

## Gender, Cognition, Emotion and Motivation

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### ABSTRACT

The terms sex and gender have been used interchangeably not just colloquially but in the field of research and literature as well. Only recently attempts have been made to understand the terms as distinct from each other. Gender has been considered dichotomous for an extended period, and psychologists, when studying gender differences, have focused on men and women only. However, we understand today that gender is not binary and neither synonym for sex. Gender can be understood as the psychological, behavioural, and social characteristics of the individual, whereas sex refers to their biological aspects (Pryzgoda & Chrisler, 2000). In 1955 (Money & Ehrhardt, 1972), a distinction between sex as a biological construct and gender as a social construct of an individual was made. The relationship between gender, cognition, emotions, and motivation is crucial to understand the experiences of individuals of various genders. It helps clinicians understand the life experiences of their clients based on which gender group they identify with, along with the influence of their gender identity on their cognitive, emotional, and motivational processes. This paper attempts to explore and understand the existing literature on gender as a separate phenomenon from sex.

**Keywords:** *Gender, Cognition, Emotion, Motivation*

Gender as a term has been interchangeably used with sex for a long time. Colloquially and professionally, these two terms have been considered to mean the same. Various researchers (Parker, 2016) attempt to study the gender differences in phenomena. However, when looked at the research carefully, they have studied sex differences as the only distinction made between the two groups is based on their biological sex and not the socio-cultural gender role. However, there exists a distinction between the two. Gender can be understood as the psychological, behavioral, and social characteristics of the individual, whereas sex refers to their biological aspects (Pryzgoda & Chrisler, 2000). These words have been used as synonyms for a long time. Therefore, an individual born as male (sex) has been considered a boy or a man (gender) and a female as a girl or a woman. This understanding of an individual's gender has also lead to the understanding of their sexual orientation in a dominantly heterosexual society. In 1955 (Money & Ehrhardt, 1972), a distinction between sex as a biological construct and gender as a social construct of an individual was made.

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Gender has been considered dichotomous for an extended period of time, and psychologists, when studying gender differences, have focused on men and women only. However, we do understand today that gender is not binary and neither synonym for sex. An individual born as male (sex) can have a gender identity of a woman as gender is a social construct, whereas sex is a biological one. Many individuals identify with the gender assigned at birth according to their sex; however, not all. The gender identity of an individual is their sense of self (World Health Organization, n.d.). There are different societal expectations and gender roles that are expected of an individual based on the gender they identify with. There is a possibility that people do not identify with the binary social gender identities of man and woman; hence, the term gender fluidity (Parker, 2016) is used to describe all these various possibilities. Man and woman are two among the various gender identities that people may identify as.

Every society and the world at large have a set of social roles and expectations from the identified gender of an individual. Conventionally women have been assigned the role of a homemaker, and child-rearing is expected of them. Similarly, men have been assigned the role of breadwinner, and the entire family's financial responsibility is expected of them. These gender roles and expectations may seem outdated today; however, in essence, they are still rigidly instilled in the minds of people. Through time, these roles and expectations have modified to a great extent but continue to exist. Moreover, each individual is expected to identify with one of the two gender roles. For many years in most nations, only the binary gender was considered normal and acceptable. All other gender identities were thought to be deviations from the social norm. The social norm provides individuals with a limited choice between the two genders, rather than expanding the categories.

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These distinctions in the social roles of men and women also lead to research (Mosedale, 1978) in the field of differences between them on various phenomena. Men were considered to be superior to women as women were limited in their role as a caregiver of the family while men took up the financial responsibility of the household along with the major decision-making. Researchers (Richardson, 1997) began to study the differences between the genders based on their cognitive abilities to establish these roles with concrete evidence. An understanding of the greater cognitive and intellectual abilities of men would help in the justification of the subordinate role of women in the home and society. The study of intellect and cognition began by studying the differences between the structure of the brain of men and women. The frontal lobe in women was found to be smaller than that of men (Walker, 1850). There was a common assumption that the male brain was larger in size when compared to the female. By the 1800s (Mosedale, 1978), researchers had also proven this with substantial evidence. These findings encouraged the common understanding of the inferior ability of women due to a smaller brain size.

