Northumbria Research Link

Exploring the role of friendship quality and autistic like traits in mental health using a non-experimental, correlational design

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Abstract

Background: Good quality friendships are important for mental health, and skills, such as emotion recognition, can help build these relationships. Some groups have difficulty both with emotion recognition and friendships, which might impact negatively on their mental health.

Aim: The study aimed to explore the relationships between autistic like traits, emotion recognition, friendships, and wellbeing, to help inform mental health interventions.

Methods: 78 people completed measures of emotion recognition, autistic like traits, friendship quality and satisfaction and psychological wellbeing. A multiple regression analysis was used to explore the predictors of wellbeing.

Results: Those with poorer emotion recognition skills rated their satisfaction with the quality of their friendships as lower. As friendship satisfaction decreased and autistic like traits increased, psychological wellbeing also decreased.

Conclusion: The results suggest that interventions that improve emotion recognition and friendship quality may improve wellbeing, particularly in people with high levels of autistic like traits. Further research is needed to confirm this.

Key words: friendships; wellbeing; mental health; emotion recognition; autistic like traits

Introduction

Friendships are close relationships that are two-way and provide individuals with a sense of belonging (Van Orden et al 2010). They can provide sources of support, emotional security, validation, companionship, and affection, all of which are important for mental health and wellbeing (see Cleary et al 2018). By contrast, a lack of close social relationships can have a significant negative impact on wellbeing. There is a relationship between feeling a lack of close relationships and symptoms of depression and suicidal ideation (Murray et al 2016) and social isolation has long been recognised as a predictor of suicidal behaviour (see Van Orden et al 2010).

The importance of friendships to, and the detrimental impact of loneliness on, mental health is being increasingly recognised in a range of mental health interventions (e.g., Martina et al 2018). Many social prescribing (non-medical) interventions also aim to increase the social connectedness and wellbeing of vulnerable groups by linking them with local resources and social activities (see Leavell et al 2019).

One such vulnerable group is people with high levels of autistic like traits (ALT). ALT are 'restrictions in intuitive social interaction, communication and flexibility of interests and behaviours' (Lundström et al 2011). ALT are found at varying levels among the general population, and those with a diagnosis of autism spectrum disorder or condition (ASC) have more obvious characteristics (see Murray et al 2014).

Although many people with ASC wish to develop friendships, they can find the process challenging, with many being dissatisfied with the quality of their friendships (Locke et al 2010). One explanation for these difficulties is that people with ASC may experience a 'misattunement' in social interactions. Their atypical ways of experiencing and interacting with the world can lead them to make social predictions, hold social expectations, and display patterns of behaviour that are out of tune with the people they are interacting with (Bolis et al 2021).

One important area that helps social partners to synchronise with each other is the ability to attend to, and infer meaning from, social information, such as recognising emotions from visual cues (McNaughton and Redcay 2020). The ability to accurately recognise facial emotions is thought to be central to effective interpersonal interactions (Wang et al 2004). Research suggests, however, that many (but not all) people with ASC have greater difficulties with emotion recognition than their typically developing peers (see Stagg et al 2021).

While researchers have explored emotion recognition, friendships, and wellbeing in those with a diagnosis of ASC, there has only been relatively limited research into these factors in those with autistic like traits. The results from this research do, however, suggest that those with higher levels of ALT may experience similar challenges to those with a clinical diagnosis of ASC. This includes having poorer emotion recognition (Martin et al 2019), poorer quality and shorter length of the friendship when the individual levels of ALT between friendship pairs are mismatched (Bolis et al 2021), loneliness (Reed et al 2016), and greater risk of mental health difficulties, including anxiety and depression, (Lundström et al 2011).

These studies suggests that factors that influence friendships, such as a person's level of ALT, may play a role in mental health.

Aim

The aim of the present study was to explore the relationships between ALT, emotion recognition, friendships, and wellbeing, to help inform mental health interventions.

Method

Design

A non- experimental, correlational design, using opportunity sampling was used for the study.

Participants

Overall, 78 people took part. Table 1 provides demographic information about the participants.

