

This is a post-print of a book chapter published in *Encyclopedia of Autism Spectrum Disorders*, 2nd Edition.

The final version is available online at:

<https://doi.org/10.1007/978-1-4614-6435-8>

GENERAL ENTRY

A. Your Address

Geraldine Leader & Arlene Mannion

Irish Centre for Autism and Neurodevelopmental Research (ICAN), National University of Ireland, Galway (NUI Galway),
Galway,
Ireland

B. Definition

Gelotophobia can be defined as the fear of being laughed at. It comes from the Greek word "gelos", which means laughter, and the word "phobia" meaning fear (Ruch & Proyer, 2008a; Titze, 2009).

C. Historical Background

Gelotophobia was originally derived from clinical case studies and introduced as a clinical condition by Titze (1996; 2009). However, gelotophobia is not a pathology, but is experienced in the typically developing population also (Ruch, Hofmann, Platt, & Proyer, 2014). Gelotophobia is an inter-individual differences variable. At its extreme end, it may lead to a pathological fear, but only in rare cases of gelotophobia (Ruch & Proyer, 2008a; 2008b). Given the implications and consequences associated with gelotophobia, such as social anxiety and social withdrawal (Titze, 1996; 2009), this is an important area of study.

The phenomenon of gelotophobia has not only been investigated in the typically developing population. Previous research has found that 40% of individuals with eating disorders exceeded the threshold for a slight form of gelotophobia, 35.7% of individuals with personality disorders experienced gelotophobia (Forabosco, Ruch, & Nucera, 2009), and 24.6% of shame-bound neurotics showed gelotophobic tendencies (Ruch & Proyer, 2008b).

Gelotophobia is of importance to study in individuals with autism spectrum disorder (ASD). Due to the deficits in social communication and social cognition, individuals with ASD may experience difficulties with empathy. This is a result of their reduced theory of mind capacity which hinders their ability to distinguish between one's own mental state and that of others (Woods et al., 2013). Individuals with ASD may have greater difficulty understanding and compartmentalising their own emotions and conveying these emotions to others (Woods et al., 2013). Individuals with ASD may have difficulty in understanding non-verbal cues, reciprocal interaction, and initiating appropriate non-verbal communication (Frith, 2004; Wing, 1981). Individuals with ASD may also have difficulty understanding humor. Weiss et al. (2012) compared whether children with ASD could appreciate slapstick comedy in comparison to children who were typically developing. While children with ASD could appreciate the material, they had greater difficulties in discriminating humorous from non-humorous material. Given these reasons, gelotophobia is of relevance to study in individuals with ASD.

D. Current Knowledge

Samson, Huber, and Ruch (2011) conducted the first study that investigated gelotophobia in individuals with Asperger's Syndrome. Samson et al. (2011) investigated gelotophobia and its relationship with recalled experiences of having been laughed at in the past in 40 individuals with Asperger's Syndrome and in 83 neurotypically developing control group participants. It was found that in individuals with Asperger's Syndrome, 45% exceeded the cut-off of having at least a slight fear of being laughed at. This was in comparison to only 6% of control participants who exceeded this cut-off. There were statistically significant higher levels of gelotophobia found in the Asperger's Syndrome group, compared to the control group. It was found that 17.5% of individuals with Asperger's Syndrome had a marked fear of being laughed at, with a further 7.5% endorsing a severe fear of being laughed at. High levels of gelotophobia was found in individuals with Asperger's Syndrome in comparison to control group participants, when both groups had a high frequency of recalled experiences of being laughed at. Therefore, recalled experiences of being laughed at does not explain why individuals with Asperger's Syndrome demonstrated high levels of gelotophobia.

In control group participants, who were measured on the Autism-Spectrum Quotient, gelotophobia was positively associated with autism spectrum level, which demonstrates a relationship between gelotophobia and Asperger's Syndrome. The percentage of those with Asperger's Syndrome who presented with gelotophobia (45%) was the highest percentage reported in the literature at that time.

Samson et al. (2011) outlined a number of reasons as to why gelotophobia may be more common in individuals with Asperger's Syndrome. First, individuals with Asperger's Syndrome may have a higher frequency of situations where they were laughed at in the past. Second, individuals with Asperger's Syndrome often lack social awareness, and therefore may have difficulties understanding how to deal with someone laughing at them. Third, individuals with Asperger's Syndrome may have difficulty reading social cues and may not be able to differentiate between good-natured teasing and bullying. Samson et al. (2011) provided a novel area of research for autism researchers to address.

