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**The Relationship Between Masculinity, Depression, Anxiety and
Male-Pattern Baldness**

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Abstract

The relationship between masculinity and mental disorders has become an area of study in the psychology of men. Masculinity in men has been associated with a cyclic pattern of depression related to maladaptive coping to masculinity. Restrictive emotionality, frequently associated with masculine gender roles, has been associated with anxiety. Further, a large body of research demonstrates that hair loss (balding) in men has been associated with depression and anxiety which may come about through its impact on a man's sense of masculinity. Angulo (2013) identified three types of masculinity: emblematic, sports, and aggressive. The purpose of this study was to examine the relationship between the three types of masculinity, baldness, depression, and anxiety. It was hypothesized that baldness would predict depression and anxiety in a positive direction, emblematic and sports masculinity would predict them in a negative direction, and aggressive masculinity would predict them in a positive direction.

Participants were 189 self-identified heterosexual and homosexual men who completed an online survey measuring the variables in question on a Likert scale. Two multiple regressions were performed on the data with depression and anxiety as the dependent variables. The four independent variables were the three types of masculinity and baldness. The regression model for depression was significant, $F(4,184) = 8.984, p < .000, R^2 = .145$. The two significant independent variables were: sports masculinity and aggressive masculinity. The regression model for anxiety was significant $F(4,184) = 5.75, p < .001, R^2 = .092$. The two significant independent variables were: sports masculinity $\beta = -.054, p < .001$ and aggressive masculinity $\beta = .132, p < .001$.

The hypotheses were partially supported. Possible explanations for the lack of prediction of baldness may be a restricted range of scores of baldness or poor measurement with the Likert scale. The lack of relationship of emblematic masculinity with depression and anxiety suggests that emblematic masculinity consists of masculine characteristics that are independent of these psychological states. As predicted, sports masculinity predicted depression and anxiety in a negative direction and aggressive masculinity predicted them in a positive direction. A sense of masculinity associated with sports appears to be a buffer to depression and anxiety. This buffer may be due to the social component or to the physical activity itself. The positive relationship between aggressive masculinity and depression and anxiety is consistent with the literature on the negative effects of poor adjustment to the masculine role model and restrictive emotionality. The results suggest that the study of masculinity may be enhanced by examining its various components which may exert different influences on male psychology.

The Relationship Between Masculinity, Depression, Anxiety and Male-Pattern Baldness

Masculinity

Masculinity is a complex concept that has many definitions. For the purpose of this study, three major concepts will be used: 1) stereotypical masculine traits, 2) dominant or hegemonic masculinity, and 3) gender role socialization. Currently, there is interdisciplinary agreement that masculinity is not an assigned set of roles or a fixed identity, rather it is a socially established facet of identity that has developed as a function of norms and expectations within specific historical and cultural contexts that produces multiple and diverse masculine identities (Connell, 2005). Masculinity develops at the intersection of a series of interrelated social patterns including psychological, interpersonal, political, economical and linguistic patterns (Falmagne, 2000). A great deal of current research in the psychology of masculinity is concerned not with the variability between actual gender norms or categories (Mahalik, Talmadge, Locke & Scott, 2005).

Stereotypical masculine traits.

Masculinity can be generally defined as a stable set of qualities, characteristics, and or roles that are usually assigned to males (Hearn, Blagojevic, & Harrison, 2013; Van Hoven & Hopkins, 2009). Furthermore, masculine ideologies are beliefs about what are acceptable and unacceptable behaviors for men as well as beliefs about what it means to be a man (Pleck, Sonnenstein & Ku, 1993; Thompson & Pleck, 1995). According to traditional Western masculinity, manliness is demonstrated through being able to take care of one's needs, being healthy, strong, placing an emphasis on competition, belief in the weakness of women and a hatred of homosexuals (Levant & Gini Kopecky, 1996;

Malcher, 2009). In addition, traditional masculinity in the modern era is signified by participating in risk taking and violent behaviors (Austad, 2006; Mast, Sieverding, Esslen, Graber & Jamcke, 2008) and taking up poor health seeking habits (O'Brien, Hunt, Hart 2009; Galdas, Cheater & Marshall, 2005).

These ideal traits or ideologies of masculinity are manifested differently for men in different life stages, ethnicities, social cultures and regional groups (Levant & Pollock, 1996; Harper & Harris, 2010). These masculine ideologies are greatly affected by society and culture, and therefore social and cultural changes impact people's knowledge of roles in social, interpersonal and personal contexts (Wade, 2015). Masculine ideals begin at a young age and certain sex-typed behaviors are reinforced in young boys and girls. (Fagot, Rodgers & Leinbach, 2000). Young people tend to create discussions about gender roles and sexuality that usually differ from traditional masculine norms (Buchanon-Aruwafu, Maebiru & Aruwafu, 2003). It is possible that because of globalization affecting communication systems influencing the culture of sexuality, young people may define sexuality and gender roles differently (Grunseit, Richters, Crawford, Song & Kippax, 2005).

Because of the many factors involved, masculine self-identification can be a complex problem. The complexity of the problem has caused many men to face confusion regarding what masculinity means to them and to question whether or not certain masculine ideals may best be manifested in moderation. Some research has indicated that in the Western world young men are particularly confused about what masculinity means to them (Lottes & Alkula, 2011). A study in England using young boys as a sample suggests that there may be an ideal for masculinity (or masculine

ideology). Too much masculinity and the boys were unable to express their emotions or to seek help but not enough masculinity produced isolation and nonacceptance by peers (Mac an Ghail & Haywood, 2012).

There are individual differences in the development of masculine ideologies. An example of one of these differences is the fact that higher education which may lead men to construct the concept of masculinity and masculine ideologies differently (Courtenay, 2000; Psaki, Ayivi-Guedehoussou & Halperin, 2013). Recently a study published by Johns Hopkins showed that college men associated being respected, being confident, taking responsibility and demonstrating accomplishment with masculinity (Harris & Harper, 2010). This study also noted that men come to college experiencing traditional social norms, but because of the showing of different cultures motivated them to modernize and update their masculine ideals. It's possible that education influences the formation of masculine ideologies as well as culture.

Hegemonic masculinity.

Despite variability in the concept of masculinity among men, but there are some similarities. Although there is variance of masculine identities, some of these identities may be more idealized than others. A particular type of masculinity that is commonly idolized is "dominant" (or hegemonic masculinity) (Connell, 2005). Research in the masculinity field in the past 10 years has mainly shifted to hegemonic masculinity. This hegemonic model describes traditional masculine ideologies as the internalization of cultural beliefs and beliefs about masculinity which then leads all males (boys, adolescents and men) to conform to specific behavioral norms and to avoid other behaviors (Levant et al., 1992; Levant et. al, 1997; Levant & Fischer, 1998). This concept

of hegemonic masculinity has changed gender studies across many academic fields but also drawn criticism (Connell & Messerschmidt, 2005). Hegemonic masculinity has provided the connection between different aspects of research in the area of men's studies, well-known concerns regarding men and boys, sociological models of gender and feminist views of men being the heads of households. Although the notion of hegemonic masculinity is debated, it is applicable to many struggles in violence, politics and families and sexuality.

Furthermore, according to the masculine role socialization paradigm there are individual differences in masculine ideologies that result from different experiences with masculine role socialization, and this leads to relevant differences in affirmations of masculine ideologies (Addis & Maddick, 2003). Masculine norms and masculine ideology follow unique facets of normative masculine ideals. Particularly, masculine ideology refers to culturally and socially defined norms of men's behavior, as well as the internal beliefs about the value of men conforming to these standards (Levant, 1996; Pleck, 1981, 1993). Conformity to masculine norms is defined as the degree to which an individual conforms or does not conform to the thoughts, behaviors and feelings that are standardized through U.S. masculine cultural norms (Mahalik, et al., 2003). Normative masculinity is reflected by both role norm conformity and masculine ideology, parts of masculine ideology usually estimate men's beliefs about the importance of men, and the complying to masculine role norms, whereas measures of role norm conformity measure individual conformity and nonconformity to masculine norms. (Mahalik, et al, 2003).

