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Excluded and Ignored: The Effects of Ostracism

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Introduction

While there are many forms of active bullying, from physical to verbal and transitioning from in-person to online, it is nothing compared to the damage that can be caused by being ignored. From the vantage point of initiating ostracism, benefits can be seen, such as eliminating a weak link and strengthening the established group; unfortunately, the choice to do so is frequently made with malicious intent (Sandstrom et al., 2017). The effect on the ostracised often results in antisocial and maladaptive behaviours causing feelings of aggression to build up. Studies on ostracism's effects are abundant for all age categories (child, teen and adult); however, most fail to account for partial ostracism. Said studies primarily use the Cyberball Paradigm, which can be used on all age ranges to simulate ostracism and trigger a reaction (Hartgerink et al., 2015). The dejected feelings caused by ostracism can have a profound negative influence in people's (especially children's) lives. The effects of these influences can be as "mild" as depression, anxiety and loneliness (Hawes et al., 2013; Sandstrom et al., 2017) or more extreme, resulting in thoughts of suicide, death by suicide, and harming others (Chen et al., 2020; Sandstrom et al., 2017). Long-term consequences such as depression and its side effects have been shown to result in problems relating to one's peers (He et al., 2018). To mitigate the aforementioned extensive effects of this negative influence, multiple coping mechanisms have been naturally ingrained in us as a species, including increasing physical proximity (Marinović et al., 2017), engaging in verbal imitation (Hopkins & Branigan, 2020) and conformity (White et al., 2016).

Method of Testing

In 2000, a computer program called the Cyberball Paradigm was created for the measurement of the effects of ostracism (Hartgerink et al., 2015). The program has a virtual ball tossed between the study participant and (generally) two computer-generated characters, though the subject is led to believe they're real. This is done between twenty and forty times, depending

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on the age range it is being applied to. While children perceive the concept as young as 4 years old, it has been found that the optimal age to start studying ostracism is 8 years old because younger children get bored or distracted far easier (Zadro et al., 2013). The Primary Needs Questionnaire—Children (the PNQ-C) was devised to ask children about their experience on a scale of 1-5, with one being not at all and five being very much; the questionnaire has eight questions, two per primary need. Before beginning the PNQ-C, Zadro et al. (2013) recommend that researchers ensure that the children understand the game they will be playing and the PNQ-C itself; however, because of the nature of the study, the participant can not be told what will happen by way of ostracism. Afterwards, for those who experienced the ostracism condition, it is recommended that children get to play again, this time being included. The Working Memory Test Battery for Children (WMTB-C), originally designed to test cognitive functioning in 5 to 15-year-olds, was used by Hawes et al. (2012) to test basic phonological retrieval and central executive abilities. The Strengths and Difficulties Questionnaire (SDQ), which measures the internalization of problems and the subsequent anxiety and depression, was used by Hawes et al. (2013) alongside the PNQ-C to get an accurate snapshot of the effects of ostracism. Lexical Snap is a picture-matching game where the researcher states what something is, and when the same card comes up for the subject, whether or not they repeat the same word is documented. The verbal scale of the Kaufmann Brief Intelligence Test – second edition (KBIT-2) tests receptive vocabulary and asks children to identify words corresponding to pictures. The KBIT-2 and Lexical Snap flashcards were used by Hopkins and Branigan (2020) to collect data.

Studies and the Effect

A person has four primary needs to function psychologically: self-esteem, control, meaningful existence and the feeling that they belong (Hawes et al., 2013). The response to primary needs that have been threatened is the tendency to try to strengthen said needs (Hawes et al., 2012). Lack of belongingness can cause suicidal ideation and suicide because things such as value, self-worth, a sense of purpose, and more, are compromised. The World Health Organization states that someone dies as a result of suicide every 40 seconds (Chen et al., 2020). Data collected suggests that a person experiences exclusion or isolation in some form or another one or more times per day (Hartgerink et al., 2015). This affects not only the person who experiences the ostracization but also their interpersonal contact. Thus far, studies such as Hawes et al. (2013) have suggested that middle childhood could be the most detrimental when it comes to social and emotional development and in having further impact on cognitions that cause the internalizing of problems.