Following Samson et al. (2011), there has been only a small number of studies that have investigated gelotophobia in individuals with ASD. Samson (2013) conducted a literature review on sense of humor in individuals with autism spectrum disorders (ASD). While focused on humor, the literature review provided a valuable summary of the literature on humor in ASD, and briefly discussed gelotophobia. Wu et al. (2015) investigated the role of parental attachment in relation to gelotophobia in adolescents with ASD. Participants were 101 Taiwanese high school students with ASD with average intelligence, and in 163 typically developing students. Adolescents with ASD showed significantly higher levels of gelotophobia than those without ASD. A negative relationship was found between attachment to fathers and gelotophobia in the ASD group. Therefore, as the quality of attachment to their fathers increased, gelotophobia decreased. However, no relationship was found between maternal attachment and gelotophobia. Therefore, by increasing the quality of father-child attachment in ASD, this may have implications for the occurrence of gelotophobia (Wu et al., 2015). The authors suggested that future research should investigate the relationship between attachment to peers, and gelotophobia.

Tsai, Wu, Tseng, An, and Chen (2018) investigated the relationship between gelotophobia and personality traits in 123 Taiwanese high school students with ASD, and in 156 typically developing students. The ASD group demonstrated higher rates of gelotophobia than the control group. It was found that 42.3% of individuals with ASD had some form of gelotophobia, with 4.9% showing extreme gelotophobia, 4.9% with marked gelotophobia, and 35.8% with slight gelotophobia. The personality traits examined were the Big Five: Extraversion, Conscientiousness, Agreeableness, Openness, and Emotional Stability. Extraversion was found to be a mediator of gelotophobia. Therefore, individuals who showed lower levels of extraversion experienced more gelotophobia, as these individuals were less able to engage in humor with others. The authors suggested that these results may be applicable to participants from an Asian cultural background, therefore, the results of this research need to be replicated across different cultures.

Grennan, Mannion, and Leader (2018) conducted a literature review on the link between gelotophobia and high-functioning ASD (hfASD). In this review, the characteristics of gelotophobia were discussed, including the conceptualisation and measurement implications of gelotophobia, the etiology and consequences of gelotophobia, and the social competence of gelotophobes. The importance of studying gelotophobia in hfASD was discussed, as well as the relationships between hfASD and other variables relevant to gelotophobia, including comorbid psychopathology, quality of life, social functioning, perceived social support, past experiences of bullying, and shame-bound emotions. This review demonstrated the need for further research to be conducted in the area and discussed the importance of better understanding the relationship between gelotophobia and comorbid psychopathology in individuals with ASD.

Following this, Leader, Grennan, Chen, and Mannion (2018) conducted an empirical investigation specifically on individuals with hfASD, where gelotophobia was examined in 103 adults with hfASD and in 137 typically developing control participants. Moreover, it was the first study of its kind to explore the relationship between gelotophobia and other psychosocial constructs and the presence of psychopathological disorders in individuals with hfASD. The study examined gelotophobia in relation to a number of other variables, including social functioning, perceived social support, life satisfaction, quality of life, past experiences of bullying, and comorbid psychopathology. Individuals with hfASD presented with high rates of gelotophobia (87.4%) compared to 22.6% of control participants. This was a higher rate of gelotophobia, almost double, than what was found in the results of the Samson et al. (2011) study. Significantly higher levels of gelotophobia and higher past experiences of bullying were found in those with hfASD, in comparison to typically developing control participants. The hfASD group showed lower quality of life, life satisfaction, social functioning, and perceived social support, in comparison to the control group. Of the 84.7% of participants with hfASD who presented with gelotophobia, 34% demonstrated a marked form of gelotophobia, 29.1% presented with an extreme form, and 24.3% presented with a slight form of gelotophobia.

Leader et al. (2018) found significant negative correlations between gelotophobia and quality of life, life satisfaction, perceived social support, and depression and anxiety. A significant positive correlation was found between gelotophobia and personal involvement in bullying and social functioning. The predictors of gelotophobia were examined in Leader et al. (2018). Social functioning, past experiences of bullying, anxiety, and life satisfaction were identified as predictors of gelotophobia. It was found that past experiences of verbal bullying were a stronger predictor of gelotophobia than physical and indirect forms of bullying.