Connell and Messerschmidt (2005) attempted to reevaluate hegemonic masculinity in a more modern form. Originally, hegemonic masculinity was formulated

in the 1980s and was relevant to debates about the portrayal of men in changing patriarchy (Goode, 1982; Snodgrass, 1977). Eventually, this was condensed into a model of cultural control. However, there was no concentration on the subject of historical change (Connell, & Messerschmidt, 2005). Presently, hegemonic masculinity came to be understood as the template of practice (behaviors) that allowed men's dominance to survive. These hegemonic masculinities came to actuality in specific circumstances and still are open to historical change (Connell & Meserschmidt, 2005).

Conceptions of this "dominant" masculinity in a Western environment contains independence, constrained or restrictive emotionality, rejecting the feminine and strength as primary characteristics (Thompson & Pleck, 1995; Vandello & Bosson, 2013). Furthermore, a high endorsement for the masculine traits is persistently correlated with being controlling and being sexually and physically abusive in romantic relationships (Reidy, Burke, Gentile & Zeichenr, 2014; Flood & Pease, 2009). In the United States, it is possible that some men do not value traditional dominant masculinity, but researchers argue that dominant conceptions of masculinity are an unavoidable part of American life (Courtenay, 2000).

Hegemony is a concept with different domains. There is a complex idea of three levels of hegemony including global(transnational), regional (culture or the nation state). and local (present communities); (Connell, 1995). Even though local levels can establish their own unique rules, they are influenced by global and regional levels (Connell,1995). Some research suggests that hegemonic masculinity preserved power through some ways by participation and understanding of lesser group, rather than directly by domination and therefore, hegemony usually features favorable forms that may be of value to certain

groups (Connell & Messerschmidt, 2005). This suggests that not always does hegemonic masculinity represent dominating lesser groups, but at times hegemonic masculinity can vary slightly from group to group.

Gender role socialization.

Masculine role norms can be communicated through observation, a process known as gender role socialization. Addis and Mahalik (2003) describes in their model how men do or do not conform to masculine norms based upon the understanding the individual has of what Western society masculinity entails and other individual and contextual factors. These gender role expectations are a result of many environmental factors as males are growing up as well as influences of both cultural and social norms in constructing masculine identities and norms (Levant & Pollack, 2003). Better stated, these meanings of masculinities are produced and put into action because of social interaction. This social interaction is the key component for the social construction of masculinity and agrees with traditional forms of gender socialization that produce masculinities in accordance with societal norms (Levant & Polluck, 2003).

Part of gender role socialization, social learning is one of the most used frameworks in psychology for studying gender. Social learning assumes that gender based attitudes, beliefs, and behaviors are learned and acquired through social environments through the processes of reinforcement, punishment, modeling and the learning of gender belief systems (Eckes & Trautner, 2000; Fagot, Rodgers & Leinbach, 2000). Social learning may have a direct effect on how culture influences gender identification. Some researchers believe that biologically we are born male or female, but we only become men or women in a cultural context (Connell, Kimmel & Messner,

1998). Social learning perspective has relied heavily on the sociological construct of roles which are viewed as a certain set of behaviors from specific social positions instead of viewing masculinity as changing roles that are sustained by gender stereotypes, ideologies and norms (Pleck, 1981). Certain social affiliations may affect these sets of social learning behaviors. Social learning may have even more of an impact when applied to specific social affiliations, certain social affiliations and groups greatly reinforce men's dominant masculinity characteristics such as watching or playing sports or being member of a fraternity (Murnen & Kohlman, 2007).

Another way of thinking related to gender role socialization is the social constructivist framework. Social constructionist frameworks are one of the most common frameworks for studying gender outside of psychology (Gergen, 1999; Shotter, 1993). Although they are like social learning frameworks, constructionist approaches have unique differences. Both frameworks place importance on gender being socially constructed instead of qualities existing normally on their own. The critical difference is that compared to social learning, social constructionist viewpoints focus on the many ways gender is constructed at different levels (cultural or individual). Therefore, instead of an individual being a product of behavioral and social reinforcement, men are active beings who build certain definitions of masculinity in certain social contexts.

According to a social constructionist view, masculinities are flexible and they are continually being constructed as men create, label, and strengthen their ideas about what makes them masculine (Connell, 2005; West & Zimmerman, 1987). The social construction of gender exists at many different levels of social organization. An example is sports. They can be viewed as an example of cultural traditions where specific contexts

of masculinity are built through media, advertising and various patterns related to physicality and insensitivity to pain (Messner, 1990; White, Young & McTeerr, 1995).

A main belief in the social constructionist frameworks is that there is no one masculinity, but rather various categorizing masculinities that are constantly being established and contested (Connell, 1995). Therefore, in a social constructivist framework there is no general label of masculinity but rather, White middle-class masculinities, rural African American masculinities and Hispanic masculinities, etc. An example of using this sociological construct is formation of the concept of gender role conflict, by O'Neil and colleagues (O'Neil, Good & Holmes, 1995) to define the psychological consequences of socialization according to restrictive emotionality norms. These restrictive emotionality ideologies place importance on competition, power, anti-femininity, stoicism and physical toughness/dominance and self reliance (Mahalik et al., 2003; O'Neil, Good & Holmes, 1995; Thompson & Pleck, 1986).

Like social constructivist ideals, feminist paradigms view gender as a social development that can exist at multiple levels of social organization including the economic, social, symbolic and institutional components (Falmagne, 2000). The two paradigms also cross disciplinary confines in the social sciences to include historical, anthropological, and psychological perspectives. In Gardiner's book *Masculinity Study and Feminist theory: New Directions* (2002) he explains that feminist perspectives on masculinity focus on the level to which inherent power differences between women and men are fundamental to any study of gender. Gender is conceptualized as a multilevel system that formulates relationships between men and women so that often men are interpersonally, politically and socially dominant.

According to Brod and Kaufmann (1994), there is a difference between the presence of power relations between men and women and the subjective sense of power that an individual male feels or does not feel based upon a given social context. While feminist analyses of gender make the point that as an entire group many men hold positions of power and privilege in society, many men feel individually disempowered. There are two reasons why this may be the case. The first being that members of a privileged group are the least likely of anyone to be aware of this privilege. The second reason why men may feel disempowered is that there are considerable psychological and emotional costs to the consistent striving to maintain positions of power. Lastly, power is not dispersed evenly among all men and a person's social position will affect his subjective sense of power. For example, men experiencing discrimination by other men on basis of ethnicity, race, sexual orientation or socioeconomic class do not have the same resources available as their White, heterosexual upper-class men (Brod & Kaufman, 1994).

Masculinity scales.

The scales utilized in this study were originally conceptualized in Angulo (2014) and feature three scales within a larger concept of behavioral masculinity. These scales have three factors emblematic masculinity, sports masculinity and aggression masculinity. Currently, these scales were used to measure the three above mentioned concepts of masculinity and their relationship with depression, anxiety and baldness.

In summary, masculinity involves three major components of stereotypical masculine traits, hegemonic masculinity, and gender role socialization. Stereotypical masculine traits include the main characteristics and ideologies that Western culture view

as masculine. Hegemonic masculinity is a traditional term for a combined influence of both culture, evolution and individual ideologies on masculine beliefs and behavior. Gender role socialization encompasses environmental and social factors that influence individual differences in masculine ideology.

Evolutionary Perspective

Central to the construct of masculinity is the evolutionary perspective which explains the theory behind sexual selection, parental investment differences, human mating choices, and dominance and aggression. The evolutionary perspective is most closely related to the concept of hegemonic or dominant masculinity, but is the common theoretical framework to all the previously mentioned types of masculinity.

Sexual selection.

Charles Darwin explained that the process of evolution occurs based on the process of natural selection (Darwin, 1859). Darwin also developed a theory of sexual selection (1872), his process of sexual selection includes both intrasexual and intersexual selection. Intrasexual selection involves competition between members of one sex for access to the opposite sex (Darwin, 1871). The second way by which sexual selection could occur is intersexual selection. Intersexual selection is essentially preferential mate choice (Darwin, 1871). Those who have the desired qualities gain mates and those who lack certain qualities lose them. Therefore, evolutionary change occurs because qualities that are wanted in a mate increase in frequency as each generation passes (Darwin, 1871).