In a meta-analysis done by Hartgerink et al. (2015), they mention three stages that the ostracism effect is composed of: The reflexive stage – where you respond immediately; the reflective stage – which occurs after the fact; and the resignation stage – which comes into being months or years after onset and continuation of ostracism. For ethical reasons, this final stage can not be studied the same way as the others. The ostracism theory asserts that ostracism's immediate effects are "unmitigated by situational or individual difference factors" (Hawes et al., 2013, p. 43); in essence, stating that the effects of ostracism, such as threats to belongingness, will take priority over internalizing problems.

In a study by Hawes et al. (2012), fifty-five children ages 8 to 12 years old, with a median age of ≈10 years, were tested for ostracism using the Cyberball Paradigm in an effort to discern the effect peers have on cognitive development trajectories. These effects can include the level of participation in the classroom, grades, and aggression. Previous studies have shown that peer rejection in kindergarten has an impact on grades in jr. high. The continued ostracism of a child may affect both social and scholastic abilities over time. Such actions within the academic environment can bleed over into the outside world, signalling to peers that a person is undesirable or not worth their time or effort. It has been found that boys and girls will exclude someone differently; whereas boys prefer the confrontational method of exclusion, girls are more prone to freezing someone out. Other studies conclude that children and adolescents are on par with adults when it comes to the deprivation of primary needs.

It has been suggested that working memory is responsible for social functioning and the ability to decipher social cues (Hawes et al., 2012). The working theory for this study was that the subjects' cognitive functions would be disrupted following exposure to ostracism, placing the most pressure on executive functions. Tests post-Cyberball in Hawes et al.'s (2012) study included a self-report questionnaire of eight Likert-style questions akin to the PNQ-C and parts of the WMTB-C (such as numerical recall). Results showed that primary needs were adversely affected to a significant degree ($p < 0.0005$); gender was not a factor in Hawes et al.'s (2012) results. As reported on the self-report, the significant change in mood due to the Cyberball test adversely affected happiness ($p < 0.0005$) and caused sadness ($p < 0.001$) and anger ($p < 0.0005$). The only mood that gender was a factor in was anger, which showed a significant increase in girls who were ostracised vs. included ($p < 0.0005$). The WMTB-C showed a significant difference for girls ($p = 0.022$) when it came to numerical tests using forward recall, which was not found in boys. The numerical test using backward recall showed that boys were overwhelmingly less affected than girls, to a significance of $p = 0.028$. This indicates that ostracism has a far more noticeable effect on girls than boys. In general, ostracism (via Cyberball) was found to have a noticeable impact on mood as well as a perceived threat against primary needs.

Hawes et al. (2013) conducted a cross-sectional study on 165 children 7 to 12 years old, with a median age of ≈10 years old. Their aim was to test the internalization of problems when experiencing ostracism. They theorized that children who internalize their problems would experience a greater possibility of a threat to their primary needs in comparison to normal healthy children but that the gap would close when put in the same social situation. What resulted was that those in the ostracism study reported more of a threat to their primary needs than the control group. Normal children started to internalize their problems when their belongingness was threatened, bringing them more on par with children who had already internalized their problems. The reduced belongingness is theoretically further compounded by the child then choosing to avoid "social contexts that may provide critical opportunities to develop adaptive social and emotional capabilities" (p. 44). Boy's and girl's results did not differ according to age, with the correlation of age vs. internalizing problems showing a negative relationship ($r = -0.20$, $p < 0.01$). In regards to the PNQ-C and primary needs post-Cyberball, the results were as follows: belonging – $\alpha = 0.764$; meaningful existence – $\alpha = 0.646$; self-esteem – $\alpha = 0.768$; and control – $\alpha = 0.534$. The internal consistency of the SDQ was $\alpha = 0.64$, with results mirroring the Australian norms for anxiety and depression.

