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Mawere Phylis
Reformed Church University,
Masvingo, Zimbabwe

Recognition of emotions of anger, sadness and fear in a pre-school setting: A case study of 4-5 year olds in Gweru: Zimbabwe

Mawere Phylis

Abstract

The study examined the extent to which 4-5 year olds in a preschool setting recognise emotions of anger, sadness and fear. Understanding emotions is of great help to children in their efforts to get along with others as it aids in the development of social skills. Specifically the study explored pre-school children's ability to recognise emotions of anger, sadness and fear. The case study utilised qualitative research method. Participants were ten four to five year old pre-school children. Data was collected through interviews and observation. Findings of the study were that: children were able to recognise emotions of anger, sadness and fear using observable characteristics; children mislabelled sadness as anger due to the overall classification of these as negative emotions. The study recommends caregivers to encourage children to express any feelings they encounter so that they desist from classifying emotions as negative and positive. It is also recommended that workshops be organised to sensitise caregivers on strategies that can enhance children's understanding of emotions.

Keywords: Emotion recognition, emotion understanding, negative emotion caregiver

1. Introduction

The study investigated the extent to which children in the age range 4 to 5 years recognise emotions in a pre-school setting. Children in a pre-school setting are already in a formal environment being taken care of by preschool caregivers. These children experience emotional situations as they interact with caregivers and peers. It becomes critical for them to be able to recognise the three emotions. Cole (2006) ^[1] reported that recognition of emotions is a pre-requisite for readiness to learning.

Emotions are a universal phenomenon. Children are born with the capacity to produce a wide range of emotional expressions including fear, disgust, surprise, anger and sadness. These emotions, known as "basic emotions", are said to be innate (Kumfor, Irish, Hodges, and Piguet, 2013) ^[14]. Children's emotional signals are powerful determinants of social behaviour (Cole, 2001). In fact emotions act as a channel for adult – infant communication. Children in a pre-school should be able to express emotions to which caregivers interpret appropriately. Emotional expressions become a building block of trust because sharing of emotions between children and caregivers is the fabric of human social relationships (Selz, 2011) ^[24]. It becomes critical for children to be able to recognise the basic emotions of fear, anger and sadness which are negative emotions.

Several studies have explored recognition of emotions (De Sonnevile, Verschoor, Njiokiktjien, Op het Veld, Toorenaa & Vranken, 2002; Gross & Ballif, 1991; Herba & Phillips, 2004) ^[7]. (De Sonnevile *et al.*, 2002; Herba & Phillips, 2004) ^[7] revealed that basic emotions such as happiness, anger and fear are recognised earlier than jealousy and contempt. In America, Felleman, Barden, Carlson, Rosenberg and Masters, (1983) ^[9, 16] studied 4-5 year old pre-school children's ability to recognise emotions in facial expressions and found out that they were able to identify expressions of happiness, sadness and anger. However there were children who were not able to accurately differentiate expressions of anger and sadness. Therefore the children had no accuracy in recognising anger and sadness. Children's ability to discriminate between emotional states of sadness and anger deserves further study hence the current study was set to find out whether pre-scholars can discriminate between these two emotions.

Correspondence
Mawere Phylis
Reformed Church University,
Masvingo, Zimbabwe

Pollak *et al.* (2000) ^[19] conducted an experiment where children were asked to rate the similarity of anger, sadness and fearful expressions. The study established that neglected children perceived less distinction between angry, sad, and fearful faces than did controls. It suggested that the neglected children's difficulty in discriminating emotions may relate to their lack of exposure to a variety of emotions. On the whole the study revealed that the extent of experience children have with the world is associated with their understanding of emotional expressions (Fox, 2004) ^[10]. Only a few studies have looked at error biases in facial emotion recognition (FER) especially in children (Fox, 2004; Gao & Maurer, 2009; Gross & Ballif, 1991) ^[10, 11, 12]. These studies all agree that emotions with a negative valence are frequently confused with one another, because discrimination between specific negative emotions develops slowly.