Parental investment and sex differences.

In 1972, Trivers presented the idea that morphological and behavioral sex differences are related to parental investment in offspring. The theory of parental

investment holds that in each species depending upon the sex that invested more effort into the offspring, this sex would be more preferential and discriminating when mating and more wanted by the other less investing sex.

For Trivers, parental investment was defined as any investment by one of the parents that benefits the offspring. Usually it is an investment by the parent that increases that offspring's chances of surviving and reproducing at the expense of the parent's inability to invest in other offspring. Therefore, the size of the parental investment is assessed by its negative outcome on the parent's capacity to invest in other offspring. A large parental investment would in turn decrease a parent's capacity to invest in other offspring. Ultimately, according to Triver's (1972) view sexual selection is influenced by the parental investment of each sex on their young.

In any one species, the total number of offspring created by one gender is the same as the total number of offspring created by the other sex. Because of this phenomenon, the sex with the higher level of parental investment is a limiting resource for the lesser investing sex. Therefore, this leads to an increased competition among the lesser investing sex for the access to the limiting resources (Clutton-Brock et al, 1991, Darwin, 1879; Geary, 1998; Trivers, 1972).

Males are usually characterized by competition for mates because in contrast to females, males usually invest very little in their offspring in comparison to females (Darwin, 1871; Geary, 1998; Trivers, 1972). Trivers posits that males almost always invest less in their offspring than females even in monogamous relationships because in most species the male's only actual contribution to the survival of his offspring is his actual sex cells. Whereas in mammals, females are always the limiting resource because

the young are nursed by the mother's milk. The sex that competes tends to be larger, more aggressive and has more morphological characteristics of aggression, an example of this would be large antlers in deer. The sex that is the limiting resource tends to be smaller less aggressive and has fewer morphological characteristics of aggression and is chosen in mate selection leading to signs of physical fitness.

In humans, from the beginning of fertilization male's initial investment is much smaller than females' (Buss, 2007). Because of this difference in initial investment there are sex differences in parental investment. For human males, sexual intercourse may lead to pregnancy, although this may be the only parental investment for males. For women by contrast the same act of sexual intercourse might result in a nine-month investment and most likely an additional offspring for them to care for (Trivers, 1972).

Because of the actual internal gestation and the requirement for postnatal care, this automatically induces in more maternal investment than in paternal investment (Clutton-Brock, 1991; Trivers, 1972). The value of sexual intercourse for a male is always the same for the male because the male does not need to invest any resources to have sexual intercourse (Trivers, 1972). This may mean that some males may abandon their females after sexual intercourse because the male is investing less time and energy than the female. Natural selection may explain this because it would likely support raising the offspring alone to decrease the losses (Trivers, 1972). A relationship between mate competition and the rate of reproduction has been noted. For example, it was found that the sex with the high potential rate of reproduction fights more intensely for mates than the sex with the lower reproductive rate (Chuard, Brown & Grant, 2016).

A research study conducted tested Trivers' theory that individuals who face higher levels of parental investment will be increasingly picky about their mates (Woodward & Richards, 2005). These researchers considered mate choosiness in five different types of relationships representing increasing levels of parental investment. These relationships ranged from a single mate with a low investment to a marriage with a relatively high investment. Results of this study supported the notions of Trivers' parental investment model for humans. Most notably, that women expressed much higher overall levels of choosiness than compared to the men, as men have lower levels of parental investment (Woodward & Richards, 2005).

Female mating choice and masculine traits.

Much research on human mate perspectives supports the theory of evolution in human mate selection in both males and females. Research more recently has focused on female mate selection (Lee & Zietsch, 2011). One topic under popular in the research is the male qualities and what women prefer in both short and long term mates (Buss, 1989). Many studies have sought to find out the extent to which different environmental factors affect women's mate preference (Moore, Cassidy, Law Smith & Perrett, 2006). In general, research has shown that women prefer "provider" type characteristics from men as well as typical dominant traits such as the ability to ward off enemies. In Buss's original study in 1989 which was one of the initial cross-cultural studies women's mate preferences included: humor, athleticism, wealth, career, and education. Many replications of this original study have been conducted all with similar results on women's preferences in mating (Chang, Wang, Shackelford, & Buss, 2011b; Shackelford, Schmitt, & Buss, 2005). Recently researchers have observed other male

characteristics that women seem to gravitate towards. These characteristics were those generally associated with being a good father such as: being kind hearted, loving, the willingness to stay home (Li, Valentine & Patel, 2011).

As mentioned previously, one of the most important choices for any female involves the choosing of good genes to pass along to ensure the success of a female's offspring (Trivers, 1972). Favorable genes are designated through specific behavioral and physiological characteristics that are usually expensive to their male carriers and are generally only useful for attracting mates (Zahavi, 1975). These symbols of desirable genes in animals could mean risk taking behaviors, bright colors or any other characteristics that allow males to be more successful in reproducing with females and therefore being able to pass on their genes (Andersson, 1994). For human men these characteristics could be represented in many stereotypical and nonstereotypical masculine traits: humor (Kaufman, et. al, 2008), a strong jaw line (Penton-Voak et al., 2001), a deep voice (Collins, 2000), muscularity (Scheib, Gangstad & Thornhill, 1999; Thornhill & Gangstad, 1999) and the ability to take risks (Kelly & Dunbar, 2001).

Females choose males based upon many different characteristics and one of these is the amount of resources that the mate has available to invest in his offspring (with some individuals being wealthier than others) (Marlowe, 2003) This characteristic of resource availability has become a popular objective in female choice and this quality makes a mate memorable to both the male and the female (Berglund, Bisazza, & Pilastro, 1996). In addition, males are constantly competing over the areas where females eat and reside (Anderson, 1994). In the human species females are drawn to success, wealth and generosity (Huberman, Loch & Onculler, 2004). There are additional stereotypical

masculine characteristics like competitive personalities (Johnson, Burk, & Kirkpatrick, 2007) and aggression symbols and behaviors (Chen & Chang, 2015) that women gravitate towards. From a biological perspective women are also programmed to protect their offspring and themselves against other predators and or any other dangerous situation they may encounter (Buss & Schmitt, 1993). It is not just the ability to be protected that is a favorable trait by women, but rather women want a mate that is an adequate provider of resources (Valentine et al., 2014).

Although traditionally women have invested more in their children than men, recently there has been evidence suggesting that women are evolving to consider fathers who contribute and help raise offspring which likely came about from pressure regarding co-parenting (Hardy, 2009). This is a new recent example of how evolution can shape male behavior and then which characteristics the female chooses to search for in a partner. Overall modern characteristics such as fathers who partner in parenting, and being a nurturing partner are all part of a modern woman's mate preferences (Li, Bailey, Kendrick & Linsenmeier, 2002).

Male dominance and aggression.

Dominance is a stereotypic characteristic of masculinity that has evolutionary underpinnings. The desire for dominance and power is an integral part to both hegemonic and other types of masculinity based in evolution and refers to a male's desire to control others to gain a sense of status for himself and for society (Levant, et. al, 2010). This status and power greed has an evolutionary relation to testosterone and has men traditionally focusing on obtaining and keeping status and power in relationships, especially those with women, in addition to a desire for power and the need to control

others. This power greed even consists of a willingness to distrust others or to manipulate them for this power (Levant et. al, 2010; Malamath et al., 1995). Studies have shown that men who adhere more to this particular masculine norm are more willing to be aggressive to keep their dominant position in society. An example of this would be an increased adherence to the dominance norm which may increase sexually aggressive rage-supportive behavior in combination with other beliefs like the acceptance of interpersonal violence against women (Abbey, Jacques-Tiura & LeBreton, 2011; Anderson & Anderson, 2008; Malmouth et, al. 1995; Rudman & Mescher, 2012).

