

SUNG KWAN KIT, PhD. *Dreams of Transgender and Gender Nonconforming People in Hong Kong* (2024). Prof. YU, Kai-Ching Calvin.

ABSTRACT

Objective: Existing dream studies have identified differences between biological females and males, with some exploring the impact of sex role orientation on dream experiences. These differences, based on biological sex and sex role orientation, can overlap significantly. This overlap is often due to the close alignment of sex role orientation and biological sex, where biological males are generally more masculine, and biological females are more feminine. Transgender and gender nonconforming (TGNC) individuals, who do not conform to their birth-assigned gender, provide an opportunity to examine the influence of biological construct (biological sex) and psychological constructs (self-identified gender and sex role orientation), which are less aligned than cisgender individuals.

Method: This study recruited eighty-five TGNC individuals. Self-reported measures were used to assess participants' sex role orientation, dream intensity, attitudes toward dreams, and dream insights.

Results: Attitudes toward dreams positively mediated the relationship between femininity and overall dream intensity, including recall frequency, as well as the negative relationship between femininity and aggressive dream content. Positive attitudes toward dreams and higher levels of masculinity were associated with sexual dream content. Attitudes toward dreams positively predicted insights from dreams, but only for transgender females and not transgender males.

Conclusion: The findings of this study indicate that TGNC individuals exhibit dream experiences that align with their self-identified gender despite their anatomical

characteristics. The current study provides evidence that the self-identified gender and adopted sex role orientation of TGNC individuals significantly influence their dream experiences. This highlights the importance of considering psychological constructs, such as gender and sex role orientation, in the study of dream experiences in this population, rather than focusing solely on biological sex.

Keywords: dreaming, dream intensity, attitudes toward dreams, transgender, sex role orientation

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CHAPTER I

INTRODUCTION

Transgender and gender nonconforming (TGNC) people are individuals who do not conform to their birth-assigned gender or have gender expressions different from the social norms of their natal sex (American Psychological Association, 2015). TGNC people were previously classified as suffering from gender identity disorder, but with the introduction of the editions of the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; American Psychiatric Association, 2013) and the *International Statistical Classification of Diseases and Related Health Problems* (11th ed.; *ICD-11*; World Health Organization, 2019), transgenderism is no longer a mental disorder but is termed gender dysphoria in the *DSM-5* and gender incongruence in the *ICD-11*. Such change aims to de-pathologize transgenderism (World Health Organization, n.d.-b).

Although gender dysphoria or gender incongruence has been removed from the list of mental disorders, the diagnoses per se are still in the latest versions of the *DSM-5-TR* and *ICD-11*. Some may think that TGNC people are irrelevant to society as a whole, but previous research shows that the TGNC population could range from 0.39% of the total population (Meerwijk & Sevelius, 2017) to 0.5% of the population

aged 18 to 64 years (Conron et al., 2012), or from 0.17 to 1,333 in 100,000 people (Meier & Labuski, 2013). In the largest scale survey in Hong Kong on transgender people, which was published in 2021, the researchers stated first and foremost that “it is not known how large Hong Kong’s transgender population is, because social stigma and the lack of acceptance have greatly reduced the visibility of transgender people” (Suen et al., 2021, p. 3). However, a local TGNC organization made use of the number of registered members of two major online crossdressing forums and provided an estimated local TGNC population of 10,000 to 20,000 in 2017 (Leung, 2017). This estimation is a good reference, although it may underestimate the actual TGNC population because it only included crossdressing people, while the figure excludes all other TGNC people who were not registered members. Many TGNC people may be out of reach and live in stealth, particularly in Hong Kong, where transphobia and discrimination are commonly seen (King et al., 2009; Winter et al., 2008).

Dreams have always been treated as mystical areas by many people. Freud’s *Interpretation of Dreams* (Freud, 1955) is an epic of dream study, while Freudian dream theories are still popular in contemporary dream research, sometimes referred to as neuropsychanalysis. Extensive dream research has indicated the presence of

gender differences (Domhoff, 2005; Nielsen et al., 2003; Schredl et al., 2004, 2010, 2019; L. Zhang et al., 2020), but previous research has focused on biological sex instead of gender identity, which can be loosely understood as “psychological sex.” This study aimed to fill this gap and examine the influence of psychological constructs without disregarding the influence of biological perspectives.

1.1 Biological and Psychological Influences

Ever since the idea of “nature versus nurture” was first introduced, it has always been a debate in the field of psychology. Nurture theorists believe that humans are born as *tabula rasa* (blank slate) and are determined by the environment, whereas nature theorists believe that heredity determines how and what a person is. Among studies on TGNC individuals, some found biological influence (nature) powers over social/environmental/psychological influence (nurture), while others found otherwise. In some neurological studies, distinct brain features believed to be associated with hormones have been found in TGNC participants (Luders et al., 2009; Zubiaurre-Elorza et al., 2014). Some other studies showed hormone and heritability have lower influence comparing to sex role orientation, psychological vulnerability, and familial influence (Bourne & Maxwell, 2010; Defreyne et al., 2019; Sasaki et al., 2016). There

is no consensus on the relationships among gender identity, biological, psychological, and environmental influences.

There are two main traditions in defining gender identity: (a) the “classic personality approach,” and (b) the “gender self-categorization approach” (Wood & Eagly, 2015). The classic personality approach focuses on the observed differences in personality and interests of the two biological sex (Wood & Eagly, 2015). The gender self-categorization approach highlights how people identify themselves and focuses on their sense of belonging to genders (Schmitt & Branscombe, 2001; Wood et al., 1997). The gender self-categorization approach echoes the definition provided by the World Health Organization: “a person’s deeply felt, internal and individual experience of gender, which may or may not correspond to the person’s physiology or designated sex at birth” (World Health Organization, n.d.-a). The classic personality approach uses socially defined masculinity/femininity levels to categorize people into corresponding gender categories. In contrast, the self-defined masculinity/femininity level can be seen as taking the gender self-categorization approach.

1.2 TGNC People and Dreaming

In the last decade, studies have been conducted on TGNC individuals in areas such as insurance coverage (Budge et al., 2016), bone densitometry (Rosen et al.,

2019), experiences in psychotherapy (Elder, 2016), couple and family therapy (Giammattei, 2015), stigma in the healthcare system (Poteat et al., 2013), and stress (McLemore, 2018). Very few studies have been conducted on the dreams of TGNC individuals.

Previous dream studies on TGNC people include nightmare frequency as a predictor of suicidal risk (Andrew et al., 2020), treatment of PTSD in one case (Abramovich et al., 2020; Kovacevic & Davis, 2020), dreams through a transwoman's transitioning (Martin & Davenport, 2014), homosexual desire at mid-life in two cases of TGNC individuals (McKenzie, 2010), and psychoanalytic work with one TGNC individual (D. Knafo, 2012). Except for the study on nightmares as a predictor of suicidal risk, which included 156 participants (Andrew et al., 2020), other studies focused specifically on one or two individual cases and adopted a strong idiographic approach. Allport (1937) stated that larger-scale research aims to identify general principles of psychology; in contrast, the idiographic approach takes the opposite direction as it aims to focus on the study of the individual, and there is a lack of generalized results or formulated principles for others to take reference to. It is important to bridge the gap between generalized principles and idiographic case studies.

The literature on the Hong Kong TGNC people focuses on the rights of transgender prisoners (Erni, 2013), civil rights to get married (Erni, 2016), lack of protection due to the absence of legislation (Barrow, 2020; Emerton, 2004b, 2004a; Wan, 2020), and discrimination situations (King, 2008; King et al., 2009; Winter et al., 2008). There were two large-scale surveys on Hong Kong TGNC individuals, which showed the alarming mental health situation of TGNC people, such as higher suicidality and mental health needs (Suen et al., 2018, 2021).

Transgender individuals undergoing hormone replacement therapy have been found to possess an increased risk of cardiovascular events, including myocardial infarction and ischemic stroke (Connelly et al., 2019). Additionally, they exhibit an elevated mortality risk, regardless of the type of treatment (de Blok et al., 2021). Moreover, even for individuals who are considering gender affirmation surgery, they must grapple with the potential complications and aftercare requirements post-surgery (Suen et al., 2021). These factors contribute to a multitude of stressors that these individuals confront on an ongoing basis.

These previous local studies adopted the perspectives of sociology and gender studies and did not attempt to explain the subjective experience of TGNC individuals by linking psychological theories to the findings. With the absence of studies in the

discipline of psychology on TGNC individuals in Hong Kong, it is valuable to fill this gap. By locating the possible psychological mechanisms related to these mental health issues, health practitioners will be able to have a clearer focus and, hence, provide more effective interventions for mitigation.