Despite these findings helping researchers to establish the inferior role of women based on the size of their brains, they failed to justify the intellectual superiority of humans when compared to other animals with larger brain sizes. Therefore further research was required to gain a clear understanding of these gender roles. The smaller size of the brain was later attributed to the smaller size of the female body. Research continued in the field of cognition to understand gender roles and differences in intelligence based on the surface area of the brain, the number of convolutions in the brain (Mosedale, 1978), the body size (Packard and Boardman, 1988), the brain weight (Haller & Haller, 1974) and so on. A few researchers like Mosedale (1978) and Ankney (1992) also found evidence relating to female superiority

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in terms of intellect, contradictory to popular belief. However, no concrete conclusion was found regarding the intellectual differences between the genders.

Differences between women and men have been found in the structure of their brains, the size, and the body; however, no significant evidence has been found that translates these differences into differences in cognitive ability. Most of the research mentioned earlier, in their attempts to focus on differences between these groups, failed to study the within-group variations. Most of these studies on cognition focused on sex differences rather than gender differences as they attempted to identify the biological differences between the genders. It has been understood that cognitive abilities do not differ based on sex, but there exist individual differences. Within-group variations are bound to exist due to the individual differences in ability and functioning. The differences in psychological variables between genders, if found, are negligible (Anderson, 1987). Individual differences in their cognitive functioning could either be a result of their socio-cultural experiences or biological processes (Richardson, 1997).

Evolution also plays a significant role in these differences as the social environment of individuals shaped their abilities and functioning. Evidence suggests that men tend to perform better in tasks related to spatial abilities (Buss, 1995). This has been attributed to their early behavior of hunting, which could have shaped this ability. Women also developed spatial abilities while gathering food and taking care of the children. Such social experiences helped individuals develop various abilities, and differences in these can be attributed to the differences in their social experiences. As these functions were shaped due to the social experiences, abilities of no gender can be said to be superior to the other. Most gender differences in cognitive abilities are not noticed until adulthood (Unger, 1979). The differences between men and women on spatial abilities or mathematics are not evident until adulthood. A possible explanation that these differences are not manifested in childhood or adolescence could be that they are not based in the biological nature of individuals but instead are based in the socio-cultural experiences of the individual.

Theories of superior spatial abilities in men have argued a biological basis to it. The influence of hormones has been said to cause the differences. Some studies (Sanders and Ross-Field, 1986) have also been conducted on homosexual men that state that certain feminine hormones are responsible for an individual's cognitive abilities and sexual orientation. Therefore, the performance of homosexual men on spatial tasks was considered inferior and similar to heterosexual women compared to that of heterosexual men. However, as per such an explanation, homosexual women should then have superior spatial ability than heterosexual women due to the masculine hormone. However, no such evidence was found (Gladue et al., 1990). This helps us form a clear understanding of the psychological and environmental influences on cognitive ability rather than a biological basis.

A meta-analysis of research on gender differences in cognition (Hyde & McKinley, 1997) concludes that there are significant gender differences in cognition. In terms of verbal ability, the gender differences are minimal and insignificant. However, more boys exhibit difficulties in verbal functioning than girls, as girls perform better in speech production. No gender differences were found in mathematical and problem-solving abilities. There is a small difference in science achievement where boys score slightly higher than girls. This variability differs with different areas of science-biological sciences and physics. However, fewer girls tend to opt for mathematical and science courses in high school and beyond,

which can explain boys' better test scores in adulthood. In terms of spatial abilities as well, no gender differences were found.

### *Gender and Emotions*

It is widely known and believed that men and women differ in their emotional expression. Across various cultures, a strong stereotype exists about women being more emotional than men (Timmers, Fischer, & Manstead, 2003). It is believed that women tend to experience and express emotions more intensely and widely than men. Men are considered to be constricted in their emotional expression. This stereotype is also specific about the different emotions that commonly tend to occur in the two genders. Pride and anger are more commonly occurring in men, whereas a broader range of emotions, including happiness, guilt, sadness, surprise, etc., seem to occur in women (Hess et al., 2000). However, the stereotype is based on emotional expression rather than experiences (Plant et al., 2000) and is also corroborated by research (Kring and Gordon, 1998). Such a stereotype does not take into consideration the individual's personality and other social and cultural factors. Individual differences can be present in the manner individuals experience and express their emotions along with the situation and context.

