure could have limited the accuracy of the data that was collected since the measure has not been previously used. This measure was adapted from the widely supported PANAS-X, which has been well-validated in the literature. Additionally, the reliability of the ERSO was tested and the all aspects of the ERSO were found to have high internal consistencies (Cronbach’s α > .7. Although the internal consistency of this measure was demonstrated, the validity has yet to be supported through external validity tests. This raises questions about what exactly the ERSO is measuring. However, because the ERSO was adapted from the validated PANAS-X, it is believed the ERSO is gathering accurate data. The ERSO was designed to gather data on the emotional experiences of others, and the PANAS-X was designed to accomplish a similar goal in oneself. Lastly, this measure can be further developed and validated so that it may be used in future studies to soundly measure the extent that one thinks others experience positive emotion, negative emotion, and emotion in general.

The second limitation of the study was the title used to recruit participants for the study. When recruiting undergraduate students to participate in the current study, they were told it was an emotion organization study. By mentioning the word “emotion” in the title,
individuals with higher alexithymia scores may be dissuaded from participating because they are often uncomfortable talking about emotions. This limitation might have selected for individuals with lower TAS-20 scores. However, the mean TAS-20 score in the study sample was 42.6. This sample mean is consistent with a study by Lumley et al. (2005) that found that the mean TAS-20 score from a sample of 140 young adult participants (75% Female) was 44.10 (SD = 10.30) (30). This suggests that the sample collected for the purposes of the current study is well representative of the general population and the limitation may not have had a significant effect on the TAS-20 scores of the individuals who participated. A final limitation of the current study was the limited demographic diversity of the sample. All the participants in the sample were undergraduate students at the University of Massachusetts at Amherst. Additionally significantly more women participated in the study than men, and it has been found that women score lower on the TAS-20 than men (31). This disproportionate number of female participants could possibly have an effect on data collected for the purposes of this study.

In order to further investigate the association between alexithymia and an individual’s thoughts of the emotional experiences of others, future studies, future studies should evaluate the validity and reliability of the ERSO to confirm the accuracy of the findings in the current study. Also, the current study can be repeated using the LEAS (Levels of Emotional Awareness Scale) instead of the ERSO. The LEAS is a supported scale and measures the level of emotional awareness in self and others (32). Although this measure is found to be poorly correlated with the TAS-20, using this validated scale instead of the ERSO may allow for the results found in the current study to be clarified.

Future studies should also focus on researching the relationship between social interaction and alexithymia to further explore how alexithymia affects an individual’s ability to effectively interact with others. This would be useful for further modifications on psychological services, such as individual therapy, to meet the needs of individuals with higher alexithymia scores. A study by Lambert & Barley (2001), stated that the best way to improve therapy would be tailoring the therapeutic relationship for individual clients (29). Having patients take the TAS-20 prior to therapy would help therapists create a more individualized approach, thus improving the outcomes from the sessions. Additionally, alexithymia testing should be integrated in psychiatric treatment to improve results in individuals with alexithymia who use these services. This practice can lead to a better utilization of resources and more effective therapy sessions.

References