One study compared daughters of depressed mothers to daughters of never – depressed mothers in their ability to correctly identify happy, sad and angry expressions of varying intensities (Joormann, Gilbert & Gotlib., 2010) ^[13]. The comparative study revealed that daughters of depressed mothers required higher intensities to correctly identify sad faces and made more errors in identifying angry faces than daughters of never depressed mothers.

Marktan and Leitwang (1996) carried a comparative study on recognition of emotions by Chinese and Australian children. Findings were that there was no indication that children from China are poorer at recognising certain emotions than children from Australia. It was also observed that accuracy in recognising emotions increased with age for children from both cultures. However, Chinese children were significantly more accurate in recognising emotions than Australian children at all age levels. These findings were as a result of different socialisation practices and demographic factors. This seems to suggest that recognition of emotions is likely to be affected by the rearing practices of a particular country. Denham's (2002) findings confirm this assumption as his research observed that mothers talk about emotion with their children and this contribute to children's better performance in recognising emotions.

The issue of the ability to recognise and show emotions is an important pre-requisite for adaptation in various situations. In play situations for example children need to read emotions in their peers to check on acceptance or non-acceptance. In fact emotion recognition is a basic skill that is thought to facilitate development of social and emotional competence (Downs, and Strand, 2013). Understanding of emotions was examined in a longitudinal study by Denham, Coverly, Scmidt, Blair, DeMulder, Coal and Mason (2002) ^[5]. The study was carried out through observation of children during free play and revealed that ability to recognise emotional expression facilitates children's interpretation of the emotional affect. Since children's recognition of emotions is critical in facilitating interpretation of emotional affect it became imperative for this study to establish whether pre-school children could recognise emotions of anger, fear and sadness.

Accuracy in recognising emotions has not been revealed in most studies. Research studies have indicated that child rearing practices have a bearing on recognition of emotions in children. Child rearing practices in Zimbabwe differ from practices in other countries. In view of differentiated child rearing practices, it remains unclear as to how Zimbabwean

pre-school children are recognising emotions of anger fear and sadness. This study therefore sought to find out the extent to which the pre-school children would recognise and distinguish emotions of fear, anger and, sadness.

2. Research questions

The study was guided by the following main research question:

To what extent do 4-5 year olds in a pre-school setting recognise emotions of anger, sadness and fear?

The main research question was answered by the following sub questions:

2.1 Sub Questions

2.1.1 How do 4-5 year old children distinguish between emotions of anger and sadness?

2.1.2 How do Zimbabwean 4-5 year old children describe emotion of fear?

3. Methodology

The qualitative case study research strategy was used to carry out an in-depth study of the 4-5 year olds' recognition of emotions of sadness, anger and fear. Qualitative research is a multi- method in focus involving an interpretive, natural approach to its subject matter (Mapolisa and Kurasha, 2013). The strategy permitted the researcher to study pre-school children and their caregivers in their natural setting. "A case study is a detailed and thorough investigation of a few cases", (Best & Khan 2005, p: 43). A single case study emphasizes analysis in depth (Best and Khan, 2005). In this study an in depth study of understanding of emotions by pre-school children was permitted by the identified pre-school individual case.

The study utilised observation and interview methods to collect data. In this study, children were observed individually as they watched video clips showing facial expressions. Observation was chosen as it permitted the researcher to observe the children and their caregivers in detail participating in the natural environment and displaying some emotions. Best and Khan (2005) say that the observation consists of detailed notation of behaviours, events and contexts surrounding the events and the behaviours.

Both children and caregivers were interviewed. Interviews were used to augment observations. Interviews allowed the researcher to make a follow up of observations and to probe participants for unclear responses.