While ignoring the socio-cultural factors, such stereotypes tend to propagate a biological origin to it (Brody & Hall, 2008). Invariably, this makes the stereotype even stronger as people tend to take it as a fact rather than a generalization. They tend to believe that these gender differences in emotional expression are rigid and exist biologically. They tend to form expectations from their own gender and the opposite gender based on these stereotypes, which might be false. Such expectations can lead to false assumptions and cause interpersonal issues in relationships. Moreover, it also tends to set social norms and standards that individuals are expected to follow in society. When an individual does not uphold these false beliefs and stereotypes, they might be victims of bullying, judgment, discrimination and can be face rejection from others in society. For example, men are infamous not to shed tears, which seems to be a product of such a stereotype. This belief subjects a lot of boys and men to the undue pressure of not expressing any other emotion apart from anger.

According to research (Simon & Nath, 2004), women view themselves as emotionally expressive. As compared to them, men have a lower belief about their emotional expression. The self-view of individuals as observed through self-report measures about emotional expression, even though generalized, does prove the stereotype to be somewhat true. The positive emotions that women tend to report more frequently and intensely are warmth, joy, affection, and love (Fischer & Manstead, 2000). Emotions like anger, disgust, sadness, hurt, vulnerability, anxiety and shame that are considered negative are also reported more intensely by women than men (Fischer et al., 2004). According to Lennon & Eisenberg (1987), women also tend to experience empathy and sympathy towards others greater than men. They tend to report more positive emotions in the context of their intimate relationships, and men tend to respond to conflict in their relationships by stonewalling. Women view their interpersonal relationship with their partner as producing more positive emotions in them. Whereas, in a more general context, they tend to report significantly less positive emotions than men (Simon & Nath, 2004). Men usually tend to withdraw from their partner and restrict their emotions whenever a high stress situation arises (Vogel, Wester, Heesacker, & Madon, 2003).

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Men and women do differ in their emotional expression, but this results from their social and cultural environment, not their biological makeup. Despite the widely held belief that men tend to get more angry than women, Simon and Nath (2004) found that men may express their anger intensely using various modalities, but there are no gender differences in the experience of anger between men and women. Women may actually experience anger more intensely on some occasions and also report having greater experience of enduring anger. However, the experience of anger in women is different from men as they are socially and culturally not encouraged to do so. Therefore, they tend to respond to anger-inducing situations by feeling disappointed and hurt (Brody, 1993). Expression of anger is followed by the feeling of shame (Kring, 2000), as it is not socially acceptable or appropriate for women to express anger.

These social beliefs affect people's self-concept and also their retrieval of emotional memories. Women tend to remember their memories in a more emotionally gender-based stereotypical manner than they actually were (Robinson and Clore, 2002). Even if they had not experienced emotions in a stereotypical manner, they are more likely to retrieve them in this manner at a later point in time. As compared to men, women encode emotional experiences in a more detailed manner (Seidlitz & Diener, 1998); therefore, they also retrieve them more intensely and add to their belief in the gender stereotype. Except for anger, all other emotions are expressed more clearly through their facial expressions by women, whereas anger is expressed more clearly by men (Hall, 1984). Women not only express emotions better but also perceive, understand and manage them in a better manner (Day & Carroll, 2004). In terms of emotional management and regulation, men tend to show externalizing behaviors, and women tend to internalize. Men suppress their emotions and focus on problem-solving, whereas women tend to find social support and ruminate about it while remaining passive (Cramer, 2002). However, emotional regulation strategies also differ with different emotions. Women have greater control over managing anger and disgust while men have it on surprise and fear (Matsumoto et al., 1998). Nevertheless, both men and women are more comfortable disclosing and sharing emotions with women (Timmers et al., 1998). Along with gender, other factors like culture also influence an individual's emotional expression.