White et al. (2016) conducted two separate studies, testing thirty-six normal 5-year-olds in one, evenly split between males and females, and twenty 4 to 8-year-olds with an anxiety disorder (AD), and fifteen normal children as a control group, who were comparatively similar in age and sex; the control group was tested with the SDQ in advance to determine qualifications. Results for both studies were measured by intentional agents (intentionality) and the amount of mental state language (MSL) used. To measure these two things story completion was used alongside Lego and DUPLO figurines for illustrative purposes; the stories were about the victimization a child might feel due to peer exclusion. It has been determined that great strides are made in the ability to mentalize around 4 years old. Previously, studies have found links between mentalization and the theory of mind. White et al. (2016) asserts that the belief that social inclusion has been necessary for survival for a millennia; now, although society is different, social exclusion still triggers conformity in the general populace in the act of self-preservation.

Through the use of Cyberball, it is found that after experiencing ostracism, there is an increase in imitation of others in order to gain acceptance (White et al., 2016). The prediction in study one being that the characters would be described with more MSL and intentionality by those in the exclusion condition (as opposed to the accidental exclusion condition). It was also predicted that those ostracised would be more likely to include the mental states of victims and perpetrators, identifying more with the victims and showing affiliation in the forms of empathy, affection, sharing, reparation and affiliation between characters. This was coded by White et al. (2016) with each type of affiliation being worth one, for a total of five per study; they were coded based on both victim and perpetrator-directed connection. Coding was also created for MSL focussed on the victim and perpetrator individually. The ANOVA test revealed that the purposely ostracised children were more likely to believe the worst of those they were playing Cyberball with. White et al. (2016) employed an ANOVA, testing condition x time, revealing a robust ($p < 0.001$) connection between the ostracism and victim focussed affiliation.

The second study was designed to test if childhood AD had any correlation with the inability to mentalize due to stress (White et al., 2016). Using a mixed-design, ANOVAs were run pre and post-test for each group. Intentionality ($p < 0.001$) and MSL ($p < 0.006$) decreased in those with AD while increasing in the control group. Using a within-group ANOVA, it was confirmed that there was a decrease in intentionality and MSL in those with AD and an increase in the control group in intentionality. It was concluded that normally developed children mentalize when ostracised. In contrast, children with AD may have a noticeable effect on their ability to mentalize, causing a deterioration in the storytelling and, therefore, impacting their ability to reconnect after being left out.

Marinović et al. (2017) studied sixty-four children ages 4 to 6; half watched videos showing social exclusion, and the other half watched videos with no social exclusion. The researcher placed five mats in a row to suggest seating; when the videos were done, the child played while the researcher put their scarf on a mat at the end of the row. When it came time for the children to choose their spots, the majority of the children in the ostracism condition (mean rank = 27.53) decided to sit next to the researcher, emphasizing this by saying, “Next to You.” In contrast, most of the control group chose the second seat or further away (mean rank = 37.47). It is suggested that the ostracism group chose their seating because the increase in physical warmth increases

interpersonal warmth. The vicarious ostracism that the children experienced triggered the need to get close to someone and connect. Marinović et al. (2017) echo White et al. (2016), stating that needing to belong may be part of our evolution because it used to be necessary as a survival skill.

Hopkins and Branigan (2020) state that physical imitation occurs in children after experiencing ostracism. In this vein, they tried to determine if the same was true for speech styles and vocabulary. To do this, tests were run on 7 to 12-year-olds. Hopkins and Branigan (2020) cite results from previous studies that have been done, akin to the previously mentioned White et al. (2016), suggesting there is an increase in the affiliative behaviour of those who experience ostracism. As our social interactions tend to be linguistically aligned in everyday language, it can not be definitively stated that ostracism will cause an increase in said alignment.