E. Future Directions

Given the small number of studies that have focused on gelotophobia in individuals with ASD, there is a need for future research to focus on a number of specific directions. First, other methodologies should be used other than self-report. Self-report may lead to incidences of social desirability among participants. Where research requires individuals to report remembered situations of past experiences of bullying, self-report can be compromised by age-related memory loss. Future research could also include interviewing instead of questionnaires, field observation, and the use of peer and parental reports (Wu et al., 2015). Samson et al. (2011) outlined that peer-reports by teachers or parents could be used to investigate the influence of prior experiences of being laughed at, and whether this affects the development of gelotophobia later in life. Other peer report could come from other individuals in a person's life, such as siblings or employers, in order to encapsulate the influence of bullying exposure on gelotophobia. Second, more research is needed to determine the relationship between gelotophobia and other fears and phobias. Samson et al. (2011) suggested that future research should focus on gelotophobia in relation to the development of social phobia. Leader et al. (2018) found that the presence of an anxiety disorder diagnosis was a predictor of gelotophobia. This possible link between gelotophobia and anxiety needs to be examined in future research. Third, research is needed on ASD populations other than individuals with hfASD. Gelotophobia needs to be investigated across the autism spectrum, from individuals with more severe

symptoms of ASD to those with milder symptoms. Fourth, the relationship between gelotophobia and ASD severity needs to be better understood. Samson (2013) outlined that if the relationship between humor and ASD severity is investigated in future research studies, a model could be designed to explain the connections between symptom severity and the domains of humor in individuals with ASD.

Fifth, given the negative consequences of gelotophobia, research is needed to determine how gelotophobia can be treated. Gelotophobia must first receive further empirical investigative work in order to support its prevalence and further determine its consequences, symptomatology and consequences in individuals with ASD. This will in the future lead to the development of specific intervention and preventative strategies for its treatment. While literature exists on strategies to reduce bullying in ASD, empirical evidence is needed on the intervention of and prevention of gelotophobia in individuals in ASD. This treatment may include learning to differentiate between teasing and mocking, and strategies which may help individuals with hfASD to disentangle harmless teasing from hostile bullying (Attwood, 2004). Sixth, research is needed on the use of the Picture-Geloph in individuals with hfASD. The Picture-Geloph is a semi-projective tool, piloted by Ruch, Altfreder, and Proyer (2009) which involves 20 cartoons depicting social situations which involve laughter or potential laughter. Whether these cartoons are interpreted in the same way by individuals with hfASD as they are by individuals in the typically developing population is a question for future research to determine. Seventh, gelotophobia needs to be investigated with children with ASD. A child version of the PhoPhiKat (Ruch & Proyer, 2009) has been developed, which measures gelotophobia, gelotophilia (i.e. the joy of being laughed at), and katagelasticism (i.e. the joy of laughing at others). The child version has been used in previous research with typically developing children (Proyer, Neukom, Platt, & Ruch, 2012). Research is needed to determine the validity of this measure in children with ASD.

Finally, research is needed to determine the relationship between gelotophobia and alexitymania in individuals with hfASD. Alexitymania is the inability to express emotions and has been identified as being an issue in individuals with ASD (Costa, Steffgen, & Samson, 2017; Fitzgerald & Bellgrove, 2006). A link between gelotophobia and alexitymania has been discovered (Boda-Ujlaki & Séra, 2013), yet future research is needed to empirically explore these concepts in individuals with hfASD. In conclusion, the area of gelotophobia and ASD is a novel field of autism research, where much more research is needed to expand our understanding of the concept of gelotophobia in individuals with ASD.