From an evolutionary perspective, there are also physiological traits that signify social dominance and attractiveness. Facial height to width ratio has recently been greatly researched. Not only does this ratio affect attractiveness, perceived dominance and possible associations with testosterone levels, but it outwardly indicates male dominance and affects perceptions of dominance by the female population (Batres, Re & Perrett, 2015). Interestingly, higher facial masculinity, most notably a stronger jawline is linked to better hand grip strength and overall success in sports (Van Dongen & Sprengers, 2012; Bailey & Hurd, 2005). Males who appear to be dominant are chosen as leaders during conflict and are physically stronger (Little, Burriss, Jones & Roberts, 2007; Fink, Neave & Seydel, 2007). Both masculinity and height are both sexually dimorphic traits that are linked to an individual's physical strength (Kuh, et al. 2006; Van Dongen & Sprengers, 2012). Any trait leading to the perception of dominance is of advantage to a male, because mate value is generally expressed through these desired dominance traits (Perrett et al, 1998).

Dominance also expands outward past physical representations of dominance into social dominance (Keating & Bai, 1986). This social dominance is signified through certain facial cues and outward age (Keating, Mazur, & Segall, 1981). An outward show of pride could be indicative of exhibiting social dominance in males because it is used as a communication for messages to be understood by observers (Elkman, 1992). Another physical characteristic of social dominance that has an evolutionary basis is balding, because balding increases with age and so do receding hairlines in which these become easy indicators of social maturity, age and higher dominance (Muscarella & Cunningham, 1996; Keating, Mazur & Segall, 1981).

A vehicle for male attachment and maintenance of dominance is aggression. Aggression is more common in men than in women (Wilson & Daly, 1985). Usually the reason why aggression occurs is that it has positive or negative adaptive benefits (Conger, Neppel, Kim & Scaramella, 2003). Berkowitz (1993) indicates there are two types of general aggression: instrumental and hostile. Hostile aggression is completed with the intention to cause pain whereas instrumental aggression is completed with the intention of achieving a certain goal. Sexual aggression during mating could be considered an instrumental form of aggression (Berkowitz, 1993).

Researchers in ethology, who study aggression and its relation to evolution in animals, believe that aggression tends to have biological advantages. But in the wild most aggression is displayed by no physical contact but through a display of body size or strength, changes in coloration and other stereotyped signals that indicate power or dominance (Van Staaden, Searcy, & Hanlon, 2011). During sexual selection and mating aggression between males is most common and usually the most healthy and fit animal is

the winner with that individual being given the opportunity to copulate to pass along his genes (Crook, 1972). During times when animals need self-protection or their offspring need protection aggression may also occur (Maestripieri, 1992). Aggression between different groups in the same territory may also occur when arguing over a new and different territory. This territorial aggression may increase gene variability when breeding with new animals adapted to the current environment (Kaplan et al. 1982).

Aggression within groups usually is related to access to resources and mating opportunities. In animals, because males establish the dominance hierarchy, the most aggressive males become the more dominant (Cant, Llop, & Field, 2006). From this context of dominance hierarchy aggression, the definition of aggression is the goal of increasing social dominance in relation to the other group members (Ferguson & Beaver, 2009).

In human aggression, gender has an important role (de Almeida et al. 2015). Multiple theories attempt to explain the differences in male and female aggression. Researchers argue that humans are generally the same as animals in their patterns of aggression; some suggest that social roles (masculinity and femininity) are arising from physically evolved differences (Archer, 2009). Overall research supports that men, age aside, engage in more physical aggression than women who engage in more indirect aggression such as talking behind others backs (Del Giudice, 2015).

In summary, the evolutionary perspective provides a framework from which to view the role of masculine characteristics. Parental investment, female mate selection, and male dominance and aggression all influence the evolution of masculine traits. Parental investment is different depending on the gender of the parent. When female

organisms choose a mate, specific male characteristics will be more salient. Aggression, particularly in males, has many biological advantages and is generally related to access to survival resources and mating. All of the evolutionary components mentioned are possibly important as to background in why men face particular challenges.

Depression and Anxiety and Restrictive Emotionality in Men

Masculinity may influence the risk for and maintenance of depression, anxiety and other health behaviors. Gender differences may be noticed between men and women in the risk for and maintenance of depression, anxiety and other health behaviors.

Recently, the question of how certain masculine characteristics are associated with masculinity has been a focal point of the psychology of men (Wong, Steinfleldt, Speight & Hickman, 2010). Another theory suggests that practices that reduce men's health are often related to masculinity, social power and status (Courteney, 2000). Significant relationships exist between men's restrictive emotionality, masculinity and well-being. Men with higher levels of masculinity display greater levels of restrictive emotionality and higher levels of trait anxiety (Wong, Pituch, & Rochlen 2006). This may suggest more masculine men restrict their emotions a greater proportion of the time which may lead to emotional disorders. Because of gender differences men may require a different viewpoint for the risk for, maintenance of, and the treatment of anxiety and depression.

Depression.

Depression is a topic of concern in college-aged men. In 2012, Wester et al. found masculine ideologies were strongly correlated with psychological distress for both women and men. In Western culture, conformity to masculine norms has been identified as a significant risk factor for depression (Addis, 2008). In a study of young male adults,

masculinity was correlated with depression in addition to suicidal ideation even when controlling for other risk factors (Coleman, 2015). An epidemiological study on depression in men indicated that level of masculinity and anxiety were associated and appear differently in women. In a study of U.S. men, all of whom were diagnosed with depression, these men endorsed feeling out of control, self-blame for being unable to power through depression, extensive secret keeping, and fear of being weak (Heifner, 1997). A more recent study indicated that central to men's experience of depression were: feelings of detachment, guilt, anger, fear and longstanding feelings of isolation (Emislie et al. 2006). In men especially, there can be a cyclic pattern of depression that includes triggers, early symptomology and maladaptive coping to masculinity (Chuick et. al 2009). Culturally, researchers believe that men's depression signifies vulnerability, threatens the power and strength associated with traditional masculinity, and comes with significant stigma (Link et. al 1997; Real, 1997). Furthermore, in Western society depression is believed to be a woman's disorder that requires medication (Riska, 2009). Therefore, experiencing and being treated for depression are undoubtedly unmasculine (Branney & White, 2008; Oliffe & Phillips 2008). Pertaining to treatment, conformity to masculine norms is negatively associated with men's psychological help seeking behavior as well as being more resistant to medication (Seidler et al. 2016).

A study in Canada with college-aged men considered the effects of different masculine ideals on symptoms of depression. Their goals were to determine what underlying behaviors and motivations may be causing depression symptoms in college men. Twenty-Five Canadian men were used for this study, all of whom had previously been diagnosed with depression. The three common masculine themes that emerged

were: the solitary man, the angry man and the risk resilient man. The researchers argued that these are essentially fake masculinities that men create in response to being depressed (Ollife, Galdas, Han & Kelly, 2013).

Nadeau, Balsan and Rochlen (2016) completed a study exploring the many features of depression by examining men's subjective experiences and expressions after experimenter created hypothetical events. There were research questions as follows: Question 1, Whether or not men's experiences are consistent with current diagnostic symptoms using a comparison of imagined and traditional symptoms, Question 2, To identify the role of masculine norms in the experienced and expressed symptoms imagined by men. Will masculinity predict symptoms of masculine type depression? Question 3, Do men who are depressed experience a unique set of symptoms?

In this study participants were presented with one of five potential difficult life scenarios (referred to as stressful life events measure), a hypothetical situation and asked whether or not they would be likely to be depressed afterward. These scenarios were chosen with help from the *Social Readjustment Scale (SRRS)* or *Homes and Rahe Stress Scale* (Holmes & Rahe, 1967). The chosen scenarios included death of a family member, diagnosis with testicular cancer, a request for a divorce by a partner, and an arrest for a DUI. Participants were grouped based upon these responses for effective affective induction. The *Masculine Depression Scale (MDS)*; Magovcevic & Addis, 2008) Conventional Depression was assessed using the *Depression Scale (DEPS)*; Salokangas, Poutanen & Stengard, 1995). This depression scale is rated over a course of a month and symptoms are rated based on a 4-point Likert scale of 0 not at all to 3 extremely. The *Conformity to Masculine Norms Inventory -22 (CMNI-22)*; Parent & Moradi, 2009)

measured adherence to traditional hegemonic masculine norms. Eleven factors were measured: risk-taking, winning, power over women, violence, dominance, pursuit of status and disdain for homosexuals. A 4-point Likert scale was used to determine the agreement with these masculine norms.