1.3 Dreaming

The functions of dreaming have been a topic of discussion without a consensus in academia. One of the most commonly believed functions of dreaming is its potential to provide insights and possible solutions to the problems faced by the dreamer (Greenberg et al., 1992; Wagner et al., 2004). The literature on psychoanalysis and psychotherapy has shown connections between dreaming and personal realization or insights (Blass, 2002; Blechner, 2001; Freud, 1955; Lippmann, 2002). Schredl (2011) also proposed that functions of dreaming may include preparing the dreamer for future waking experiences. He further suggested that dreaming facilitates self-actualization and personal growth (Hobson & Schredl, 2011).

Previous dream studies consistently identified sex differences. For instance, it has been observed that biological females tend to recall more dreams (Giambra et al., 1996; Pagel et al., 1995; Schredl, 2002; Schredl & Piel, 2003; Schredl & Reinhard, 2008), exhibit higher dream intensity (Yu, 2010b, 2012b), have more positive

attitudes toward dreams (Schredl, 2009; Schredl et al., 2010), and derive greater insights from them (Hill, Rochlen, et al., 2003; Kolchakian & Hill, 2002; Rochlen, 2004). On the other hand, biological males tend to experience a higher frequency of sexual dreams (Domhoff, 2003; Hall et al., 1982; Hall & Van de Castle, 1966; Schredl et al., 2010, 2019; L. Zhang et al., 2020). However, the exact cause of these sex differences remains unclear. It is challenging to determine whether these differences are primarily influenced by biological or psychological factors because both aspects are intricately intertwined and cannot be easily separated.

1.4 Research Objectives

The above subsections have shown that there are several gaps which require further exploration. By addressing these gaps in the existing literature, a deeper understanding of the impact of biological makeup and psychological factors on the dreams of TGNC individuals can be achieved. This can provide valuable information for the understanding of biological and psychological influences on dream experiences in general. It is also relevant to the TGNC community and individuals involved in providing mental healthcare.

Research objective 1: To investigate the relationship between femininity/masculinity and self-identified gender.

Research objective 2: To investigate the roles that self-identified gender and femininity/masculinity have on the intensity and content of dreams in TGNC individuals.

Research objective 3: To investigate the roles that self-identified gender and femininity/masculinity have on the intensity and content of dreams in TGNC individuals while controlling the effects of self-acceptance and well-being.

Research objective 4: To investigate the relationship among the degree of insights which TGNC individuals obtain from their dreams, attitudes toward dreams, self-identified gender, and femininity/masculinity.

CHAPTER II

LITERATURE REVIEW

The term to address transgender individuals has evolved, previously the term “transsexuals” was used as a general for to refer to TGNC individuals with or without surgical procedures performed. Currently, there are several ways in addressing TGNC people, such as “transgender and gender nonbinary¹” (TGNB) as in some scholarly articles (American Psychological Association, 2021; Moseson et al., 2020), and “nonbinary and genderqueer” (NBGQ; Kennis et al., 2022; Scandurra et al., 2019). Both terms of TGNB and TGNC have been used in recent publications by the American Psychological Association (American Psychological Association, 2021; Nakamura et al., 2022).

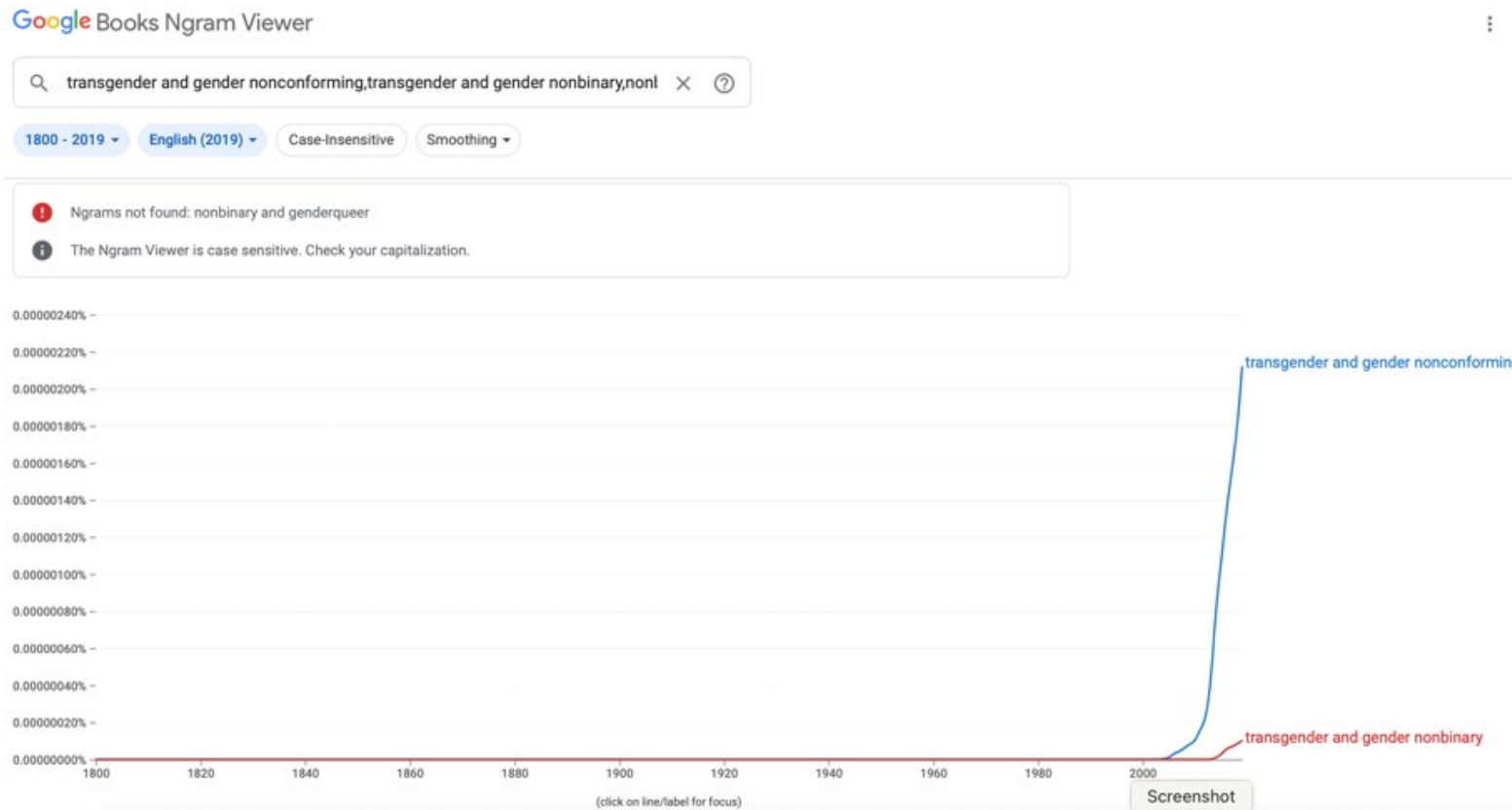
When using Google Book Ngram Viewer to check the frequency of phrases that occurred in a corpus from different genres, usage of TGNC outweighed TGNB, while NBGQ could not be found, which may be because Google Ngram could only

¹ Gender nonbinary: Nonbinary people may not feel they fit in the gender binary. Under the gender binary, there are only two genders, everyone has to be either male or female.

include periods to 2019 (see Figure 1). The current study uses the term TGNC, as it is still one of the most used terms to address transgender individuals.

Figure 1

Google Ngram of Full Terms of TGNC, TGNB, and NBGQ



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Note. Comparison of usage frequency of “transgender and gender nonconforming” (TGNC), “transgender and gender nonbinary” (TGNB), and nonbinary and genderqueer (NBGQ) using Google Ngram Viewer.

According to the American Psychological Association, “TGNC people are those who have a gender identity that is not fully aligned with their sex assigned at birth” (American Psychological Association, 2015, p. 832). Many TGNC people have gender dysphoria or gender incongruence, which was termed gender identity disorder before the latest editions of the *DSM-5-TR* (American Psychiatric Association, 2022) and the *ICD-11* (World Health Organization, 2019). Taking reference to the previously known name of gender dysphoria, that is, gender identity disorder, transgenderism is fundamentally related to gender identity.

