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Rashidan, M.A.^a, Sidek, S.N.^a, Yusof, H.M.^a, Hamid, S.R.A.^b, Dzulkarnain, A.A.A.^c, Ghazali, A.S.^a, Salah, M.F.E.-M.B.M.^a, Sidique, F.A.A.^b

Stimuli Video Quantification Based on Valence-Arousal Elicitation in Children With Autism Spectrum Disorder (ASD)

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^a International Islamic University Malaysia, Kulliyah of Engineering, Department of Mechatronics, Kuala Lumpur, 53100, Malaysia

^b International Islamic University Malaysia, Kulliyah of Education, Department of Curriculum and Instruction, Kuala Lumpur, 53100, Malaysia

^c International Islamic University Malaysia, Kulliyah of Allied Health Science, Department of Audiology and Speech-Language Pathology, Kuala Lumpur, 53100, Malaysia

Abstract

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder characterized by impaired social communication and repetitive behaviours. Understanding the emotional responses of children with ASD is crucial, especially for early interventions. Therefore, the study aims to validate appropriate stimuli in video forms that can elicit Autism Spectrum Disorder (ASD) children's emotions. The study involves 56 children, 28 of whom have ASD, from IDEAS Autism Center in Rawang, Malaysia, aged between five and nine years ($M = 6.43$, $SD = 1.2$), and 28 typically developed children ($M = 5.65$, $SD = 2.2$) from IIUM Educare, Gombak, Malaysia. The children were presented with 15 stimuli videos that were targeted to elicit five basic emotions, which are happy, sad, fear, anger, and calm. Expert blind coders validate the stimuli to mitigate potential sources of bias and errors in the experiment. The subjects' responses towards the stimuli videos were mapped onto the valence and arousal emotion model. The study observed that all stimuli were successfully classified into the respective emotion quadrants. The study also discovered that certain video stimuli produce higher intensity in emotion elicitation than others. Significant findings between ASD children's responses to the stimuli video are extensively discussed. © 2013 IEEE.

Author Keywords

affective stimuli; ASD children; autism; emotion elicitation; emotion modeling; video coding; video validation

Index Keywords

Behavioral research, Diseases, Image coding; Affective stimulus, Autism, Autism spectrum disorder child, Autism spectrum disorders, Behavioral science, Emotion elicitation, Emotion models, Emotional response, Regulation, Video validation; Video signal processing

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Correspondence Address

Sidek S.N.; International Islamic University Malaysia, Malaysia; email: snaim@iiu.edu.my

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