Participants consisted of 268 men recruited through an MTurk sample. Participants were also awarded a small amount of money for their participation. After being sorted, based on their answers with a stressful life scenario, everyone was asked if they believed they would experience depression after this event. Participants were then asked to complete the questionnaires (MDS, DEPS and CMNI-22) as if they had experienced the event.

The first hypothesis was not supported. There were no statistically significant results. But of the men who reported they would feel depressed after the hypothetical scenario around 20 percent of these individuals failed to show any symptoms of depression. The second hypothesis was supported in that higher conformity to masculine type norms predicted endorsements of externalizing or masculine type depression. The third hypothesis was supported that men with increased masculinity experienced an exclusive set of symptoms.

Implications of this research suggest that men may experience depression in qualitatively different ways than the traditional view of depression. It also confirms that men may show different behavioral symptoms when they are depressed that are usually related to some type of externalizing behavior such as aggression. These findings support that an important difference exists between an individual man's perception of depression the actual scoring cut off point for a more traditional diagnosis. It is possible that men

with a higher masculine self-concept will under report their depressive symptoms and may experience depressive symptomology differently than those with a lower masculine self-concept.

Gender differences are consistently cited in research that explore relationships between social demographics and health behavior. Some researchers believe that gender role socialization influences men in taking greater health risks (Courtenay, 2000; Harrison, Chin & Ficarrotto, 1992). Traditional masculinity is associated with numerous health risk behaviors including not utilizing preventative health care (Mahalik et al., 2005), violence and aggression (Mahalik, Lagan & Morrison, 2006), and less willingness to seek medical and mental healthcare (Addis & Mahlick, 2003). Throughout history, people tend to be influenced by observation of other's behavior because it leads to ideas of what might be effective behavior (Cialdini & Goldstein, 2004). But, this social observation may contribute to misguidance of men and their medical and mental health.

Furthermore, even in young male teenagers, negative effects of masculine role confirmation can be seen. A study found that even in middle school boys who score higher on a traditional masculinity scale they are more likely to be depressed and have lower levels of academic engagement. This may indicate that even as young as middle school traditional masculine norms are relevant for early adolescents and can affect their academic well-being and psychological well-being (Rodgers, Delay & Martin, 2017).

In 2016, Siedler and colleagues published a systematic review on depression in men and help seeking behavior and how men may experience depression differently. Findings of this review indicated that there were three main effects of men experiencing depression: first, their attitudes towards, attention to and follow through for help seeking

behavior; second, men's symptoms and expression of symptoms; and third, their symptom management. This research suggests that there is not only a difference in help seeking behavior in men, but males who have higher conformity to masculine norms may actually experience depression differently. This gender difference may impact future treatments and interventions in masculine males (Siedler, 2016).

Anxiety.

Historically, conformity to masculine gender roles was identified to be a risk factor for anxiety. The creators of the *Masculine Gender Role Stress Scale* (MGRS) found that higher scores on the MGRS predicted anxiety, poorer health behaviors and anger in men (Eisler, Skidmore & Ward, 1988). These findings suggest that men experience more gender role stress than women and that possible stress appraisal is gender-related.

In addition, many relationships exist between anxiety and man's masculinity. Noel, Lewis, Francis and Mezo (2013) conducted a study exploring gender differences in anxiety and depression symptom clusters and three factors of anxiety sensitivity. The goal of the study was to explore the multi-dimensional and hierarchical model of Anxiety Sensitivity with both men and women. It was hypothesized that physical concerns in symptomology would predict physiological arousal. It was also hypothesized that social concerns would predict social anxiety symptoms and mental concerns would predict both worry and depressive symptoms.

In the above study, some of the hypotheses were supported. In women, mental concerns anticipated symptoms of depression, physical concerns anticipated physiological arousal, and social concerns did not predict any of the four disorder symptom groups (Noel, Lewis, Francis & Mezo, 2013). In men, fear of cognitive or

mental incapacitation and physical concerns anticipated social anxiety symptoms. Additionally, in women physiological arousal was anticipated by physical concerns whereas in men this physiological arousal was anticipated by mental incapacitation. Consistent with hierarchical models of Anxiety Sensitivity, the relationship between worry and ASI subscales did not differ based on gender. Some of the relationships illustrated in the definition of Anxiety Sensitivity were not present in men. In men, it was observed that physiological hyperarousal was predicted by mental incapacitation. Social anxiety symptoms in men were also predicted by physical concerns and mental incapacitation not by publicly noticeable symptoms. Implications of this research suggest that there are differences in symptomology in depression and anxiety in men and women. Particularly notable is the sex differences in physiological arousal (Noel, Lewis, Francis & Mezo, 2013).

Furthermore, for the above study in both sexes, social concerns did not predict any of the symptoms of anxiety or depression and social concerns did not predict social anxiety symptoms (Noel, Lewis, Francis & Mezo, 2013). Perhaps a different scale should be used with better reliability or different social problems are needed to predict social anxiety. This study suggests that men who experience anxiety or depression symptomology probably believe that cognitively aligned symptoms lead to adverse physiological, psychological and social consequences.

Even during high school years gender role formation is important for gender development in young men. Recent research suggests that if these young men feel as though family and peers are surveying their masculinity they are more likely to experience anxiety (Bazinet, 2015). Because of the frustration surrounding others judging

their masculinity they adopt an aggressive sexuality, and emotional stoicism which causes them to experience more anxiety. Further research needs to be conducted exploring gender role formation and adolescence and mental health well-being as an adult.

Restrictive Emotionality.

Restrictive emotionality, broadly defined is difficulty with emotional communication in the form of emotional inexpressiveness. Restrictive Emotionality has become a popular topic in men's health in recent years because of its effect on men's mental and physical health (O'Neil et al. 1995). Because restrictive emotionality is a new construct, research is still being conducted on what defines this concept. Wong (2006) and colleagues confirmed that restrictive emotionality was positively associated with a negative mindset towards emotional expression and difficulty identifying feelings. With trait anxiety specifically, it was found that men's difficulty identifying feelings was most linked to anxiety. Restrictive emotionality has been shown to have relationships with both depression and anxiety in men (Shepard, 2002; Wong et al. 2006). Because of masculine stereotypes that are reinforced through gender role socialization men are taught to fear and not place value on femininity and, therefore, emotional expressiveness (O'Neil, 1981).

Conformity to traditional masculine norms may have negative consequences to men's willingness to express their emotion which may then induce anxiety. Masculine gender roles, especially the restrictive emotionality component, has been associated with anxiety (Cournoyer & Mahalik, 1995). Men who struggle with keeping up with the demands of the male role will experience masculine gender role stress. Males who

exhibited greater gender role stress also endorsed greater anxiety, anger and poorer health behaviors (Eisler, Skidmore & Ward, 1988).

Conflicts in masculinity and gender role are correlated with men's psychological and interpersonal problems (Wong, 2016). Furthermore, a recent large meta-analysis showed that several masculine norms were of importance for predicting psychological distress. Both masculine norms of risk-taking and violence have a negative relationship with psychological distress as measured by markers in depression, body image, substance abuse and negative social functioning (Wong et al. 2016).

Male Baldness

Male patterned baldness(baldness) influences the social perceptions of men and can impact psychological well-being. Baldness is very common in men with half of all men by the age of 50 years old experiencing notable baldness (Soni, 2009). Numerous studies confirm that aspects of physical appearance consistently influence social attributions, attitudes and actions (Cash, 1981). A large body of research demonstrates that hair loss has been associated with social stress, worry, low self-esteem, depression and helplessness (Budd et al, 2000; Wells et al, 1995).

Social perception and male baldness.

Much research has been conducted on the social perception of male baldness and shows that baldness does have a significant impact on the way men are perceived (Cash, 1990). Physical appearance can signal different information about an individual and is often the most readily available type of information. First impressions are a way in which other perceptions, feelings, judgements and social behaviors are formed (Snyder, Tanke & Berscheid, 1977). Over the last several decades, scientists have conducted numerous

studies confirming that certain aspects of physical appearance systematically influence social actions, attitudes and attributions (Cash, 1981; Hatfield & Sprecher, 1986). Male baldness is one of these characteristics. Many men experience balding and half of men by the age of 50 years have observable male-patterned baldness (Soni, 2009). There is also a cultural significance that is usually associated with men's hair, how long is it, and the loss of hair (Morris, 1985). This cultural significance for hair may contribute to the social desirability for men to have full heads of hair.