2.1 Sex, Gender, and Gender Identity

The two terms “sex” and “gender” are often used interchangeably; however, they are related but do not have identical definitions. To quote dictionary definitions, sex is “the state of being either male or female” and gender is “the physical and/or social condition of being male or female” (Cambridge University Press, n.d.). Under such definitions, gender appears to be more of a “condition” rather than a state, it may imply that gender is more fluid considering its nature as a condition. Gender,

according to the World Health Organization (WHO), is everchanging and contingent on societal norms (World Health Organization, n.d.-a):

Gender refers to the characteristics of women, men, girls, and boys that are socially constructed. This includes norms, behaviors, and roles associated with being a woman, man, girl, or boy, as well as relationships with each other. As a social construct, gender varies from society to society and can change over time.

According to this WHO definition, gender is a social construct that can change over time; it can be accepted in one society but not in another at the same time point.

Sex, on the other hand, “refers to the different biological and physiological characteristics of females, males and intersex persons, such as chromosomes, hormones and reproductive organs” (World Health Organization, n.d.-a). The WHO has provided a clear direction in defining gender as a psychological construct, whereas sex is more of a biological and physiological perspective.

In the *DSM-5-TR*, there is also a clear definition of the phrase gender identity, which “refers to an individual’s identification as male, female, or, occasionally, some category other than male or female” (American Psychiatric Association, 2022, p. 512). The World Health Organization (WHO) defines gender identity as “a person’s deeply felt, internal and individual experience of gender, which may or may not

correspond to the person's physiology or designated sex at birth" (World Health Organization, n.d.-a). Gender identity is therefore distinguished from sex (biologically defined) and gender (socially defined) (e.g., Griffin et al., 2021; Twist & de Graaf, 2019).

Scholars have located two traditions of research on gender identity, the "classic personality approach" and the "gender self-categorization approach" (Wood & Eagly, 2015). The classic personality approach focuses on the differences in personality and interests of binary genders (male and female), assuming that certain personality traits or interests are stereotypical to only men, and some traits or interests are stereotypical to only women (Bem, 1974, 1981a; Lippa, 2001, 2005; Lippa & Connelly, 1990; Spence, 1993; Spence et al., 1975; Spence & Helmreich, 1980). The gender self-categorization approach focuses on a sense of belonging to specific social categories, highlighting how people identify themselves (Schmitt & Branscombe, 2001; Wood et al., 1997), which is closer to the contemporary definitions of gender identity given by the World Health Organization and the American Psychiatric Association.

Viewing the two traditions from the locus of control, the classic personality approach adopts a socially defined perspective, while the gender self-categorization

approach takes a self-defined perspective. The contemporary definitions of gender identity believe in the individual's agency to identify their gender, instead of being assigned based on the person's personality traits or interests. Social norms may explicitly and implicitly influence a person's thoughts and behaviors. Thus, it is worth investigating whether a frequently used scale in the classic personality approach, such as the Bem Sex Role Inventory (BSRI; Bem, 1974, 1981), is associated with the gender identity of TGNC people. In other words, the current study aimed to investigate whether transgender males who possess female anatomical characteristics but identify themselves as males exhibit more masculine traits than transgender females who possess male anatomical characteristics but identify as females. Additionally, the present study aims to explore how these psychological factors of sex role orientation (i.e., being feminine or masculine) influence the dream experiences of individuals.

2.2 Sex Role Orientation

The BSRI can be used to define sex role orientation, which refers to the behaviors of a person that are aligned with the definition of masculinity and femininity in a specific culture (Bradley & Zucker, 1997). Sex role orientation being measured in BSRI is considered to be socially-ascribed, that means it assesses how

individuals identify themselves based on societal expectations and norms. It is related to various aspects, such as how people dress, talk, move, or even think (Bem, 1981a; Kessler, 1990; Messner, 2000; West & Zimmerman, 1987). For example, the BSRI has items measuring the traits of being aggressive (masculine item 46), compassionate (feminine item 32), dominant (masculine item 37), and tender (feminine item 44).

Classical theories suggest that people who are highly sex-typed try to maintain their behaviors to align with the internal standards of their sex role identity. In terms of sex role orientation, people with high masculinity are likely to avoid behaviors that are considered inappropriate for men, while individuals high in femininity are more likely to prevent themselves from behaviors considered undesirable for women (Bem, 1974; Kagan, 1964; Kohlberg, 1966). For instance, people high in masculinity have a stronger urge toward things considered masculine, such as achievement, autonomy, and endurance (Bakan, 1966; Bales & Parsons, 1956; Erikson, 1964).

There is growing evidence that sex role orientation may have a greater influence on a person's thoughts and behaviors than their anatomical sex on certain aspects. In the work setting, researchers have found that sex role orientation is a more accurate predictor of the decision to become an entrepreneur than anatomical sex, and there is a positive association between masculinity/androgyny and entrepreneurial

intention (Perez-Quintana et al., 2017). Sex role orientation, although based on the gender stereotypical idea of males being in entrepreneurship, potentially indicates that such a socially defined construct influences the behaviors and decisions of individuals.

Apart from socially ascribed femininity and masculinity, as measured by the BSRI, another aspect of examining femininity and masculinity is through self-ascription. This refers to an individual's self-perception and self-reporting of their level of femininity or masculinity. The Traditional Masculinity and Femininity Scale (TMF; Kachel et al., 2016) takes the self-ascription aspect and was utilized as one of the instruments in the current study. It focuses on how individuals perceive their own gender identity, independent of societal expectations. A more detailed introduction of the TMF is provided in the method section.

Socially-ascribed gender roles measured by BSRI are externally imposed by societal norms and expectations, while self-ascribed gender roles as measured by TMF are internally identified by the individual. In other words, the BSRI measures how individuals perceive they should behave based on societal expectations, while the TMF measures how individuals perceive themselves in terms of their own

understanding of masculinity and femininity. More details of the two instruments would be discussed in the method section.

2.3 Sex Role Orientation and TGNC

Previous studies have investigated the relationship of sex role orientation between TGNC people and cisgender² people (Gómez-Gil et al., 2012; Herman-Jeglińska et al., 2002), as well as among the transgender population, using the Bem Sex Role Inventory (BSRI; Bem, 1974). A study of Polish transgender people investigated sex role orientation and gender identity (Herman-Jeglińska et al., 2002). The findings revealed that transgender females scored higher in femininity than cisgender males and females, but scored significantly lower in masculinity than cisgender males. Transgender males scored higher in masculinity than cisgender females, but the difference was not statistically significant. Herman-Jeglińska et al. (2002) suggested that transgenderism is not an inversion of sex role patterns, meaning that a transgender man not only differs from a cisgender female but also a cisgender male in sex role orientation. The study also revealed that transgender females identify more strongly with femininity than transgender males with masculinity; therefore,

² Cisgender: A term to relate to a person whose sense of gender identity corresponds with their birth assigned sex.

transgender men and women should not be seen as a mirror image of each other (Herman-Jeglińska et al., 2002).

Gómez-Gil et al. (2012) conducted a study comparing the sex role orientation of Spanish transgender and cisgender participants using the BSRI. The results showed that transgender women scored significantly higher on the femininity scale than transgender men and cisgender men control participants. However, there were no significant findings on masculinity. These results indicate that the femininity score reflects participants' sex role orientation based on their gender identity rather than their birth-assigned sex, as reported by Gómez-Gil et al. (2012).

The abovementioned studies suggest that gender identity has a stronger influence on sex role orientation than birth-assigned sex, whereas the gender identity of transgender males and transgender females cannot be viewed as an inversion. They also imply that even though the commonly accepted contemporary understanding of gender identity is based on a person's self-categorization, such a self-defined method does not detach itself from the traditional socially defined method adopted by the BSRI.

Sex role orientation is traditionally believed to enhance psychological well-being when congruent with one's sex. (Abraham, 2018; Mussen & Rutherford, 1963;

Whitley, 1985). Within this context, it remains uncertain whether the psychological well-being of TGNC participants is related to their sex role orientation aligning with their biological sex or with their ‘psychological sex’ (i.e., self-identified gender).

While the current study did not aim to provide a definitive answer, it acknowledged the strong likelihood of a relationship between sex role orientation, psychological well-being, and dream experiences; thus, the psychological well-being variables were controlled in certain analyses conducted in this study.

2.4 Biological Perspective and Psychological Perspective on TGNC

Multidimensional factors influence TGNC, such as heredity, environment, culture, and society. In the decades-old nature versus nurture debate, most scientists agree that it is not a question of either-or, but that which poses a heavier influence.