Participants in this study were 4-5 year old pre-scholars at the identified pre-school centre. The 4 to 5 year pre-scholars consisted of five boys and five girls. The children came from varied backgrounds since some parents at the pre-scholars are working and others are not. From a population of 45 the pre-scholars were purposefully sampled because theories of emotional development propound that these children are expected to identify emotional expressions (Berk, 2012). This subset of the desired participants of the 4-5 year old age group had characteristics which would be generalised to the entire population as propounded by Bless and Higson Smith (2000) ^[1]. Since the case study was however qualitative it was not directed towards generalisations (Gay, 2009: Best and Khan, 2005). The researcher did not intend to generalise her findings, hence purposeful sampling was used to select participants as it commonly used in qualitative studies (Teddle and Yu,

2007). In purposeful sampling researchers handpick the cases to be included in the in the sample on the basis of their judgement and knowledge of their typicality (Yaya, 2014 and Robson, 1993) [29]. The ten pre-scholars became the sample for the study.

3.1 Procedure

Initially information on distinction between emotions of anger and sadness was got through observing how children responded to video clips shown to them. Individually children were shown video clips of children who were either angry or sad. The researcher observed how they reacted. Thereafter I asked them on the mood that was displayed. They were further probed by asking for example, why is the person showing that mood? What difference do you see between the sad and the angry person? In addition all children were individually shown a facial expression of a person who showed sadness and an episode in which the sad emotion was aroused. Children were asked questions in which they were expected to give labels of the expression and other responses that show that they understand the emotion of sadness so as to distinguish it from anger. The responses from children showed how they recognised the two emotions.

To get information on how they recognise the emotion of fear, children were asked to label a given picture's facial expression and describe emotion-arousing situations showing the emotion. Specifically they were given a picture of a situation showing a boy who was about to be given an injection. They were expected to say show how the child in the picture was feeling. In their responses, children expressed, labelled and described the emotion to show how they recognised the emotion.

4. Findings

The extent to which children recognise emotions of anger, sadness and fear was got through their facial expressions they when viewing pictures of the mentioned emotions and the way they labelled and described the emotions from episodes of various emotional episodes presented to them. In most cases verbatim statements are used to maintain the originality of the information collected

When children viewed the facial expression of anger, sad and fear emotions most of the children expressed the same emotions on their faces. Some children who did not show the emotions on their faces were just neutral in their expression.

4.1 Distinction between emotions of anger and sadness

Concerning the issue of distinguishing between emotions of anger and sadness the study revealed that children could distinguish them using observable behaviours and causes of the emotions. This was evident in their responses when they were being interviewed whilst viewing clips showing angry and sad expressions and episodes of situations showing the emotions. The children expressed sentiments that these two emotions were different and gave reasons related to what they observed. Children's responses to the questions for each emotion are shown below.

4.1.1 Anger

Children had been subjected to a stimulus showing an angry girl and were asked to say the emotion.

The study found out that eight out of ten children were able to give the correct label. These said that the girl in the

picture was angry. These actually said, "She is angry." Besides just giving the label children could give statements showing causes of the emotion. For example;

Child 1 said, "She is angry because the pencil has been taken." The response given by the child focused on what caused the anger of the girl.

The correct labels given by the children and utterances explaining the causes of the emotion show that they could recognize anger. In addition they also gave observable behaviours related to the emotion. They explained using the following statements:

Child 8, "She is angry, the chicks are inflated". Child 1, 3 and 6 said, "She is shouting." Thus the child observed the inflated chicks signifying anger.

Children were then shown an episode in which a child broke a cup and the mother became angry. They were then asked questions concerning the mood displayed by the mother. Children managed to give the correct labels depicted by the situation assisted by the situational cue. That is in the situation mother's cup was broken therefore she had to be angry. Most of the children said that the mother in that emotion situation was angry. The following were some of the responses given by children.

Child 1, 2, 4 said, "Mother is angry" The children gave the response when interviewed individually. Child 5, "Mother is angry because the child broke a cup". The response also focused on causes of anger.