The premise of Hopkins and Branigan's (2020) study was that ostracised children would make adjustments to their language to successfully ally themselves with a peer. Using a Cyberball study, ostracism was induced, and the children were then tested with Lexical Snap. Lexical Snap was used in two studies to measure lexical and syntactic responses. Twenty-nine children were assigned to each condition, similar in age, gender and verbal abilities. The children were then manipulated into feeling ostracised or included. The experimenter was the first to state what something was; subsequently, the child would (theoretically) repeat the non-dominant words (Hopkins & Branigan, 2020). The researchers assessed the children's vocabulary using the KBIT-2 after Lexical Snap. The child's mood was checked pre-test to ensure that it didn't affect the results and post-test to see the change. Using a five-point scale, the children answered questions on mood and inclusion, which were then dropped into a ballot box to ensure that the experimenter remained blind to their condition. Hopkins and Branigan (2020) found Lexical alignment to be significant ($p < 0.001$) based on the experience of ostracism. Syntactic alignment was present, but the children from both conditions were found to be equal in this regard. However, based on the lexical results, Hopkins and Branigan (2020) are led to believe that ostracism will contribute to verbal imitation, not just physical. These actions are taken in the hope of re-engaging with a peer group, even if they are different from the original group, as this reduces the threat to their sense of belonging (Hopkins & Branigan, 2020).

Sandstrom et al. (2017) studied the effects of partial versus complete ostracism via the Cyberball Paradigm. Previous studies along the same lines concluded that ostracism by one player was just as bad as two (Sandstrom et al., 2017). Having an inclusive player did not negate the effects that would otherwise occur with all players ostracising the subject. However, it has been suggested that the more that children participate in said ostracism, the worse the social anxiety; even defence by one person can reduce the severity of symptoms drastically (Sandstrom et al., 2017). Further, prior research found that girls experience more ostracism than boys and, therefore, experience more negative effects. It has been concluded that girls may be more easily hurt by ostracism than boys due to emotional sensitivity and rate of occurrence.

Through two studies on elementary school children between 3rd and 5th grade, 173 with a median age of 9.75 years old in study one, and 838 with a median age of 9.97 years old in study two, Sandstrom et al. (2017) attempted to figure out what the difference is to children when it comes to partial vs. complete ostracism. One study was completed using the full ostracism model, as previously seen. The second study used a varying number of ostracisers, with three players

along with the subject rather than two, to help show whether incremental or group ostracism has more negative effects. In order to try to achieve a more accurate account of ostracism's impact on mood and primary needs a non-aggregated approach was taken.

A MANOVA was run on all of the results. In study one, girls were found to have higher anxiety levels; no other significant differences were found between boys and girls (Sandstrom et al., 2017). Ostracised children showed elevated levels of anger and sadness, and depressed happiness compared to the inclusive group. Primary needs were found to be significantly affected across the board ($p < 0.001$). Study two tested the intensity of the effects based on how many players were ostracising the subject. In this version of the test, boys exhibited more anger ($p = 0.007$) and higher levels of control ($p = 0.041$). The children had a significant ($p < 0.001$) sense of the ostracism they experienced while playing the game. The MANOVA showed significant effects ($p < 0.001$) for all moods except anxiety. The presence of more players acting in an inclusive manner increased the fulfilment of the need to belong. However, even a single-player ostracising had a noticeable effect compared to the inclusion condition. It was also reported that even one player ostracising reduced the subject's self-esteem by a noticeable amount. The apparent collusion of players in the group was also evident to the children. All conditions considered, complete ostracism is the most detrimental to a child's mood and primary needs.