2.4.1 Psychodynamic Perspective

Some psychodynamic analysts may attribute the increased number of TGNC young adults to a heavier influence from psychological than biological factors (e.g., Fraser, 2009; Giovanardi et al., 2020; Marchiano, 2017). This is not a surprise because the cornerstone of psychodynamics, regardless of whether it is Jungian or Freudian, is the belief in the presence of the unconscious.

Marchiano (2017) cited Jung's term "psychic epidemic" to describe the phenomenon of an upsurge of young adults coming out to be gender dysphoric and identifying themselves as transgender. Marchiano (2017) followed the Jungian approach and suggested that social contagion is the contributing factor to such an increase in TGNC young people. Jung (1978) did not attempt to explicitly explain TGNC, but one possible way is to explore it from anima and animus. According to Jung, "the anima is an archetype that is found in men... for just as the man is compensated by a feminine element, so woman is compensated by a masculine one" (Jung, 1978, para. 27). Marsman (2017) adopted the Jungian perspective in exploring transgenderism and stated that "animus/anima identification/possession also plays some role to a varying degree (in TGNC)... anima/animus as function... (anima/animus should be) characterized as the inner other, that which carries the inferior function and draws one into a relationship with the unconscious" (Marsman, 2017, p. 682).

Marchiano (2017) further stated their opinion about social contagion as the factor of the emergence of transgender youth, they stated that "current psychotherapeutic practice involves immediate affirmation of a young person's self-diagnosis" (Marchiano, 2017, p. 345), which may include many "false positives." If

social influence is playing such an important role and the current situation of the psychotherapy field lacks a solid way to help the therapists/clients to differentiate whether it is a “true positive” or a “false positive,” looking deeper into the dreams of people who identified themselves as TGNC and trying to locate the psychological relationships among dream variables and gender identity/roles provide additional information for therapists to consider when helping TGNC clients.

Based on the Jungian approach to dream interpretation, dreams uncover the unconscious and parts of the personality that are not properly integrated can appear personified in dreams (Roesler, 2020). Dreams serve the purpose of compensation, which is the unconscious balances out and counter points the conscious attitude (Blechner, 2018; Jung, 1970; Loker, 2007). Another famous Jungian analyst, John Beebe, argued that it may be too arbitrary to reduce all dreams to compensation, but he stated that “dreams emerge from the creative unconscious... one's dreams can underline, refine, and even create a conscious attitude, and they regularly explore that attitude's many possibilities”. (Beebe, 2007, p. 63). It seems to be a consensus that most Jungian analysts agree with the idea that through dreams, the unconscious helps the dreamer see things from additional perspectives.

According to the Freudian approach, masculinity and femininity are associated with drive or impulse (Trieb) rather than instinct or reflex (Instinkt); therefore, gender is not a biologically inclined construct, but a psychological concept (Cavanagh, 2017; Freud, 1953b, 1953a; Giovanardi et al., 2020). Taking together with the idea of dreams being “the royal road to the unconscious” as Freud proposed, looking into TGNC people’s dreams could be a very meaningful way to poke into the world of whether gender identity is consistently a psychological concept.

2.4.2 Neurobiological and Hormonal Perspective

In the TGNC community, it is common for individuals to undergo hormone therapy to help align their secondary sexual characteristics with their self-identified gender. The results of studies on the influence of hormones on TGNC individuals have varied with different variables. An association has been found between testosterone and aggressive behavior in animals (Albert et al., 1989; Beeman, 1947; Frank et al., 1991; Wingfield et al., 1987). For example, one study found that castrated rodents showed almost no physical aggression (Beeman, 1947). The link between testosterone and aggression has also been confirmed in humans (Delville et al., 1996; Fuxjager et al., 2017; Gray et al., 1991; Mazur, 1995). For example, in a study on male army veterans, basal testosterone levels were positively related to

antisocial and aggressive behaviors (Mazur, 1995). The researcher of the study also concluded that using a biosocial model, that is, combining hormonal variables with social variables, can provide more accurate predictions of aggressive behaviors than solely using social variables. It seems that the linkage between biological influences, particularly on hormones, cannot be eliminated when it comes to aggression.

To further investigate the cognitive processes of the brain, the chimeric faces test was used to test the strength of lateralization across basic emotions (anger, disgust, fear, happiness, sadness, and surprise) in participants. The chimeric faces test is a behavioral test frequently used in studies on lateralization for cognitive processing, and the chimeric faces are made up of vertically split-half faces with one-half neutral and one-half emotive. In the study, chimeric faces were presented to participants in pairs vertically with one emotive face shown in the participant's left visual field and the other emotive face shown in the participant's right visual field. Figure 2 shows a sample of a chimeric-faces pair. Participants had to choose whether the face in the upper or lower panel was more emotive, for example, the happier face in the happy block of trials. The results were quantified in terms of bias toward selecting faces, that is, always choosing the face with the emotion expressed in the right visual field indicated left hemisphere dominance for the task.

Figure 2

Sample of a Chimeric-Faces Pair



The results showed significant differences between biological male participants and biological female participants in masculinity scores, $t(83) = 5.6, p < .001$, and femininity scores, $t(83) = 1.7, p = .050$, with biological males having higher masculinity and biological females having higher femininity. Psychological masculinity was also associated with stronger lateralization in processing both positive and negative facial emotions. Another finding of the study was that higher psychological masculinity was associated with lateralization in males, while higher masculinity was negatively associated with lateralization in females. Although Bourne and Maxwell (2010) concluded that biologically male and masculine traits tend to

have a stronger tendency toward lateralization, such claims require further investigation because it is unknown whether such results were mainly due to biological makeup or psychological influences. With biological males being higher in masculinity and biological females being lower in masculinity, the finding of stronger lateralization in males may not solely be due to biological makeup.

Bourne and Maxwell (2010), supplemented by findings from studies on higher prenatal testosterone exposure, may explain the stronger patterns of lateralization. Previous research has shown that higher prenatal testosterone exposure predicts a lower 2D:4D ratio (ratio between the length of the 2nd and 4th finger) and that biological males have a lower 2D:4D ratio than biological females, while a higher 2D:4D ratio predicts stronger lateralization among biological females (Bourne & Gray, 2009; Geschwind & Galaburda, 1985; Lutchmaya et al., 2004; Manning et al., 1998, 2007; Putz et al., 2004). Although the speculation that higher prenatal testosterone exposure contributes to higher psychological masculinity with higher lateralization may require future research, this is a valuable reference as it has provided a possibility of the potential influence of the hormone.

Previous studies have found that trans men and trans women display specific phenotypes in the brain before hormone therapy (Rametti, Carrillo, Gómez-Gil,

Junque, Segovia, et al., 2011; Rametti, Carrillo, Gómez-Gil, Junque, Zubiarrre-Elorza, et al., 2011; Zubiarrre-Elorza et al., 2013). Zubiarrre-Elorza et al. (2014) further explained that participants' self-identified gender identity was established before the hormone therapy, as evidenced by the performance of transgender people on certain behavioral function tests (such as mental rotation which biological men normally show better performance) remained the same after the use of the hormone. The researchers concluded that the increase in cortical thickness in the transgender participants was not due to heightened awareness of their self-identified gender identity after the initiation of hormone therapy. From this point, the researchers eliminated the possibility of psychological, social, and environmental factors affecting the thickening of the cortex. In other words, the change in cortical thickness of participants was expected to be solely due to exogenous hormone therapy.

Interestingly, sexual dimorphism is known to occur in regions with increased cortical thickness (bilateral: postcentral gyrus; unilateral left-side: inferior parietal, lingual, pericalcarine, and supramarginal regions; unilateral right side: cuneus and rostral middle frontal), and biological women have a higher cortical thickness in these regions. In trans women, the opposite was found after treatment with estrogens and antiandrogens, which showed a decrease in cortical thickness (Zubiarrre-Elorza et al.,

2014). A previous study revealed that the cortical thickness in biological women is significantly greater than that in biological men (Luders et al., 2006).

The significance of Zubiaurre-Elorza et al.'s (2014) study is that it was a longitudinal study instead of having control groups, which makes the findings of cortical thickness changes even more persuasive compared to cross-sectional studies, as the comparison was on the same individuals. The change in cortical thickness revealed in this study seems to contradict the idea that hormone therapy helps transgender individuals to be more aligned to their self-identified gender, but it may also challenge the belief of gender binary even in the brain structure.