Friendships, ER, ALT, wellbeing

Procedure

The study was conducted in 2020 and received ethical approval from Northumbria university Department of Psychology ethics committee (ref: 20925). All participants provided informed consent. Participants were from the general population and were recruited via social media platforms, including Facebook, Instagram, and WhatsApp. Individuals had to be 18 years or over, have access to the internet to access the online questionnaires and have the literacy skills to complete them. People with a self-reported diagnosis of ASC were not excluded. Those who wanted to take part accessed an online platform, where they were provided with a detailed participant information sheet, recorded their consent, and completed the measures (see below). Once complete, debrief information was provided. All responses were anonymous.

Measures

In addition to demographic information, the following measures were used:

Autistic-like traits: These were measured using the Autism spectrum quotient 10 item questionnaire (AQ-10: Allison et al 2012). People can score between 0 and 10 and a higher score indicates a higher level of autistic like traits. The AQ-10 has high internal consistency and is highly correlated with the long form AQ-50 (Allison et al 2012).

Emotion recognition ability*:* This was measured using the Feelings and Emotions assessment (McKenzie et al 2020). This consists of 27 pictures showing nine emotions (worried, sad, happy, surprised, disgust, bored, angry, scared, and neutral) in line drawings, photos with limited context (just showing the face), and photos with context (e.g., wife and husband at a wedding). The participants have to identify what emotion they think each item is showing and can score between 0 and 27 points. A higher total score indicates a higher level of emotion recognition. The measure has been found to provide a reliable assessment of emotion recognition over a good range of abilities (McKenzie et al 2020)

Friendship Quality: This was measured using the Friendship Questionnaire (FQ: Baron-Cohen and Wheelwright 2003). Participants select a statement that most applies to them in relation to their friendships and choose the most appropriate answer to a serious of questions. A high score (possible range 0-140) indicates that the person has close, empathic, supportive, and caring friendships. Baron-Cohen and Wheelwright, (2003) reported reliable psychometric properties and high internal consistency of the measure.

Friendship Satisfaction: Participants were also asked about their satisfaction with the quality of their friendships. This was a single question which was developed for the purpose of the study (How satisfied are you with the quality of your friendships?). Responses were on a 3-point scale (1 = very satisfied, 2 = moderately satisfied, 3 = dissatisfied).

Well-being: This was measured using the short Warwick Edinburgh mental well-being scale (SWEMWBS: NHS Health Scotland, University of Warwick and University of Edinburgh 2008). This has 7 items covering positive aspects of mental health and well-being. Higher scores indicate a higher level of positive well-being. The SWEMWBS has been validated for use with the general population (Ng Fat et al 2017).

Data analysis

The normality of all continuous data was assessed, and descriptive statistics (mean, standard deviation and percentage) were calculated. Correlations between continuous data were calculated using Pearson product-moment coefficient and between ordinal and continuous data using Spearman Rank-Order correlation coefficient. A multiple linear regression analysis was used to explore the relationship between ALT, satisfaction with friendship quality, and wellbeing, with the latter representing the outcome variable. Statistical significance was $p < .05$ and all analyses were conducted in SPSS version 26 (IBM Corp 2019).

Friendships, ER, ALT, wellbeing

Results

Table 1 provides demographic information about the participants.

Table 1: Demographic information about participants

Demographic Information

	Range		Mean (SD)
Age (years)	18-60		22 (6)

	Number (percentage)		
Gender	**Male**		**Female**
	14 (18%)		64 (82%)

Diagnosis	**None**	**ASC**	**Other***
	70 (90%)	2 (3%)	6 (7%)

*Learning difficulty (e.g., dyslexia) and physical disability

Table 2 shows the descriptive statistics for the main variables measured in the study. Six participants had an AQ score of 6 or above. Six is the cut-off score at which it is recommended that the user considers a referral for diagnostic assessment (Baron-Cohen and Wheelwright 2003).

Table 2: Descriptive statistics for the main variables measured in the study

Measure	Range	Mean (SD)
AQ	0-7	2.7 (1.8)
Emotion Recognition	6-22	18.3 (2.5)
FQ	40-132	89.2 (18)
Satisfaction with quality of friendships	1-3	1.5 (0.6)
SWEMWBS	14.1-29.3	21.5 (3.4)

The relationship between autistic like traits, emotion recognition, and friendships

No significant correlations were found between ALT, emotion recognition and FQ scores. A significant negative correlation was found between emotion recognition and satisfaction with the quality of friendships. This means that those with poorer emotion recognition were less satisfied with the quality of their friendships. Friendship satisfaction was also found to negatively correlate with FQ score. This indicates that those with poorer quality friendships were less satisfied with them. Table 3 shows these results.

