Summary Gender Differences in Aggression: A Current Review of Empirical and Theoretical Studies

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Aggression could be defined as a behaviour that is expressed with intent to harm, injure, or exploit another person. Aggression is a dynamic, multi-faceted phenomenon that is important from an individual, social and universal point of view, which needs to be elaborated in terms of causes, consequences, determinants, and forms of exhibition. Numerous researchers from different disciplines such as psychology, anthropology, psychiatry, biology, etiology, health sciences, genetics, education, law, and sports sciences have been carried out studies on the relationship between aggression and many variables.

Gender is the most researched variable in the relationship with aggression. Although the universal stereotype of "men are more aggressive (especially physically) than women" has been confirmed by many studies, it is clear that the relationship between the two variables is not so simple. In this review, the relationship between gender and aggression will be examined based on current researches and meta-analysis. At first, the definitions and classifications of aggression will be emphasized. Then, the relationship between the two variables will be analyzed in light of current research findings. Finally, these findings will be evaluated and discussed within the main theoretical perspectives.

In recent years, it's seen that gender studies are mainly focused on gender similarities rather than gender differences ((Else-Quest and Hyde, 2018). According to Else-Quest and Hyde (2018), there are more similarities between women and men than differences. The few gender differences supported in their research can be listed as follows; men have more positive attitudes toward casual sexual intimacy, they have higher levels of physical aggression than women and masturbate more than women.

For a long time, research findings revealed that gender is the main predictor of aggression and violence, confirming gender stereotypes. However, aside from all these research results, with the introduction of the term "indirect aggression" into the literature, it is seen that the findings began to differentiate. Thus, the belief that "women are less aggressive than men" has been replaced by the view that "women show different types of aggression" (Björkqvist, 2018).

According to Björkqvist (1994), there are three forms of aggressive behaviour: direct physical aggression, direct verbal aggression, and indirect aggression. Indirect aggression is a form of social manipulation to harm the victim, as through gossip or manipulating his/her social network, excluding him/her from social groups. Males show more physical aggression than females and females show more indirect and relational aggression than males.

Card and Little (2006) conducted a meta-analysis study including 148 studies on direct and indirect aggression in childhood and adolescence, and, as expected, found that boys had a higher tendency to direct aggression and girls (with only a small difference) tendency to indirect aggression. These differences appear to be a constant, common finding in all studies regardless of the method used (Card and Little, 2006). Another important finding of gender differences in aggression (especially in physical aggression) is the rapid increase occurs in adolescence and young adulthood (Archer, 2009). This can be explained by the relationship between indirect aggression and cognitive development. Österman et al. (1998) found that an 8-year-old child could also exhibit indirect aggression, but 15 years-old girls can develop a more complex strategy for indirect aggression than younger children.

On the other hand, research showed that when questioning the relationship between gender and aggression, it is necessary to take into consideration the fact that the answer will vary according to "the type of relationship between the target and the source (actor and

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victim) ", "the type of aggression" as well as the "gender of the target".

There are major theories that attempt to explain the relationship between aggression and gender. Based on the literature it is seen that the efforts to explain the relationship between the two variables are mostly based on the genetic and evolutionary, biological, social learning, and social role theories.

Evolutionary psychologists argue that societies where men are physically stronger, aggressive, and brave, and women are fertile and caring, prevail over the natural selection process (Fine, 2011). According to this approach, biological structures of men and women have evolved; this is manifested by the fact that men are brash, brave, and prone to violence and women are more brittle, graceful, maternal, and nutritious by nature.

Archer (1991) conducted three separate meta-analysis studies and concluded that there is a weak positive relationship between aggression and testosterone levels. In a meta-analysis of forty-five studies, Book et al. (2001) also found that this weak positive relationship. Another hormone thought to be associated with aggression in men is cortisol. Similarly, oxytocin, which is thought to be associated with trust and proximity, is associated with aggression, and if this hormone is low, an increase in aggressive tendencies is observed. However, the findings of studies dealing with the relationship between both hormones and aggression are quite contradictory (LaPraririe, Schechter, Robinson, & Brenn, 2011).

On the other hand, it is claimed that the prenatal hormonal environment is the most important determinant of gender differences in behaviour (eg, Björkvist, 2018; Fussell, Rowe, and Park, 2011). The 2D: 4D finger ratio (ratio between the length of the index finger and the ring finger) is reported to be related to the hormones exposed in the womb. It is suggested that there is a high positive relationship between physical aggression tendency and low 2D: 4D in men (Bailey and Hurd, 2005). Van Goozen (2005) states that the effects of biological and hormonal factors on human behaviour should not be evaluated as "deterministic". The environment and culture can transform biological behaviour by rewarding, punishing, ignoring, reducing, and increasing the frequency of the behaviour (Reinisch and Sanders, 1992).

According to social learning theory, aggression is learned from parents, other authority figures, peers, and media through observation, modeling, imitation, rewarding, and reinforcing (Bandura, 1978). This theoretical perspective focuses on the factors that initiate, trigger, and sustain aggression in humans (Snethen and Puymbroeck, 2008). From this point of view, it would be more appropriate to consider gender differences in aggression as gender differences in the validation of aggression (Huesmann and Guerra, 1997, p. 409). Modeling plays a fundamental role in learning aggression. Observation allows the individual not only to learn the modeled behaviour but also to produce and display more innovative versions of this behaviour. Thus, we can explain that physical aggression levels of men and indirect aggression levels of women are higher than the opposite sex, not by genetics, but by modeling and identifying parents of the same sex. On the other hand, according to Social Role Theory, as in all social behaviours, gender differences in aggression are based on the roles of men and women (women work at home, men work outside the home) (Eagly, 1987).

Eagly et al. (Eagly and Crowley, 1986; Wood and Eagly, 2002) argue that gender-related social roles guide aggressive behaviour. Therefore, gender differences in aggression can be considered as a result of the relationship between aggression and socialization (Richardson and Hammock, 2007, p. 418). Many researchers argue that aggression is learned in the socialization process as an extension of the masculine gender role orientation. According to Eagly (1987), in the process of gender role socialization, aggressive tendencies of boys are supported and girls are restricted.

On the other hand, the meaning attributed to aggression by men and women, the differences between the reasons for displaying aggression (underlying motivation), and their attitudes towards violence were, of course, the main underlying factors of the observed differences in aggression. For this reason, these differences should be evaluated and examined together with the current studies on the mentioned subjects. Whether there are gender differences in terms of new types of aggression (eg., cyberbullying), especially with the widespread use of social media, and the fluctuation of this situation according to the stages of development are highly up-todate issues that need to be addressed.

Besides, in general, it is clear the effective role of the culture is on human behaviour. Although meta-analysis studies provide evidence that this difference is universal, it is of utmost importance to carry out contemporary intercultural studies in this area.

In general, it would not be wrong to say that the differences between men and women are largely the result of the social roles, which are prescriptions describing appropriate behaviour. The gender stereotypes and expectations of gender roles appear to be the main determinants of the aggression tendency between men and women. So perhaps the way to break this it is important to emphasize that the tendency of aggression is incompatible with both femininity and masculinity. The "ideal" situation in which aggression and violence are subtracted from gender stereotypes and gender role expectations without any gender discrimination seems to eliminate this difference to a large extent.

As a result, instead of answering "yes" or "no" to the question of whether gender is a determinant or predictor of aggression, considering the picture as a whole; under which circumstances, which type of aggression may differ from what kind of motivation, is a more.