Furthermore some children showed that they understand the angry emotion by explaining what the mother will do as a result. One child gave the following response. Child 6 said "She shall beat her because she broke her cup." Thus the child gave a behavioural result.

On the whole all children showed that they were able to recognize the angry emotion shown on the facial expression and the emotion-arousing situation given. They gave the correct label of anger on both the facial expression and the situation given hence displayed emotional understanding. This was consistent with Martin and Green (2005) who associated understanding of an emotion through correct labelling. It is in their study that explanations showing results and causes of an emotion show understanding of emotions. Most of the children in this study gave causes of anger and behavioural results.

4.1.2 Sadness

Children had been shown facial expression of a person who showed sadness and an episode in which the sad emotion was aroused. Questions requiring them to show understanding of the emotions were then asked.

From the questions children were asked after viewing a sad facial expression and an episode in which the sad emotion was aroused six children gave answers such as:

"She is angry, she has not laughed." It was evident therefore that these six children mislabelled sadness as anger. Only two children gave responses describing the appearances of the picture of the sad person such as "inflated chicks", "The mouth is closed." According to Harris *et al* (1981) these were observable components of a sad emotion.

When children were shown an episode of a child who lost a game when playing with a friend, three children expressed the mood as being angry. When one loses a game he/she becomes sad rather than angry. However it can be argued that one can be angry if the game has not been fair. Instead of labelling the mood other children gave causes of the

mood. For example one child said, "He is angry because he has not won." The responses children gave are causes of the sad emotion but mislabelled sadness as anger.

However three children were able to give differences between anger and sadness using observable behaviour. One child said for example "They are different one is talking and one is quiet." Shouting and being quiet is consistent with the emotions of anger and sadness respectively. Therefore children in this instance used observable behaviours to distinguish between the emotions of sadness and anger.

In addition, majority of the children gave similar labels to both emotions. These children labelled both the sad and the angry emotion as anger. These children could have given the same label because the sad and the angry emotion are both negative emotions. This is supported by Fox (2004) ^[10] and Gao & Maurer (2009) ^[12] who say that discrimination between specific negative emotions develops slowly in children and that children would be utilizing a general category of negative affect in their gross classification of emotional states. Perhaps that explains why another child acknowledged that the emotions could be different but they are both bad. This child said, "They are not the same but are bad." The child was classifying anger and sadness as bad because they are negative emotions. Classifying the emotions as bad could have been because the child could have considered the emotions as bad.

4.2 Description of fear by 4-5 year old pre-school children

To get information on how children recognise the emotion of fear, they were shown facial expressions showing fear. On labelling the facial expressions, only a few children managed to describe the emotion correctly. The rest of the children gave labels of observable components of emotion which were not consistent with a fearful emotion. For example one child said "He is not happy because he is angry." This statement does not accurately describe the emotion of fear using physical appearances of the face.

Children were then given a picture of a situation in which a boy was about to be given an injection because he was sick. When asked, all children gave the correct label of the emotion. The response was that, "He fears to be given an injection." Therefore children could describe fear using the reasons. They said that the boy is afraid because an injection is painful. Children were also asked to give explanations to show what the boy was doing. They gave responses which are consistent with what a fearful person can do. For example one child said, "He is hiding behind his mother". Another child said, "He is crying because he is afraid." The responses show that the children are aware that a fearful event is quite threatening such that one can run away and hide. Running away is a coping skill used by the child in the situation. Therefore the child described fear using a strategy to manage the emotion of fear. In Harris *et al*'s (1981) study, intervention strategies to regulate emotions were viewed as ways that can show understanding of emotions.

From the interview with children, it was found out that children could describe the emotion of fear using the label, causes, components of fear and strategies that children use to manage the emotion. Conversely, in Sullivan and Kirkpatrick in Fox (2004) ^[10]'s study children focused on the upper component (eyebrows) when selecting the faces expressing anger and fear.