Zubiaurre-Elorza et al. (2014) reported that trans males, who are biological females, possess a larger right putamen compared to biological females prior to hormonal treatment. Additionally, they observed changes in brain cortical thickness and volumetry that correspond with changes in hormone levels. In particular, trans males demonstrated increases in cortical thickness on both sides following testosterone treatment, while trans females, who received estrogens and antiandrogens treatment, showed a general decrease in cortical thickness and subcortical volumetric measures. According to Zubiaurre-Elorza et al.'s (2014) findings, specific brain structures of trans males exhibit differences from biological females prior to hormone

therapy, and hormone replacement therapy may additionally have differential effects on brain structure in trans individuals.

2.4.3 Heredity Perspective

A meta-analysis reviewed 11 heritability studies on gender identity and/or gender nonconformity, in which twin pairs were included, with validated instruments used for gender-identity-related constructs (Polderman et al., 2018). The researchers concluded that gender identity is “a multifactorial complex trait with a heritable polygenic component” (Polderman et al., 2018, p. 95). They further explained that gender identity develops through complex interactions with the environment, and is influenced by many genetic factors.

Polderman et al. (2018) searched for literature using PubMed with a date ranging from 1900 to 2017. Initially, 302 publications were identified, and after screening by applying the inclusion criteria, 11 heritability studies were examined. It is worth noting that although 10 of the studies reviewed were from Western literature, one recent study was from Japan (Sasaki et al., 2016). This is expected to be more relevant to the Hong Kong context, as Japanese culture is comparatively more like the local culture, and the genetic makeup between the Japanese and Han Chinese is similar (Wang et al., 2018).

Polderman et al. (2018) divided the review findings of heritability twin studies into parts focusing on adults, adolescents, and children. After reviewing the studies with adult participants, the researchers concluded that genetic factors and unique environment explained most of the variation in the gender-related measures, but the cultural factors (i.e., shared environmental factors) did not explain much and could be considered negligible. As for adolescents, unlike the findings concerning studies on adults, the effects of both genetic and shared environmental factors were found to be important according to studies on adolescents. Polderman et al. (2018) speculated the slight statistical significance of the effects of the shared environment to the possibility of having a confounding influence between gender identity, gender nonconformity, and gender roles. After reviewing the limited studies on children, it was found that the findings were conflicting, specifically regarding the effects of the shared environment (Polderman et al., 2018). Two studies showed that variations in gender-related measures were explained by the effects of a shared environment (Iervolino et al., 2005; A. Knafo et al., 2005), while another longitudinal study showed no substantial effects (van Beijsterveldt et al., 2006). Iervolino et al.'s (2005) findings revealed that the variations could be attributed to heritability, shared environment, twin-specific environment, and unique environment. A. Knafo et al.'s (2005) findings also

discovered that heritability and shared environmental accounted for the variations. On the other hand, van Beijsterveldt et al.'s (2006) longitudinal study found that neither heritability nor the shared environment showed significant effects. The abovementioned meta-analysis attributed such conflicting findings to the developmental timing of gender identity as well as the weaker genetic influence on gender identity in children (Polderman et al., 2018). With the various findings mentioned above, Polderman et al. (2018) suggested that gender identity is a result of a multifactorial complex and is influenced by polygenic heritability.

A twin study was conducted in Tokyo, Japan, consisting of 2,202 monozygotic (MZ) twins and 1,130 dizygotic (DZ) twins, both of which had comparable numbers of children, adolescents, and adults (Sasaki et al., 2016). Using genetic structural equation modeling (GSEM), researchers have examined the contribution of genetic and environmental factors to variations in results. In GSEM, if a correlation is found to be higher in MZ twins than in DZ twins, genetic factors have a greater influence on individual differences, as MZ twins share identical genetic makeup and DZ twins share approximately half of their genes. The results showed that 1) at any developmental stage, biological female participants displayed more gender dysphoria traits than their biological male counterparts, 2) prenatal hormone exposure did not

affect the level of gender dysphoria traits, and 3) familial factors explained most of the variance in gender dysphoria traits in children, particularly biological females, but the effects decreased as the participants' age increased (Sasaki et al., 2016).

Sasaki et al.'s (2016) found that in Japan, biological females show more gender dysphoria traits than biological males, these findings aligned with the findings of the higher referral rate to gender clinics for trans males (biological females) than trans females (biological males) in Japan (Baba et al., 2011; Ishimaru & Harima, 2009; Okabe et al., 2008). Contrary to previous studies that suggested that prenatal hormone exposure contributes to the gender roles and potential gender identity of individuals (Bourne & Gray, 2009; Geschwind & Galaburda, 1985; Lutchmaya et al., 2004; Manning et al., 1998, 2007; Putz et al., 2004), Sasaki et al.'s (2016) did not find any association between them. Combining the finding that the absence of prenatal hormone exposure contributes to individuals' gender dysphoria traits, and the finding of familial influence explaining gender dysphoria trait variance, it is reasonable to postulate that the development of gender identity also heavily depends on familial influence because gender dysphoria is found to be related to gender identity. Familial influence, as defined by Sasaki et al. (2016), encompasses both genetic and shared

environmental factors. Thus, a person's gender identity formation can be inferred to be influenced by both genetic and environmental factors.

In conclusion, the aforementioned studies suggest that gender identity is a multifactorial complex trait with a heritable polygenic component that underscores the significant role of genetic factors. However, these studies also emphasized that gender identity develops through intricate interactions with the environment, thereby highlighting the influence of nurture. Moreover, the varying impacts of genetic factors and environmental influences illustrate the interplay between nature and nurture in shaping one's self-identified gender, a psychological construct. The effects of this construct on dream experiences were examined and compared with the influence of the biological sex of the participants in the present study. This comparison further elucidates the complex relationship between one's biological sex and self-identified gender.

2.5 Minority Stress Theory

Meyer (1995) conducted a study on homosexual men and proposed the minority stress theory, which consists of three stressors: discrimination and violence (prejudice events), perceived stigma, and internalized homophobia. According to minority stress theory, stressful events and conditions due to an individual's minority

status are likely to contribute to stress (Meyer, 1995, 2003; Meyer & Dean, 1998).

The constant vigilance and expectation of encountering negative events may also generate distress, whereas putting extra effort into hiding one's minority status generates additional stress. The most proximal process concerns the societal negative and prejudicial attitudes internalized by the minority individual. The researcher gave an example of self-labeling, as young homosexual adults begin questioning their presumed heterosexuality and label themselves as "gay" or "homosexual" before they make any public disclosure of their sexual orientation. This example illustrates that individuals with homosexual orientation internalize societal homophobia attitudes before they realize their sexual orientation (Meyer, 1995).

Both the initial study of minority stress theory and a follow-up study investigated lesbians, gays, and bisexuals (LGB), without involving transgender individuals (Meyer, 1995, 2003). There have been other studies by different scholars using this theory in the LGB population, and the findings matched those of the initial and follow-up studies. That is, stressors to sexual minorities are created because of cultural and societal ideologies, and these stressors contribute to the higher prevalence of health issues among minorities.

2.6 Sexual and Gender Minority and Minority Stress

A national cross-sectional survey in China collected data from more than 120 000 students from seven provinces with over 500 high schools (Li et al., 2017). The study found that sexual minority students face higher levels of stress due to stigma, discrimination, and rejection. Li et al. (2017) suggested that minority stress theory could be used in explaining the situation as results showed that it was associated to school bullying victimization. Li et al.'s (2017) study serves as a reference for the present study, as the participants in this present study were also Chinese. In addition, their study had a large sample size, allowing for potential generalization of their findings.

Apart from Li et al.'s (2017) study, previous studies have also established that sexual minority individuals experience minority stress (Frost et al., 2015; Li et al., 2017; Meyer, 1995). Similarly, gender minority individuals, specifically those who are TGNC, have also been found to experience minority stress. Numerous studies have used minority stress theory in the transgender population since the introduction of the theory (Hendricks & Testa, 2012; Kolp et al., 2020; McLemore, 2015, 2018; Suen et al., 2021; Testa et al., 2015).

Hendricks and Testa (2012) used minority stress theory to explain their findings, suggesting that the higher prevalence of mental disorders in TGNC people is consistent with the parallel work of initial studies that focused on LGB people. Their research revealed that transgender individuals develop internalized transphobia and expectations of being rejected and/or victimized, which echoes minority stress theory.