One study sought to understand the psychosocial effects of male patterned baldness. The study's aim was to view the social perceptions of male patterned baldness by both men and women (Cash, 1990). In this study, 18 pairs of slides were matched on age, race and other various physical factors of the men. On a first impression, a number of men and women rated each person on seven areas of perception. Results indicated that baldness produced generally less valued first impressions which included perceptions of less enticing personal and interpersonal characteristics, misjudgment of age and lower reviews of physical attractiveness. Results did indicate though, that the social perception effects of balding may be worse for men who are younger than 35 years. When physical attractiveness was controlled for, groups only differed on judgements of age and estimations of social attractiveness. This may show that the negative effects of male baldness are still present even if a man is otherwise physically attractive (Cash, 1990).

By contrast, some recent research indicates that not only is baldness a sign of social dominance but some men elect to shave their head possibly because of its implications on masculinity, dominance and power. Dominance can be viewed as a trait that shows others how powerful they are (Halevy, Chou, Cohen & Livingston, 2012). A

research study examined the effect of a man's choice to shave his head based on perceptions of his dominance (Mannes, 2013). Previous research has established that nonverbal behavior is essential to the perception of dominance (Hall, Coats & Leblau, 2005). Often research suggested that perception of dominance is based upon power, signaling and stereotypes (Keltner, Grunfield & Anderson, 2003; Kunda, 1999; Bodenhausen, Macrae & Hugenberg, 2003). Furthermore, hair has become a cultural signal for power, men might be signaling their dominance in an untraditional way (Syncott, 1987). A shaved head may also be stereotypically linked with traits related to athletes and action heroes such as strength, grit and masculinity (Kunda, 1999).

Researchers have examined if men are perceived as more dominant with a shaved head and why a man might want to shave his head. The results showed persistent evidence that a shaved scalp is associated with dominance. Even after controlling for disparities in attractiveness and perceived age, men with shaved heads were still perceived as more dominant than with those with full head of hair. Explanations as to why a man would shave their head, in this study gave more support to both stereotypes and signaling theories. Deciding to get rid of one's hair becomes an individual choice that is a nonverbal behavior that conveys information about the self. Culture also plays a significant role in shaved heads and their perceptions. Further research should be conducted examining different cultures and the choice of shaving the head (Mannes, 2013).

Baldness and well-being.

The process of going bald may have a significant negative impact on the psychological well-being of men who experience it. Although balding is normal

considering its prevalence rate, it has been associated with lower body image and self-esteem and greater stress and depression (Cash, 1999; Norwood, 1975). There is a paucity of research conducted investigating the psychological effects of the balding of men themselves. The research that does exist demonstrated that men who are balding are perceived as less physically attractive, less successful and less socially attractive (Cash, 1990; Keating, Mazur & Seagull, 1981). In general, baldness has become a stereotypical sign that indicates depreciation (Gutherie, 1970). Going bald can be a stressful situation because it affects physical attractiveness and perceptions of age and status. This might explain why men go to extremes to hide or reverse their hair loss with medicinal and restorative hair procedures representing a 3.5 billion dollar a year industry (Farhi, 2003). It is possible that because baldness is linked with age that men who are younger may experience more psychological distress than for older men who go bald.

One study explored the relationship between psychological distress and hair loss (Wells, Wilmoth & Russell, 1995). The study's purpose was to see if level of hair loss could be used to predict differences on a variety of psychological outcome measures even when controlling for age. Results indicated that hair loss in men was correlated with neuroticism, low self-esteem, depression, introversion and feelings of unattractiveness independently of age. In younger males, the effect of self-esteem, feelings of unattractiveness and introversion were especially noticed in younger males. In this study, the results supported the idea that not only are others' perceptions of balding men negative, but possibly men's own perceptions of themselves are increasingly negative. Because hair loss is generally normative in older men further research needs to explore

how we can reduce some of these negative psychological effects (Wells, Wilmouth & Russell, 1995).

It is important to note that in different countries and in different cultures male baldness may be viewed differently. A study conducted in Europe spanning four countries looked at the effects of hair loss in men (Budd et al. 2000). The four countries included were: France, Germany, Italy and the United Kingdom. Households were contacted and men under the age of 40 years were interviewed specifically about their hair loss. The questionnaire was a self-report measure that included perceptions about their hair loss, their satisfaction, their concerns about hair loss and general physical health and mental health. The impact of hair loss was consistently significant across the four countries but in the UK it was less pronounced. As expected, age was significantly correlated with hair loss. The younger men with greater hair loss were more concerned and bothered by their hair loss. This study also found that the negative perception of others view of one's hair loss has an impact on the perception of their own hair loss (Budd et al. 2000).

Many men in their lifetime will have to cope with balding. Baldness has been reported more in Caucasian males than other ethnicities (Bertolino, 1993; Paik, Yoon, Sim, Kim & Kim, 2001). Many men, about half of all those balding face significant mocking about their hair loss which may affect their mood (Cash, et al. 1993). Previous research found that hair loss has been correlated with social stress, worry, low self-esteem, depression and helplessness (Budd et al, 2000; Wells et al, 1995). In addition, in comparison to the general population men who experience hair loss have greater scores on anxiety, negative affect and depression scores (Vennemen, 1997).

A study was conducted with young males who had not yet experienced hair loss to explore potential factors of future anxiety related to male baldness in young men (Luxon, Fletcher & Lessen, 2009). Using regression analyses and multiple scales the study's results showed that men who had more anxiety and, those who gave much emphasis to their personal appearance were more likely to experience anxiety about male baldness. Those who experienced more trait anxiety were expected to experience greater anxiety about male patterned baldness or any situation that they may perceive as a threat. The single biggest predictor of future anxiety in male baldness found in this study was self-consciousness.

Evolution and male baldness.

The evolutionary perspective holds that natural selection influenced the social perception of physical appearance because this appearance is linked to reproduction and sexuality (Buss, 1989). If specific appearance qualities were correlated with good adaptive qualities in a mate, for example, sexual maturity, social status, power, strength than those who selected for partners provided they offered these characteristics may have left more reproducing offspring than others. This would mean that the relationship between physical qualities and biological fitness, the use of these perceptions would be increased in the population (Buss, 1989; Lott, 1979). Furthermore, because male baldness is genetically allotted, this suggests that it may affect reproductive fitness. Reproductive fitness can be described as the ability to pass genes on to the next generation (Fisher, 1915). In this context, male baldness can be perceived as a socially mature characteristic and is thought to indicate social dominance (Muscarella & Cunningham, 1996). The evolutionary perspective provides significant evidence for male

baldness. Scientists have noted certain characteristics are selected because they are indicators of social hierarchy and dominance (Gutherie, 1970).

Researchers have recently theorized that manhood is essentially a social status that needs effort to be achieved and maintained (Winegard, Winegard & Geary, 2014). This precarious manhood is based upon an evolutionary and cultural framework and can be achieved by displaying certain traits such as physical strength, empathy and intelligence. It's possible that not having a full head of hair could be one of these traits that represents precarious manhood, and the lack of hair may contribute to a decrease in psychological well-being.

Researchers have noted that manhood as a status must be consistently earned and it depends on both action and behavior (Vandello & Basson, 2013). Researchers also believe that this precariousness is most likely a result of a combination of socialization and evolution (Vandello & Bosson, 2013). The historic ability to display dominance has an important role in fending off potential predators. Certain characteristics signify to in group males and potential females the male's vitality which exemplifies prestige and dominance (Winegard, Winegard & Geary, 2014). Although baldness may have historically signified social dominance, currently it has become more of a symbol of depreciation and negatively affects men's psychological well-being.