Table 3: the significant correlations between satisfaction with the quality of friendships and emotion recognition and FQ scores

	Satisfaction with quality of friendships		
	Number	**R value**	**Significance level**
Emotion Recognition	78	-.23	.02
FQ	78	-.22	.03

Predicting wellbeing

A multiple regression analysis was used to explore which variables predicted wellbeing, as measured by SWEMWBS score. One participant had missing items in relation to the SWEMWBS and was excluded from the analysis. As only AQ and satisfaction with quality of friendships correlated with SWEMWBS score at above .3, only these variables were included in the model (see table 4).

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Table 4: Correlations of the potential predictor variables of wellbeing

	Wellbeing (SWEMWBS score)		
	Number	**R value**	**Significance level**
AQ	77	-.375	.001
Emotion Recognition	77	-.077	.254
FQ	77	.238	.019
Satisfaction with quality of friendships	77	-.312	.003

The result of the multiple regression indicated that the model overall was significant (F = 9.54, p<.001) and explained 21% of the variance of wellbeing (R^2 = .21). Both satisfaction with friendship quality (B = -1.46, t = -2.45, p = .017) and AQ score (B = -.61, t = -3.17, p = .002) were significant independent predictors of wellbeing. Both had a negative relationship with wellbeing. This means that as satisfaction score fell (indicating greater satisfaction with the quality of relationships), wellbeing increased. As ALT increased (indicating more ALT), wellbeing decreased.

Discussion

Limitations

The study did have some limitations. Most participants were female, which may have influenced the results. There are sex differences in how autistic traits are manifested (See Ratto et al 2018) and how ASC is assessed and diagnosed (see Rutherford et al 2016), although the AQ-10 has not been found to show strong evidence of a bias against females (Murray et al 2019). Females have also been found to have better emotion recognition than males (Wingenback et al 2018). These sex differences may limit the generalisability of the results and further research with a greater number of male

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participants may help address this. A further limitation is that ratings of friendships were done on an individual and general basis. Bolis et al (2021) argue that measuring dimensions of friendship in the context of an actual friendship pair allows important information about the relative difference in ALT to be explored, which in turn influences the nature of the friendship

The study aimed to explore the relationships between ALT, emotion recognition, friendships, and wellbeing, to help inform mental health interventions. The results showed that emotion recognition ability was negatively associated with satisfaction with the quality of friendships. This indicates that the lower the emotion recognition ability, the less satisfied the person was with the quality of their friendships. This is consistent with the suggestion that emotion recognition is a fundamental aspect of good interpersonal relationships (e.g., Wang et al 2004). No significant relationships were found between ALT and satisfaction with friendships or friendship quality. This is somewhat at odds with the finding that people with ASC experience dissatisfaction with the quality of their friendships (e.g., Locke et al 2010). The difference in results may be because the present study explored ALT, rather than ASC. While the study included two people with a self-reported diagnosis of ASC, the mean AQ score for the participants was 2.7, indicating generally low levels of ALT.

In terms of wellbeing, the level of satisfaction with friendship quality was found to be a significant independent predictor. The results of the multiple regression analysis indicated that, as satisfaction levels decreased, so did wellbeing. This is in line with previous research that highlights the importance of friendships for mental health and wellbeing (see Cleary et al 2018) and the suggestion by Reed et al (2016) that factors associated with ALT, such as loneliness, can impact negatively on wellbeing.

It was also found, however, that ALT was also a significant predictor of wellbeing in its own right. In this case, as ALT increased, wellbeing decreased. As noted previously, the participants overall had a low mean level of ALT. Research has, however, indicated that even a low level of

autistic like traits can be associated with a greater risk of mental health difficulties (Lundström et al 2011).

To the authors' knowledge this is the first study to bring different related strands of research together and to explore emotion recognition, friendship quality and satisfaction, ALT, and wellbeing in the one study. As such, it adds to the research base in the area and highlights the importance of emotion recognition to satisfaction with the quality of friendships. In turn, friendship satisfaction and ALT were found to be significant predictors of wellbeing.