McLemore (2015) found that among transgender individuals, the frequency of perceived misgendering (misclassification of gender identity) is positively correlated with negative affect and negatively correlated with authenticity and self-esteem based on appearance. By adopting minority stress theory, he suggested that misgendering is one of the factors for minority stress. In McLemore's (2018) follow-up study on misgendering, more focus was placed on minority stress theory to investigate the experiences of misgendering among TGNC people. The findings of this study showed that perceived frequency and perceived stigma positively predict psychological distress, and felt stigma is positively correlated with stress and depression, which is consistent with minority stress theory. According to a substantial survey of local TGNC individuals in Hong Kong who experienced marginalization, a substantial proportion of participants reported moderate to severe symptoms of depression and

anxiety, with 43% and 35% experiencing such symptoms, respectively (Suen et al., 2021).

Abovementioned prior research has indeed investigated the connection between minority stress and sexual or gender minority individuals (Hendricks & Testa, 2012; Kolp et al., 2020; Li et al., 2017; McLemore, 2015, 2018; Suen et al., 2021; Testa et al., 2015). However, the interplay of dream variables in determining whether TGNC individuals exhibit dream experiences that align more closely with their natal sex or self-identified gender remains an under-researched area.

Investigating the interplay between dream variables may provide insight into the biological and psychological factors that affect subjective dream experiences in relation to biological sex, self-identified gender, and sex role orientation. Since minority stress plays an important role in TGNC individuals' mental health and potentially in their dream experiences, it is an indispensable factor that should be considered in such an investigation.

2.7 Implicit Attitudes toward Transgenderism

Self-reported attitudes are explicit attitudes of the individual, while a person's explicit and implicit attitudes toward the same issue could diverge (Axt et al., 2021; Gawronski & Payne, 2010; Greenwald et al., 1998; Greenwald & Banaji, 1995; Nosek

& Smyth, 2007; Wang-Jones et al., 2018). The importance of measuring implicit attitudes is that they provide information that participants are not willing to, or even unable to, provide through self-reporting (Axt et al., 2021). One of the most commonly used measures of implicit cognition, such as attitudes and stereotypes, is the Implicit Association Test (IAT; Greenwald et al., 1998; Greenwald & Banaji, 1995). In 2017, Wang-Jones et al. (2017) developed two gender identity Implicit Association Tests, one for assessing implicit attitudes toward transgender males and the other for assessing implicit attitudes toward transgender females. The two tests demonstrated good psychometric properties in the initial study, but they divided the construct of implicit attitudes toward TGNC people into two: one for transmen and the other for transwomen. In the current study, the intended measurement of implicit attitudes toward transgenderism focused on transgenderism as a whole; hence, Wang-Jones et al.'s (2017) Implicit Association Tests were not suitable for the current study.

In a study using IAT to explore implicit and explicit attitudes toward TGNC people among gay, straight, and non-monosexual participants, Wang-Jones et al. (2018) found that homosexual male participants had a lower explicit bias toward transgender men than heterosexual male participants. However, the IAT results suggested that homosexual male participants had an implicit preference for biological

males over transgender males, whereas implicit attitudes toward transgender women were consistently negative in all groups. In conclusion, gay people show positive explicit attitudes toward TGNC people, but implicit biases are evident in IAT results (Wang-Jones et al., 2018). Although Wang-Jones et al. (2018) examined attitudes toward TGNC people among different sexual orientation groups, only cisgender participants were included. In other words, the implicit attitudes of cisgender people with different sexual orientations have been investigated; however, Wang-Jones et al. (2018) did not investigate the implicit attitudes of transgender individuals toward transgenderism.

Axt et al. (2021) examined implicit attitudes toward TGNC people, which filled the gap in Wang-Jones' (2018) study because transgender participants were included in their study. Implicit ingroup favoritism was found among transgender participants with a close to a medium effect size of $d = 0.42$, which is at a similar level of ingroup favoritism as cisgender participants, with an effect size of $d = 0.44$ (Axt et al., 2021). This finding differs from previous research on minority groups of race or religion, in which no implicit ingroup favoritism is found (Nosek et al., 2007; Rudman et al., 2002). Given the fundamental cultural differences between the West

and the East, it is unknown whether Hong Kong participants show the same ingroup favoritism as in a previous study using IAT (Axt et al., 2021).

In the current study, when analyzing the relationships between self-identified gender, sex role orientation, and dream experiences, it is necessary to consider the potential effects of implicit attitudes and other variables related to self-acceptance and well-being. Therefore, certain analyses in the present study were conducted while controlling for the IAT and other self-acceptance and well-being variables.

2.8 Transgender and Gender Nonconforming People in Hong Kong

The TGNC population is unknown in most countries and areas, including Hong Kong. Based on the latest official figure available, the population of Hong Kong in 2021, as reported by the population census conducted by the HKSAR Government, was 7,413,070 individuals (HKSAR Govt, 2021). Based on previous Western studies, it is estimated that the TGNC population in Hong Kong may range from approximately 29,000 individuals, which accounts for 0.39% of the total population (Meerwijk & Sevelius, 2017), to a potential maximum of 37,400 individuals, representing 0.5% of the adult population (Conron et al., 2012). TGNC people are certainly considered a minority among the entire population, but thirty thousand are not a small number that can be overlooked. In Hong Kong, although

several studies have indicated that local people are supportive of civil rights for the TGNC people (King, 2008; Winter et al., 2008), prejudice toward the TGNC people is still common (Ma, 1999).

Studies have shown that TGNC people are more prone to mental health issues and their psychological well-being is lower than that of cisgender people (Davey et al., 2014; Dhejne et al., 2016; Meyer et al., 2017; Warren et al., 2016). Similar findings were found in the first community-driven survey of the TGNC people in Hong Kong (Suen et al., 2018). The findings of the survey include that transgender females who are single and with lower income generally have a lower quality of life, while higher suicidality is found among younger transgender individuals with lower income. Among the participants, 67% contemplated suicide and 21% had attempted suicide. Consistent with a study in the United States, the transgender population exhibits a significantly higher rate of suicide attempts, ranging from 30% to 81%, compared to the general population, which has a lower rate of 5% (Narang et al., 2018).

Previous studies have shown that sexual minorities experience discrimination at a significantly higher prevalence than the general population (Baptiste-Roberts et al., 2017; Orzechowski et al., 2020). In another systematic review encompassing 165

peer-reviewed articles pertaining to the subject of mental health in TGNC individuals, the findings corroborated the prevailing notion that TGNC individuals face a heightened susceptibility to discrimination and stigma when compared to cisgender individuals (Pinna et al., 2022). The study also highlighted the high rates of mental health problems among TGNC individuals compared with the general population.

Contrary to the stereotypical thinking that TGNC people all aim for medical intervention, particularly surgical procedures to alter their bodies. In the largest local survey on social and marginalization faced by TGNC people in Hong Kong thus far, Suen et al. (2021) found that many TGNC people do not plan to have gender-affirming medical interventions for different reasons. The two main reasons are financial concerns and risks/techniques, with around 40% of each. Depending on the surgical procedure performed, TGNC individuals who have not undergone any required surgical procedures are not permitted to change their gender marker on any identity documentation in accordance with the local ordinances.

Under current regulations, individuals who want to change their sex entry on their identity card must undergo certain medical procedures. In April 2024, the Hong Kong Government announced a revised policy on changing gender markers on the Hong Kong identity card concerning TGNC individuals (HKSAR Govt, 2024).

According to the revised policy, individuals who have not undergone full Gender Affirmation Surgery (GAS) may apply to change the gender marker on their ID card if they have completed surgical treatment to modify their sexual characteristics.

Under the revised policy, individuals transitioning from female to male must have undergone breast removal to be eligible for a change in the gender marker on their ID cards. The requirement of the removal of the uterus and ovaries or the construction of a penis is no longer needed. Individuals transitioning from male to female are required to have their penis and testes removed, but there is no requirement for vagina construction (HKSAR Govt, 2024). However, individuals applying for the change of gender marker on their ID card are mandated to have been consistently undergoing hormonal treatment of the opposite sex for a continuous period of at least two years prior to the date of application. Furthermore, they are expected to persist in continuous hormonal treatment beyond the application date (HKSAR Govt, 2024).

The local survey also revealed 32% of local transgender participants reported having non-suicidal self-harm behaviors in the past 12 months, whilst high suicidality is also found, in the participants' lifetime, 77% reported contemplated suicide, 26% reported having a suicide plan, and 13% reported having attempted suicide (Suen et al., 2021).

In another report on LGBTQI+ employees in the workplace in Hong Kong, it was mentioned that many TGNC people decided to resign from their workplace before transitioning to their self-identified gender, and afterward, they joined a different workplace instead of the previous one after having their transition started using their self-identified gender (Tang et al., 2021).