### ***Gender and Motivation***

Social and cultural factors play a vital role in the level of motivation of an individual. Gender differences have been observed in levels of motivation and are attributed to the environment of individuals. It has been observed that boys seem to be more motivated and achievement-oriented from their early childhood. They have better scores in most academic tasks in school relating to science and mathematics. They do go on to take up much more professional roles based on their professional degree, while women are less likely to make use of their professional degrees. However, it is to be noted that until elementary school, there seem to be no significant gender differences in motivation and achievement (Meece, Glienke, & Burg, 2006). Girls seem to actually score better and get better grades in school than boys, even until secondary school (Downey & Yuan, 2005). More women tend to take up professional degrees in mathematics and science in high school (NCES, 2005); however, they tend to dislike their studies (NCES, 2004). These gender differences seem to vary depending on the ethnic, cultural, and socioeconomic identity of the individual (Corbett et al., 2008). Men receive much more encouragement and support when compared to women across cultures. This is more prominent in some cultures and less likely in others. However, this does affect the motivation levels of women across the world.

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Since these differences in motivation levels are apparent since childhood, child-rearing can play a significant role in influencing it. The attitude of parents and teachers alike can be a source. Parental attitudes, expectations, and beliefs shape the child. They gain their knowledge about their own abilities through their parents. Parental support and guidance help individuals gain knowledge and learn as they tend to be the role models. There is a lot of parental influence on individuals' motivation (Jacobs & Eccles, 1992). An individual's beliefs about their abilities and self-efficacy are significantly influenced by their parent's beliefs and perceptions about it (Bleeker & Jacobs, 2004). Gender differences in motivation can therefore arise due to gender-specific views of parents about the abilities of men and women. When parents have a biased view of the world and gender roles, they tend to pass that on to their children. These views affect the individual's motivation as it leads to low efficacy in girls regarding male-dominant tasks, therefore low levels of motivation for those tasks. In contrast, boys tend to feel motivated as parents show a greater belief in their abilities. Children's activity choices (McHale et al., 2004) and later their career choices (Coley, 2001) are also influenced by this parental stereotype about gender roles.

Another factor that influences adult motivation is the individual's early social environment. Children usually spend most of their waking hours at school. They observe a microcosm of the bigger world at school and learn from these observations and socialization processes. Gender differences in the environment seem to be very evident at school not only through the staffing pattern but also through stories and other information that is made available to them. Most of the teacher staffing in schools is female, while the administrative staff and a few subjects such as science teachers, are male (Weiss, Banilower, McMahan, & Smith, 2001). This gives students the opportunity to learn gender roles through observation and apply them to their life. Therefore, girls are motivated to take up roles that are nurturing and caring, which is evident from their play, and boys are motivated to take leadership roles and express competitiveness in their play patterns. Like parents, teachers may also exhibit a gender-stereotypical view of achievement (Meece et al., 1982), which is evident in the patterns of interaction in the classroom and might influence the students. Teachers' warmth and encouragement towards students tend to be biased by their perception about the students' potential for achievement (Brophy & Good, 1974). This invariably tends to influence the child's level of motivation due to the positive feedback and external motivation that they receive. Unfortunately, teachers are influenced by the gender roles of society and tend to encourage these roles. Culture and ethnicity also play a major role in creating gender differences in motivation due to culture-specific gender roles. However, the gender differences in motivation seem to be decreasing with the changing gender roles (Meece, Glienke, & Burg, 2006).

## CONCLUSION

The relationship between gender, cognition, emotions, and motivation is crucial to understand the experiences of individuals of various genders. It helps clinicians understand the life experiences of their clients based on which gender group they identify with, along with the influence of their gender identity on their cognitive, emotional, and motivational processes. As mentioned in this paper, research in this area brings into light the interaction of culture, society, and gender roles. These interactions tend to shape various psychological phenomena in an individual, which seems essential for psychologists to understand for them to help their clients make sense of their own world. However, most of the research highlighting gender differences focuses on men and women, only disregarding the other existing gender identities. A more gender-fluid study would help understand the gender

identities of individuals and the impact of that on cognitive, emotional, and motivational processes.

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