Conclusion

The Cyberball Paradigm has proven to be an effective tool for inducing ostracism for the purposes of study. When a child is excluded by one group they naturally try and make new friends with another group as a survival tactic. Methods that may be employed include increasing physical proximity, verbal and physical imitation, and conformity. While most diagnostic results remained the same between boys and girls, contradictory information about which sex feels more anger was found by Hawes et al. (2012) and Sandstrom et al. (2017). It was stated that previous studies found that girls are the ones who routinely engage in what we think of as classic ostracism by way of freezing someone out; boys, on the other hand, favoured confrontation to shun someone. Girls are perceived as more sensitive than boys when it comes to being ostracised; however, they are also more likely to experience it on a daily basis. Studies have also shown that the quantity of people engaged in the ostracism of a person may be a factor in how detrimental it is to their psyche, with the duration of the ostracism increasing just how long the adverse developmental effects last. Ostracism could possibly be the most harmful of all types of bullying. There is no way to be entirely sure what all the effects are nor what the point of no return is for long-term, lasting effects, but it can be agreed upon that no child should be subjected to this treatment.

References

Chen, Z., Poon, K. T., DeWall, C. N., & Jiang, T. (2020). Life lacks meaning without acceptance: Ostracism triggers suicidal thoughts. *Journal of Personality and Social Psychology*, 119(6), 1423–1443. https://doi.org/10.1037/pspi0000238

Hartgerink, C. H. J., van Beest, I., Wicherts, J. M., & Williams, K. D. (2015). The ordinal effects of ostracism: A meta-analysis of 120 Cyberball studies. *PLoS ONE*, 10(5). https://doi.org/10.1371/journal.pone.0127002

Hawes, D., Zadro, L., Fink, E., Richardson, R., O'Moore, K., Griffiths, B., Dadds, M., & Williams, K. (2012). The effects of peer ostracism on children's cognitive processes. *European Journal of Developmental Psychology*, 9(5), 599–613. https://doi.org/10.1080/17405629.2011.638815

Hawes, D. J., Zadro, L., Iannuzzelli, R., Godwin, A., MacNevin, G., Dadds, M. R., Griffiths, B., & Richardson, R. (2013). Internalising Problems and the Effects of Peer Ostracism on Children's Primary Needs. *International Journal of Developmental Science*, 7(1), 41–45.

He, J., Koot, H. M., Buil, J. M., & van Lier, P. A. C. (2018). Impact of Low Social Preference on the Development of Depressive and Aggressive Symptoms: Buffering by Children's Prosocial Behavior. *Journal of Abnormal Child Psychology*, 46(7), 1497–1507. https://doi.org/10.1007/s10802-017-0382-6

Hopkins, Z. L., & Branigan, H. P. (2020). Children Show Selectively Increased Language Imitation after Experiencing Ostracism. *Developmental Psychology*, 56(5), 897–911.

Marinović, V., Wahl, S., & Träuble, B. (2017). "Next to you"—Young children sit closer to a person following vicarious ostracism. *Journal of Experimental Child Psychology*, 156, 179–185. https://doi.org/10.1016/j.jecp.2016.11.011

Sandstrom, M. J., Deutz, M. H. F., Lansu, T. A. M., van Noorden, T. H. J., Karremans, J. C., & Cillessen, A. H. N. (2017). Unanimous versus partial rejection: How the number of excluders influences the impact of ostracism in children. *Aggressive Behavior*, 43(2), 190–203. https://doi.org/10.1002/ab.21674

White, L. O., Klein, A. M., von Klitzing, K., Graneist, A., Otto, Y., Hill, J., Over, H., Fonagy, P., & Crowley, M. J. (2016). Putting Ostracism into Perspective: Young Children Tell More Mentalistic Stories after Exclusion, But Not When Anxious. *Frontiers in Psychology*, 7. https://doi.org/10.3389/fpsyg.2016.01926

Zadro, L., Hawes, D. J., Iannuzzelli, R. E., Godwin, A., MacNevin, G., Griffiths, B., & Gonsalkorale, K. (2013). Ostracism and Children: A Guide to Effectively Using the Cyberball Paradigm With a Child Sample. *International Journal of Developmental Science*, 7(1), 7–11. https://doi.org/10.3233/DEV-1312112