While the revised policy concerning gender marker modifications on identification cards in Hong Kong has shown some advancement, the significant prevalence of depressive symptoms, anxiety symptoms, and self-harm behaviors among local transgender individuals underscores the immense stress and compromised well-being experienced by the TGNC individuals. Furthermore, the report on TGNC employees in the workplace underscores the discomfort faced by TGNC individuals during their transition process.

2.9 Difficulties of TGNC People Face in Hong Kong

Winter et al. (2008) conducted a study on transphobia of undergraduate students in Hong Kong, the results from the initial study of Genderism and Transphobia Scale conducted in Canada were compared with the results obtained from Hong Kong undergraduate students. The scale, which measures both emotional and physical responses such as fear/disgust and harassment/discrimination, is a widely

accepted instrument for measuring transphobia (Ansara & Friedman, 2016). The comparison between Canadian and Hong Kong samples showed that transphobia is higher in Hong Kong than in Canada, and gender variance in females is comparatively more accepted than that in males (Winter et al., 2008). The results of Winter et al.'s (2008) research additionally demonstrated proof from prior Asian investigations that in Asia, transphobia is exhibited within the family, at school, in the workplace, and in society more broadly (Winter, 2007a, 2007b).

Hong Kong, as an ex-British colony, also possesses a Confucian Heritage Culture, which significantly influences the cultural attitudes of its society. Confucianism shares several similarities with collectivism, wherein individuals focus more on communal aspects, such as the community they belong to, and prioritize communal goals over individual goals (Hofstede, 1984, 1994; Hofstede & Bond, 1988). TGNC individuals in Hong Kong are under a culture that deeply values collectivism, but transphobia is commonly expressed in society. This cultural dynamic can create a unique set of challenges for TGNC individuals in Hong Kong, as they may face heightened expectations to prioritize the needs of the collective over their own individual needs. Furthermore, the prevalence of transphobia in society can create a hostile environment that marginalizes TGNC people even further.

Pursuing gender-affirming surgery in Hong Kong can be a complex and time-consuming process. This information is derived from various sources, including local transgender support groups (Gender Empowerment, 2021; Transgender Resource Center, 2021) and personal communication with medical professionals affiliated with the gender clinic at the Prince of Wales Hospital.

Individuals who identify as TGNC and are 18 years of age or older typically begin by consulting a general practitioner regarding their gender incongruence. The general practitioner will then refer them to the Gender Identity Clinic (previously known as the Gender Identity Disorder Clinic), which is part of the Department of Psychiatry at the Prince of Wales Hospital. This initial appointment can take approximately six months to arrange. If the psychiatrist deems the individual suitable, they may also be referred to a clinical psychologist if they express a desire to pursue a gender-affirming surgery in the future. This step is crucial because according to current regulations, confirmation letters from both psychiatrists and clinical psychologists are required to access gender-affirming surgery through the public medical system.

Psychiatrist may also refer the individual to other departments, such as endocrinology, speech therapy, or occupational therapy, depending on their specific

needs and circumstances. The individual will undergo a thorough blood test to assess their suitability for hormone therapy, and the endocrinology department will prescribe appropriate hormones and provide guidance on dosage adjustments.

During this process, individuals may also be required to engage in a Real-Life Experience (RLE) for two years. Throughout this period, they are expected to regularly visit psychiatrists, clinical psychologists, and other medical professionals for follow-up appointments. Based on their evaluations, the psychiatrist and clinical psychologist may recommend gender-affirming surgery to the individual. However, due to the high demand and limited resources, the waiting time for surgery can be lengthy, currently ranging from 5 to 6 years.

It is important to note that long waiting times in healthcare have been associated with increased anxiety, which can negatively affect overall health outcomes (Biddiss et al., 2014). The decision to pursue gender-affirming surgery is significant, and a prolonged waiting period can cause significant stress for individuals.

Considering the aforementioned factors and the challenging circumstances that TGNC individuals in Hong Kong may encounter, it is anticipated that they may experience significant stress related to their TGNC identity. This stress can also

contribute to a decline in psychological well-being, as evidenced by Suen et al.'s (2021) survey.

2.10 Transgender Congruence and Stress

Congruence is the cornerstone of the person-centered approach in psychotherapy, and it can be concluded that a person's true experiences can be accurately expressed in the world (Rogers, 1959). According to Rogers (1957), incongruence means "a discrepancy between the actual experience of the organism and the self-picture of the individual insofar as it represents that experience" (Rogers, 1957, p. 95). Putting congruence in TGNC individuals, Kozee et al. (2012) defined transgender congruence as how TGNC individuals consider their self-image in their self-identified gender and how they feel about their self-identified gender.

Transgender congruence also includes self-reflection as in how congruent they perceive they are and self-expression on whether they perceive efficacy in expressing themselves as the gender they identified (Kozee et al., 2012).

In different studies investigating transgender congruence, it has been found to be an important mechanism of resilience for transgender individuals and is also associated with psychological well-being (Kozee et al., 2012; Martin-Storey et al., 2021; van den Brink et al., 2020). Higher transgender congruence is negatively related

to anxiety, depression, and body dissatisfaction; it is also associated with more steps toward transitioning and higher life satisfaction (Kozee et al., 2012; Shulman et al., 2017).

Transgender congruence may not be as relevant to nonbinary or gender fluid TGNC people compared to their binary counterparts, considering the versatile nature of the nonbinary and gender fluidity (Breslow et al., 2020). Studies with samples from the UK, Canada, and the USA have shown that nonbinary people scored lower in transgender congruence than binary TGNC people (Breslow et al., 2020; Clark et al., 2018; Jones et al., 2019). In a national study conducted in the USA, it was found that binary transgender respondents scored similarly on transgender congruence, while nonbinary respondents scored significantly lower on appearance congruence. The researchers proposed that the idea of aiming to look “pass”³ is not relevant to nonbinary people, resulting in a significantly lower score on appearance congruence, but not in gender identity acceptance (Breslow et al., 2020).

In a previous study, transgender congruence was used to examine its relationship with TGNC individuals being gender misclassified, and it was found that

³ Pass: to be align with the stereotypical gender expression and perceived as the gender they identify and wish to present as.

higher transgender congruence negatively predicted the perceived frequency of misgendering, that is, the misclassification of one's gender identity by others (McLemore, 2015). Research has suggested that by verifying a person's views on self, one not only feels the world is more predictable and in control, but also feels more authentic in social relationships and fulfills their psychological need for coherence (Kernis & Goldman, 2006; Pelham & Swann, 1994; Swann et al., 1992; Swann & Brooks, 2012). For TGNC people, misgendering invalidates their self-views related to gender identity; hence, the lack of verification of self-views is likely to become a stressor (Breslow et al., 2020).

Different studies have found that TGNC people often encounter discrimination from economic and employment perspectives (Brewster et al., 2014, 2014; Mizock & Mueser, 2014). Some TGNC people may experience discrimination from violence and harassment (Lombardi et al., 2002), while others may receive culturally insensitive or incompetent healthcare (Bradford et al., 2013; E. Lombardi, 2007). Members of minority groups may be exposed to excessive stress owing to stigma, prejudice, and discrimination. Minority stress theory (Meyer, 1995, 2003) conceptualizes that a hostile and stressful social environment is likely to contribute to the higher prevalence of mental disorders among members of minority groups.

2.11 Stress and Dreaming

The continuity hypothesis is one of the most widely used contemporary dream theories in dream research. This means that dream contents are somehow continual of the waking concerns; they are related to the corresponding waking or psychological variables of the dreamer (Domhoff, 1996, 2003; Hall & Nordby, 1972; Schredl, 2012; Schredl & Hofmann, 2003). Schredl (2000a) has a proposition that not all waking activities are reflected equally in dreams, but those with higher emotional intensity come up in dreams more frequently. Empirical evidence supports the continuity hypothesis as people indeed dream of their waking-life concerns (Hoelscher et al., 1981; Nikles et al., 1998; Saredi et al., 1997), or somehow have them reflected in their dreams (Domhoff, 1996, 2003, 2011; Hall, 1953; Hall & Nordby, 1972).

Cartwright (1979) found that when a person is undergoing stressful or upsetting events, the person experiences more dreaming. Stress before sleep increases arousal and the intensity of affect in dreams (Goodenough et al. 1974). Similarly, in Yu's (2007) study, participants' emotional intensities before sleep were significantly correlated with those during sleep. In a study of patients with cardiovascular problems, anxiety and depression were found to be associated with dream recall frequency and dreams with a negative emotional tone (Komasi et al., 2018).