F. See also

→ Mental Health and ASD

→ Social Behaviors and Social Impairment

G. References and Readings

- Attwood, T. (2004). Strategies to reduce the bullying of young children with Asperger syndrome. *Australian Journal of Early Childhood*, 29(3), 15.
- Boda-Ujlaki, J.E., & Séra, L. (2013). Gelotophobia, alexithymia and emotional intelligence. *Mentálhigiéné és Pszichoszomatika*, 14, 297-321.
- Costa, A., Steffgen, G., & Samson, A.C. (2017). Expressive incoherence and alexithymia in Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 47(6), 1659-1672.
- Fitzgerald, M. & Bellgrove, M.A. (2006). The overlap between alexithymia and Asperger's syndrome. *Journal of Autism and Developmental Disorders*, 36(4), 573.
- Forabosco, G., Ruch, W., & Nucera, P. (2009). The fear of being laughed at among psychiatric patients. *Humor: International Journal of Humor Research*, 22 (1), 233-251.
- Frith, U. (2004). Emanuel Miller lecture: Confusions and controversies about Asperger syndrome. *Journal of Child*

Psychology and Psychiatry, 45, 672-686.

- Grennan, S., Mannion, A., & Leader (2018). Gelotophobia and high-functioning Autism Spectrum Disorder. *Review Journal of Autism and Developmental Disorders*, 5(4), 349-359.
- Leader, G., Grennan, S., Chen, J.L., & Mannion, A. (2018). An investigation of Gelotophobia in individuals with a diagnosis of high-functioning Autism Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 48(12), 4155-4166.
- Proyer, R.T., Neukom, M., Platt, T., & Ruch, W. (2012). Assessing gelotophobia, gelotophilia, and katagelasticism in children: An initial study on how six to nine-year olds deal with laughter and ridicule and how this relates to bullying and victimization. *Child Indicators Research*, 5(2), 297-316.
- Ruch, W., Altfreder, O., & Proyer, R.T. (2009). How do gelotophobes interpret laughter in ambiguous situations? An experimental validation of the concept. *Humor: International Journal of Humor Research*, 22(1-2), 63-89.
- Ruch, W., Hofmann, J., Platt, T., & Proyer, R.T. (2014). The state-of-the-art in gelotophobia research: A review and some theoretical extensions. *Humor: International Journal of Humor Research*, 27, 23-45.
- Ruch, W., & Proyer, R.T. (2008a). The fear of being laughed at: Individual and group differences in gelotophobia. *Humor: International Journal of Humor Research*, 21(1), 47-67.
- Ruch, W., & Proyer, R.T. (2008b). Who is gelotophobic? Assessment criteria for the fear of being laughed at. *Swiss Journal of Psychology*, 67, 19-27.
- Ruch, W., & Proyer, R.T. (2009). Extending the study of gelotophobia: On gelotophiles and katagelasticians. *Humor-International Journal of Humor Research*, 22(1-2), 183-212.
- Samson, A.C. (2013). Humor (lessness) elucidated-Sense of humor in individuals with autism spectrum disorders: Review and Introduction. *Humor*, 26(3), 393-409.
- Samson, A.C., Huber, O., & Ruch, W. (2011). Teasing, ridiculing and the relation to the fear of being laughed at in Individuals with Asperger's Syndrome. *Journal of Autism and Developmental Disorders*, 41, 475-483.
- Titze, M. (1996). The Pinocchio Complex: Overcoming the fear of laughter. *Humor & Health Journal*, 5, 1-11.
- Titze, M. (2009). Gelotophobia: The fear of being laughed at. *Humor: International Journal of Humor Research*, 22(1), 27-48.
- Tsai, M.N., Wu, C.L., Tseng, L.P., An, C.P., & Chen, H.C. (2018). Extraversion is a mediator of gelotophobia: A study of autism spectrum disorder and the Big Five. *Frontiers in Psychology*, 9, 150.
- Weiss, E.M., Schuler, G., Freudenthaler, H.H., Hofer, E., Pichler, N., & Papousek, I. (2012). Potential markers of aggressive behavior: The fear of other person's laughter and its overlaps with mental disorders. *PLoS One*, 7, e38088.
- Wing, L. (1981). Asperger syndrome: A clinical account. *Psychological Medicine*, 11, 115-129.
- Woods, A.G., Mahdavi, E., & Ryan, J.P. (2013). Treating clients with Asperger's Syndrome and autism. *Child and Adolescent Psychiatry and Mental Health*, 7, 32-40.
- Wu, C.L., An, C.P., Tseng, L.P., Chen, H.C., Chan, Y.C., Cho, S.L., & Tsai, M.L. (2015). Fear of being laughed at with relation to parent attachment in individuals with autism. *Research in Autism Spectrum Disorders*, 10, 116-123.