The concept of precarious manhood may explain some of the attitudes towards balding and men's negative reaction to it. Precarious manhood can be defined as a precarious circumstance that requires persistent social validation (Vandello et al, 2008). Across cultures this gained or precarious manhood is an indicator of social value (Gilmore, 1990). There are several reasons presented by researchers supporting that

manhood is gained through status and dominance. First, this manhood is a quality or stature that must be socially achieved. Secondly, this manhood has to be consistently achieved because it can be lost if others in the group refuse to recognize it. Thirdly, this manhood requires a public display/demonstration (Vandello & Bosson, 2013). Culturally from a young age men are taught to participate in cultural rituals that embody manhood, and these aspects of manhood are thought to contribute to male specific behaviors such as hierarchy endorsement, aggression, risk taking and competition (Willer, Rogalin, Conlon, & Wojnowicz, 2013). Several research studies support the notion that when manhood or dominance is threatened that men find a way to reassert their manhood in a public format or they find a way to lessen masculinity based anxiety (Bosson, et al. 2009).

Researchers posit that evolution may be a key component to the origin of the precariousness of manhood, however they are unsure about the entire evolutionary function of the status of manhood (Basoon & Vandello, 2011). Many influences could be possible contributors to precarious manhood, masculine self-concept and male baldness. Status is usually obtained through the display of culturally desired traits, the journey to manhood can vary based on both the individual and culture (Zentner & Mitura, 2012).

Furthermore, a possible explanation for the negative perception of male baldness is what used to be a symbol at one point of social dominance and social maturity has now become an undesired characteristic associated with aging and impotence in the modern world. This change in perception may affect psychological well-being. Yet, not all men experience negative psychological well-being because of baldness. Most likely, male baldness as a stressor must be combined with several other factors to increase the chances of experiencing negative mental health outcomes. Masculine self-concept could be one of

the other factors that greatly influences the mental health of men who are balding. Men with lower masculine self-concept may have increased difficulty in managing anxiety and depression, self-esteem and other well-being measures.

Summary

In summary, masculinity involves three major components: stereotypical masculine traits, hegemonic masculinity, and gender role socialization. Stereotypical masculine traits include the main characteristics and ideologies that Western culture view as masculine. Hegemonic masculinity is a traditional term for a combined influence of both culture, evolution and individual ideologies on masculine beliefs and behavior. Gender role socialization encompasses environmental and social factors that influence individual differences in masculine ideology.

Furthermore, the evolutionary perspective provides a framework from which to view the role of masculine characteristics. Parental investment, female mate selection, and male dominance and aggression all influence the acquisition of masculine traits. Parental investment is different depending on the gender of the parent. When female organisms choose a mate, specific male characteristics may be more salient in who the female chooses. Aggression, particularly in males, has many biological advantages and is generally related to access to survival resources and mating. All of the evolutionary components mentioned are possibly important background in why men face particular psychological challenges.

Masculinity can affect psychological help seeking behavior in men. Males who have higher conformity to masculine norms may actually experience depression differently. This gender difference could impact the perception of treatment in masculine

males. Gender role conformity can affect anxiety sensitivity in both men and women, in addition, restrictive emotionality is an additional component that can influence the risk for men experiencing depression or anxiety.

Baldness influences both social perception of men and their psychological well-being. This negative perception of baldness in the modern world has become a symbol of unattractiveness and impotence. Age, sexual orientation and status also play a role in determining negative implications of baldness on psychological well-being

Rationale

There is variation in the levels of depression and anxiety associated with male patterned baldness and reasons for this are unclear. This variation may be associated with variation in the manifestation of masculinity. The purpose of this study was to examine the relationships between depression, anxiety, baldness and masculinity as measured by the scales developed by Angulo (2013).

Methods

Participants

The sample originally consisted of self-identified heterosexual and homosexual men ($N = 350$). Six participants were deleted for missing sexual orientation data; 43 participants were deleted for missing sports masculinity data; 12 participants were deleted for missing aggressive masculinity data; 78 participants were deleted for missing emblematic masculinity data; and 22 participants were deleted for missing male-patterned baldness data. The final sample consisted of 189 self-identified heterosexual and homosexual men. These men were a part of a larger online study of sexual attitudes and behavior. Participants ranged in age from 18 to 88 years ($M = 26.69$, $SD = 14$). They

completed a brief personal information questionnaire. Participants were asked to report: age, sex, sexual orientation, ethnicity and highest level of education. Participants were recruited in three ways: 1) an announcement emailed to all Barry University students with a specific url 2) the study was posted on several social networking sites (i.e. facebook) containing the link to survey monkey and 3) the study was released on two websites (psych.hanover.edu/research/exponent.html and www.socialpsychology.org/expts.htm)

Measures

Behavioral masculinity.

Angulo (2013) created three scales of behavioral masculinity (See Appendix A). All items were rated on a Likert scale (1= *very little*, 7 = *very much*). The first scale, the *Sports Masculinity Scale*, consisted of five items, a sample item is: “How much do you enjoy watching sports?”. The Cronbach’s Alpha as reported by Angulo for the scale is $\alpha = .85$. The second scale, the *Aggressive Masculinity Scale*, consisted of eight items, a sample item is: “In general, how physically aggressive are you?”. The Cronbach’s Alpha as reported by Angulo for this scale is $\alpha = .79$. The third scale, the *Emblematic Masculinity Scale*, consisted of 13 items, an example item is “In general, how masculine do you feel?”. The Cronbach’s Alpha for this scale is $\alpha = .89$.

Depression.

Depression was measured with one item rated on a Likert scale (1= *very little*, 7 = *very much*). The item stated: “In general, how depressed do you feel?”.

Anxiety

Anxiety was measured with one item on a Likert scale (1= *very little*, 7 = *very much*). The item stated: “In general, how anxious do you feel?”.

Male-patterned baldness.

Male-Patterned baldness was measured with one item on a Likert scale (1= *very little*, 7 = *very much*). The item stated: “How much are you balding?”.

Procedure

Participants completed an online survey that included demographic information, items assessing behavioral masculinity, items assessing depression and anxiety and items assessing degree of male patterned baldness.

Hypotheses

- 1) It was hypothesized that the independent variables emblematic masculinity and baldness would predict both depression and anxiety. Specifically, it was hypothesized that high levels of emblematic masculinity would predict lower levels of depression and anxiety, and higher levels of baldness would predict higher levels of depression and anxiety.
- 2) It was hypothesized that the independent variables sports masculinity and baldness would predict both depression and anxiety. Specifically, it was hypothesized that high levels of sports masculinity would predict lower levels of depression and anxiety, and higher levels of baldness would predict higher levels of depression and anxiety.
- 3) It was hypothesized that the independent variables aggressive masculinity and baldness would predict both depression and anxiety. Specifically, it was hypothesized that high levels of aggressive masculinity would predict higher levels of depression and

anxiety, and higher levels of baldness would predict higher levels of depression and anxiety.

Results

Cronbach's Alpha

Cronbach's alpha was calculated and reassessed for the current study for each of the masculinity scales described by Angulo (2013). They are as follows: sports masculinity ($\alpha = 0.73$), aggressive masculinity ($\alpha = 0.83$), and emblematic masculinity ($\alpha = 0.87$).

Correlations

Pearson's bivariate correlations were performed on the three masculinity scales (sports, aggressive, emblematic) depression, anxiety and baldness. See Table 1.

Table 1
Correlations among Sports Masculinity, Aggressive Masculinity, Emblematic Masculinity, Male-Patterned Baldness, Depression and Anxiety

| | 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------|---------|--------|-------|------|--------|---|
| 1.Sports Masculinity | | | | | | |
| 2.Aggressive Masculinity | .211** | | | | | |
| 3.Emblematic Masculinity | .225** | .201** | | | | |
| 4. Male-Patterned Baldness | -.176* | -.044 | -.042 | | | |
| 5. Depression | -.268** | .222** | -.045 | .138 | | |
| 6. Anxiety | -.200** | .204** | -.008 | .119 | .608** | |

** Correlation significant at the 0.01level (2-tailed)

*Correlation significant at the 0.05 level (2-tailed)

Multiple regressions

Two multiple regressions were performed on the data. The two dependent variables were depression and anxiety. The four independent variables were types of masculinity (sports, aggressive, emblematic) and baldness. The means and the standard deviations of all scales for the regression can be found in Table 2.