Implications and recommendations

The results of the study have implications for mental health nursing practice. The perceived quality of friendship has been found to be related to feelings of loneliness, with lower quality of friendships being associated with greater loneliness (e.g., Mousavi and Dehshiri 2021). The Royal College of Nursing (RCN), highlight the negative impact that feeling socially isolated can have on physical and mental health. They note that nurses have a key role in addressing this through assessing need, helping people to improve their current relationships, and promoting opportunities to develop new relationships. There is also a focus on supporting the person to learn skills that help facilitate good relationships. This includes a cognitive component, such as developing realistic attitudes and expectations towards relationships (RCN, 2022).

The results of the current study have implications for how mental health nurses might do this. First, it is important to understand the different factors that influence social relationships and wellbeing (Barber 2018). In relation to this, a number of inter-relationships were found in the present study between emotion recognition, aspects of friendships, ALT, and wellbeing. This suggests that it may be important to gather information about these factors, particularly friendship satisfaction and ALT, as part of the mental health assessment process. Some people may feel reluctant to admit that they feel socially isolated because of stigma and feelings of embarrassment. Directly questioning them about their feelings of loneliness may, therefore, not always be effective

(RCN, 2022). As satisfaction with the quality of friendships significantly predicted wellbeing, asking about this aspect may offer an indirect way of assessing social isolation that is less threatening to people.

As well as assessment, mental health nurses can offer support at different levels. They can signpost people to resources and interventions that may help with developing better quality relationships. The RCN (2022a), for example, provide links to a range of resources that aim to tackle social isolation for different groups of people.

The study results suggest that it may also be important to consider the impact of emotion recognition, friendships, and ALT in interventions that aim to improve wellbeing. For example, an important element of many social prescribing approaches is the increased social connectedness that participants can experience as a result of undertaking shared activities in their local communities (see Leavell et al 2019). People with high ALT may, however, find that they experience 'interpersonal misattunement' with those that they interact with (Bolis et al 2021), which may have a negative impact on the quality of their interpersonal relationships.

It may also be important to consider interventions that specifically target factors that are associated with friendship quality. For example, interventions can be effective at improving emotion recognition and associated interpersonal effectiveness in both neurotypical adults (e.g., Schlegel 2021) and individuals with ASC (Kouo and Egel 2016). It is recommended that adjustments are made for those with ASC, such as ensuring that the environments and activities that are used are appropriately structured and adapting the amount and intensity of the stimuli as required (Jodra 2021). Similar adjustments may be required for those with high ALTs.

Helping the individual to develop and maintain friendships that they experience as supportive may also be an important part of interventions (RCN, 2002). This may include building on the person's strengths and interest to link them with local groups and activities where they may meet others who share their outlook on life (Barber 2018).

Mental health nurses may also want to consider their own role as direct sources of social support. Research in Sweden into the role of the personal ombudsman (PO) suggests that POs can develop relationships with individuals with mental health difficulties that are seen as 'professional friendships.' In turn, these relationships can help improve wellbeing. In this context, both the professional and the individual redefine the traditional helping relationship (Berggren and Gunnarsson 2010).

Conclusion

The aim of the study was to explore the relationships between ALT, emotion recognition, friendships, and wellbeing, to help inform mental health interventions. In summary, the study found that those with poorer emotion recognition skills rated their satisfaction with the quality of their friendships lower. As friendship satisfaction decreased and autistic like traits increased, psychological wellbeing also decreased. The results are broadly consistent with previous research that has separately highlighted the importance of friendships and ALT as predictors of wellbeing. Despite the limitations of the study, the results suggest that interventions that help to improve emotion recognition and friendship quality may have a positive influence on wellbeing, particularly in people with high levels of autistic like traits. Further research is, however, needed to confirm this.

Implications for Practice

- It may be important to ask about friendship satisfaction and assess ALT, as part of the mental health assessment process

- Mental health nurses can signpost people to resources and interventions that may help them with developing better quality relationships.

- Interventions that help improve friendships, or improve the factors that influence friendships, such as emotion recognition, may also help improve mental health

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Friendships, ER, ALT, wellbeing

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