5. Discussion

On emotions of anger and sadness the study revealed that children could distinguish between them using observable behaviours and causes of the emotions. This was evident in their responses when they were being interviewed whilst viewing clips showing angry and sad expressions and episodes. The children expressed sentiments that these two emotions were different and gave reasons related to what they observed on the pictures of the people on the video clips showing causes of the emotions. This was consistent with a study carried out by Pollak, Cicchetti, Hornung, & Reed, (2000) ^[19]. Pollak *et al.* (2000) ^[19] conducted experiments to examine the emotion recognition abilities of physically abused, neglected, and normal children, whose ages ranged from three to five years. The children were asked to rate similarities of expressions. Neglected children perceived less distinction between angry, sad, and fearful faces than the normal children. The neglected children's difficulty in discriminating emotions may relate to their lack of exposure to a variety of emotions. The extent of experience children have with the world is associated with their understanding of emotional expressions (Fox, 2004) ^[10]. In this study children could differentiate the two emotions because of the experience they had had.

The study also established that some children labelled both the sad and angry emotion as anger hence giving them the same label. This showed that they confused the two emotions. This could have been because both emotions are negative. This was consistent with Szekely (2012) ^[23], Fox, (2004) ^[10] and Gao & Maurer (2009) ^[12] who felt that emotions with a negative valence are often confused with one another. Other studies that looked at error biases in facial emotion recognition also agree that these emotions are confused with one another because discrimination between specific negative emotions develops slowly in children (Fox, 2004; Gao & Maurer, 2009) ^[10, 12]. Szekely *et al* (2011) ^[22] observed that children of sensitive mothers performed better at identifying sad and angry expressions. From their finding it can be noted that sensitive maternal behaviour provides a more stimulating emotional environment which in turn may further stimulate the development facial emotional recognition.

The study by Calvo and Lundqvist (2008) ^[3] also revealed that recognising specific negative emotions is not a simple task as recognising happy emotion (positive emotion) as most children from a very early age are exposed to happy faces more often than to other emotional faces. This shows that experiences encountered by children influences ability to recognise basic emotions.

The study revealed that children could describe fear basing on causes and strategies used to manage the emotion. Vicari *et al* (2000) ^[27] found out that identification of emotions such as fear and anger requires the integration of both the upper and lower face which makes them difficult to distinguish. Perhaps that explains why children in this study had to resort to causes of fear and strategies used to manage the emotion.

6. Conclusion

The study has shown that 4-5 year old children use various ways to recognise emotions of fear, anger and sadness. Recognition of these emotions is dependent on observable characteristics of the emotions, knowledge of casual information and behavioural results of the emotion. The

study has also shown that recognition of the emotions is sometimes hindered by the classification of emotions as negative and positive. Classification of anger and sadness as negative emotions results in children labelling them in the same manner.

In the study children mislabelled sadness as anger due to the overall classification of these as negative emotions. The study revealed that children described fear using the label, causes and components of the emotion of fear.

7. Recommendations of the study

From the study's findings and conclusions the following recommendations are made:

The demands children encounter for emotional display could account for their poor performance for example when children are always expected to put on a happy face than they are asked to appear sad or angry. Caregivers are recommended to encourage children to express any positive and negative feelings they encounter so that they would desist from classifying emotions as negative emotions.

Children's socialisation has an influence in the understanding of emotions and the link between emotion talk and recognition. Emotion talk by mothers and sensitivity to their children has an overall influence on their children's ability to recognise emotions. The study recommends organisation of workshops to sensitise parents and school caregivers on child rearing practises informing them on the importance of emotion talk and being sensitive to their children which in turn enhance emotion understanding.

Development of emotions is a very important topic to be included in the teacher education course as caregivers would be apprised of the best ways to aid emotion understanding in children. However there is a need for para- professional teachers to attend in-service courses in teachers colleges. In these courses they would be apprised of child development issues so that they would be in a better position to enhance emotion understanding in children and educate parents on the importance of encouraging children to express emotions including negative ones.

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