Table 2.
Means and Standard Deviations of Scale Scores

| | <i>M</i> | <i>SD</i> |
|----------------------------------|----------|-----------|
| 1.Sports Masculinity | 20.25 | 9.35 |
| 2.Aggressive Masculinity | 8.13 | 3.72 |
| 3.Emblematic Masculinity | 86.30 | 15.67 |
| 4.Male- Patterned Baldness | 2.12 | 1.71 |
| 5. Depression | 2.70 | 1.64 |
| 6. Anxiety | 3.10 | 1.79 |

Depression.

The regression model for depression was significant $F(4,184) = 8.98, p < .001$ with an R^2 of .145 that indicated that approximately 14 % of the variability in depression was explained by the model. A review of the betas suggests that sports masculinity $\beta = -.054, p < .001$ and aggressive masculinity $\beta = .132, p < .001$ were both significant predictors.

Anxiety.

The regression model for anxiety was significant $F(4,184) = 5.75, p < .001$ with an R^2 of .092 that indicated that approximately 9% of the variability in anxiety was explained by the model. A review of the betas indicates that sports masculinity $\beta = -.046, p = .001$ and aggressive masculinity $\beta = .125, p < .001$ were both significant predictors.

Emblematic masculinity.

Emblematic masculinity was not observed to be a significant predictor of depression $\beta = -.003, p = .162$ or anxiety $\beta = 0.00, p = .964$.

Male-patterned baldness.

Male Patterned Baldness was not observed to be a significant predictor of depression $\beta = .093, p = .162$ or anxiety $\beta = .093, p = .209$.

Discussion

The purpose of this study was to examine the patterns of relationships between masculinity, depression, anxiety, levels of baldness and as measured by the scales developed by Angulo (2013). The hypotheses of the study were partially supported. Hypothesis 1 was not supported. That is that high levels of emblematic masculinity would predict lower levels of depression and anxiety.

Hypothesis 2 was partially supported. That is that sports masculinity and baldness would predict depression and anxiety. This hypothesis was partially supported because higher levels of sports masculinity were associated with lower levels of depression and anxiety. This may be because higher sports masculinity may lead to more participation in sports and this participation may provide social support for many men. Sports are a popular activity for men and they provide social support and therefore better emotional

health (Mezzner, 1990). Sports masculinity may be able to provide a certain social support for men that other types masculinities may not provide. These results are consistent with a previous study that suggests the social affiliation for sports is a strong social connection for men and these certain social affiliations, including sports also confirm masculine characteristics for many men (Murnen & Kohlman, 2007). Previous studies even suggest that stronger masculine physical traits (i.e. square jawline) are linked to athleticism (Van Dongen & Sprengers, 2012). The types of men that have qualities indicating greater sports masculinity may inherently have particular physical qualities that are indicative of sports participation.

Hypothesis 3 held that aggressive masculinity and baldness would predict both depression and anxiety. This hypothesis was partially supported because higher levels of aggressive masculinity predicted higher levels of depression and anxiety. It is possible that aggressive tendencies, in males are outward manifestations of internal emotional difficulties. Previous research has also identified that men have unique depression symptomology and that aggression can signify depression symptomology in men (Nadeau, Balsan & Rochlen, 2016). Aggression is a common male characteristic therefore many men find this characteristics as an ideal characteristic that they want to convey (Chen & Chang, 2015). Furthermore, aggression has an evolutionary basis in males that is preprogrammed in order to achieve dominance (Abbey, Jacques-Tiura & LeBreton, 2011; Anderson & Anderson, 2008). In the modern, world this type of aggressive dominance may not be as useful as it once was, especially for men's emotional health. Aggression associated with restrictive emotionality appears to be

harmful in men. This suggests that men may benefit from more constructive ways of expressing and striving for dominance.

Contrary to expectations, baldness did not predict anxiety or depression. The relationship in the previous literature is clear between baldness and negative perception of hair loss and its emotional effects (Norwood, 1975; Cash, 1990; Wells, Wilmouth & Russell, 1995). One interpretation is that masculinity serves as a buffer to baldness and its negative effects on psychological well-being. Culture significance of hair is a large part of western culture's ideal hair for men, it is possible there is more variability from individual to individual (Morris, 1985). However, a recent study showed that some men choose to be bald (i.e. shave their heads) because it demonstrates dominance (Mannes, 2012). One possible explanation for the results in the current study is the range for baldness in the sample was too restricted and as a result a relationship was not found. For example, given the mean ($M = 2.12$) and standard deviation ($SD = 1.7$) and 66 percent of the sample fell between 1 and 4 on the 7-point scale, because baldness is not a heavily researched topic more research needs to explore the factors that influence the negative effects of baldness.

There are a few limitations in the study that must be noted. Due to a large amount of missing data from individual participants a considerable number of participants had to be excluded from the study. Secondly, this was a volunteer study with participants being unpaid and possibly less motivated than paid participants. In addition, sexuality, self-esteem and culture among other factors could greatly influence how particular variables in our study affect anxiety and depression in men.

In conclusion, different types of masculinity have different influences on depression and anxiety in men. Sports masculinity had a negative relationship with depression and anxiety while aggressive masculinity had a positive relationship with depression and anxiety. Baldness and emblematic masculinity were not predictors of depression or anxiety. Not all masculinity is problematic only certain types and perhaps when paired with restrictive emotionality. It appears that constructive expressions of masculinity and dominance have positive effects for men. It is recommended that further research examine this more fully. Given the public health burden of restrictive emotionality and depression and anxiety rates in men the findings of this study advocate for further research on masculinity's relationship with depression and anxiety.

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Appendix

Behavioral masculinity scales

Individual items retained for all scales had factor loadings greater than .40. The five items retained from factor 1 were as follows:

1. How much do you enjoy playing in team sports?
2. How much do you enjoy watching team sports?
3. How much do you enjoy playing individual sports?
4. How much do you enjoy watching individual sports?
5. How much do you enjoy playing contact sports?

These items, characteristic of sports- related behaviors associated with masculinity were used to create a scale named the Sports Masculinity Scale. The scale was subjected to a test of internal consistency and found to be reliable, Cronbach's Alpha = .73.

The three items retained for factor 2 were as follows:

1. In general, how easy is it for you to get angry?
2. In general, how physically aggressive are you?
3. In general, how easy is it for you to get angry enough to get into a physical fight?

These items, characteristic of aggressive behaviors associated with masculinity were used to create a scale named the Aggressive Masculinity Scale. The scale was subjected to a test of internal consistency and found to be reliable, Cronbach's Alpha = .83

The 18 items retained from factor 3 were as follows:

1. In a romantic relationship, how important is it for you to feel that you can protect your partner from others in the case of physical threat?

2. If you are interacting with a man, how much do you tend to be the dominant person in the interaction?
3. In general, what are other people's perceptions of your leadership skills (e.g., taking charge and solving problems)?
4. In general, how assertive (i.e., expressing your opinion without being aggressive) are you when you express yourself?
5. How much would you describe yourself as a "PHYSICAL PERSON" (i.e., someone who likes to do things, likes being active, likes to stay busy by physically working on things)?
6. In general how masculine do you feel?
7. How good are you at parallel parking?
8. When you get together with friends, how much do you prefer to "DO" things together (e.g., watch a game or movie, play a sport, work on a common project)?
9. In general, how empathetic are you (e.g., tendency to feel sad when someone you knows feels sad)?
10. For you, how much of the goal of sex is having an orgasm?
11. In general, in your sexual fantasies, how much do you enjoy being the person who sexually dominates the other?
12. In real life, how much do you prefer taking the dominant role during sexual activity?
13. In general, how much disgust do you feel when you think of having sex with a person of the gender that you are not attracted to?

- 14 . In general, how choosy are you about who you will have sex with if the opportunity presents itself?
15. How jealous would you be if your romantic partner had sex with someone else?
16. How closely does this description fit with your own sexuality?
17. How important is it for you that your romantic/sexual partner be financially and socially successful?
18. How important is it for you that your romantic/sexual partner be physically attractive?

These items, characteristic of general behaviors associated with masculinity were used to create a scale named the Emblematic Masculinity Scale. The scale was subjected to a test of internal consistency and found to be reliable, Cronbach's Alpha = .87.