According to Komasi et al. (2018), people with cardiovascular problems constantly experience high levels of stress because they must face different types of medical procedures, such as invasive treatments. Depression and anxiety are prevalent in people with chronic diseases, such as cardiovascular problems (Komasi et al., 2015; Saeidi et al., 2015).

Previous studies have indicated that individuals with TGNC face additional stress, which is associated with a higher prevalence of psychological symptoms (Budge et al., 2013; Nuttbrock et al., 2002). The prevalence of depressive and anxiety symptoms among TGNC individuals has been found to exceed clinical cut-offs compared with cisgender individuals (Budge et al., 2013; Clements-Nolle et al., 2001; Hepp et al., 2005; Hoffman, 2014; Mustanski et al., 2010; Nemoto et al., 2011; Nuttbrock et al., 2010; Reisner et al., 2016). Considering that anxiety and depression are linked to dream recall frequency and dreams with negative emotional tones (Komasi et al., 2018), it is important to explore how dream experiences of TGNC individuals may differ based on their stress levels and levels of self-acceptance and well-being. Therefore, the current study considered the variables of minority stress level, self-acceptance, and well-being when examining the dream experiences of TGNC participants.

Based on the continuity hypothesis, it is not surprising that people undergoing stressful and upsetting events in life will likely have more intense dreams because such events could have been dreamed of or reflected in their dreams. Previous studies support the positive association between stress and dreams as well as a link between emotionally loaded events and dreams (Cartwright, 1991, 2010; Djurich et al., 2019; Domhoff, 1996; Levin & Nielsen, 2007; Pagel et al., 1995). In one study investigating stressful intensity, emotional intensity, and dreams, emotional waking-life experiences were found to be more likely to be incorporated into dreams; however, these waking-life events may not be particularly stressful (Malinowski & Horton, 2014).

2.12 TGNC and Dreaming

In most previous studies, the definition of gender was based on natal sex rather than self-identified gender identity. For TGNC people, their biological makeup (as in their natal sex) is not in sync with their “psychological sex” (as in their self-identified gender identity). To date, there have been a few published dream studies conducted on the TGNC community, which are listed below.

In a cross-sectional multicenter study aiming to investigate the sex-specific and modifiable determinants of quality of life in TGNC individuals, the impact of

sleep quality, chronic pain, body image, and social support were examined (Auer et al., 2017). The findings revealed that sleep quality emerged as the most influential predictor of quality of life for both trans male participants ($n = 72$) and trans female participants ($n = 82$). Auer et al. (2017) concluded that sleep quality, chronic pain, and body image are important and potentially modifiable factors that affect the quality of life in TGNC individuals.

One study on TGNC people investigated the interplay among suicide risk, sleep disturbance, and trauma exposure. The results show that the severity of nightmare does not predict suicide risk, but nightmare frequency significantly predicts such risk (Andrew et al., 2020). In their study, Andrew et al. (2020) explained this using minority stress theory and proposed that because TGNC people are exposed to more hostility and stressors in society due to their gender identity, they are likely to have more health issues, as indicated by a previous study (Hendricks & Testa, 2012). The researchers also made references to findings of previous studies to articulate the potential impacts of minority stress on TGNC people, such as a higher prevalence of suicide attempts (Narang et al., 2018), traumatic events and posttraumatic stress disorder (PTSD) symptoms (Shipherd et al., 2011) in TGNC people than in the general population.

Andrew et al.'s (2020) study showed that nightmare frequency significantly predicts suicidality in TGNC individuals. This result is consistent with Sjöström et al.'s (2009) finding that frequent nightmares were associated with a 3-fold risk of repeated suicide attempts, independent of sex, DSM diagnoses, and depression and anxiety symptom intensity. Sjöström et al. (2009) suggested that nightmares constitute a marker for an increased risk of suicidal behavior. Andrew et al.'s (2020) study found that nightmare frequency as a unique predictor of suicide risk among TGNC people could be of great value to health practitioners who serve the TGNC population, as special attention could be paid to this unique aspect when assessing the suicide risk of patients and clients.

Since nightmare frequency is a strong predictor of suicide risk and other mental health variables, the study of dream experiences of TGNC people has strong clinical implications. Understanding the dream experiences of TGNC people can assist clinicians in identifying potential underlying issues and providing targeted interventions. In turn, this has contributed to the development of tailored treatment approaches.

In another study on treating PTSD and post-trauma nightmares in people with psychosis, a case study of a transgender individual was presented (Kovacevic &

Davis, 2020). It was suggested that the participant might have been under chronic stressful situations due to his gender dysphoria; hence, it was a potential perpetuating factor of the participant's increased nightmare frequency. The study results regarding the transgender individual in question indicate a decrease in both the frequency and intensity of trauma-related nightmares, which ultimately ceased after undergoing therapy (Kovacevic & Davis, 2020).

Abramovich et al. (2020) conducted a case study on a transgender woman who was a refugee and exhibited symptoms of PTSD. The study highlighted that, despite the use of psychotropic medication, she consistently experienced recurring nightmares. Furthermore, the individual continued to struggle with both PTSD and gender dysphoria. Abramovich et al. mentioned that she reported experiencing recurring nightmares regardless of psychotropic medication, and she continued to have PTSD and gender dysphoria. The authors also focused on the prevalence of homelessness in the transgender youth population, urging transgender inclusion in the healthcare system. The above-mentioned studies concerning PTSD nightmares and TGNC people could serve as good references in the current study, such that stress from previous trauma and other daily stressors such as homelessness could influence dream content.

A conference presentation on transgenderism and dreams shared a clinical case of a transgender woman's dreams through her transition (Martin & Davenport, 2014). According to the conference abstract (Schredl, 2014), the presentation was delivered by a transgender woman and her ex-wife, which included the change of dream contents along her transition process, as well as the sharing of dreams from the ex-wife. The presenters suggested that there was a possibility of dream sharing between spouses, for which the shared dreams gave the ex-wife many clues concerning the self-identified gender of her then-husband, that is, the transgender woman (Martin & Davenport, 2014). Unfortunately, no follow-up journal articles were found related to this presentation. This presentation is relevant to the current study, as insights derived from dreams of TGNC participants were analyzed. While the ex-wife's understanding of the issue could be considered insights or potential solutions, dreaming is generally agreed to serve this function (Greenberg et al., 1992; Wagner et al., 2004).

McKenzie (2010) conducted a case study exploring homosexual desire at mid-life using case reports and dream materials from two TGNC individuals. In one dream quoted in the case study, one biological female participant dreamed of swimming in a pool full of alligators and felt abandoned by her husband when he refused to help her and left her to fend for herself. The author suggested that the participant had

encountered stripping and devouring primordial animals in her psyche, and her ego was powerless and terrified. In dream reports provided by another biological female participant, she tried to have sexual intercourse with a man, but in both dreams, the man prematurely ejaculated and she felt it was disgusting. The author suggested that in the participant's inner world, she confronted her masculine shadow, which represented her tendency toward reactive aggression stemming from the emotional immaturity of her pre-adolescent male self. Through the lens of analytical psychology, McKenzie (2010) proposed that the gendered feelings in a person are "embodied imagination" (p. 106), and concluded that "growth of human consciousness is that we are aware of the fluidly embodied nature of our gender and sexuality" (p. 107).

In another case study that focused on the psychoanalytic work on a trans male, a session with dream analysis was presented (D. Knafo, 2012). The trans male dreamed of being with a school group, witnessing a public execution of a woman with thin features, dishwater grayish-brunette hair, and sad eyes. Despite the group's indifference, the dreamer felt empathy toward the condemned woman and approached her to offer comfort. The woman handed the dreamer an empty cassette tape box as a memento before being taken away by a person in a white coat. The dream ended with

the dreamer reflecting on the final moments of the woman's life and their brief connections. D. Knafo (2012) used "the art of dance" as a metaphor to illustrate the thoughts and emotions in the minds of the analyst and the analysand, she mentioned that she encouraged the analysand to free-associate to the various elements of the dream, and "the dance" between the analyst and the analysand continued. The author briefly discussed and explained the free association, transference/countertransference, and dreamwork, followed by details of the dreamwork session with the TGNC client. The author suggested that using free association and dream analysis helps the therapist comprehend the current situation and plan for further steps in the therapy, while transference/countertransference helps reveal the living context (D. Knafo, 2012).

D. Knafo's (2012) study shows how dreams are potentially useful in providing insights into solving the problems faced by the dreamer. This echoes the widely believed function of dreaming as a way of providing possibilities to dreamers. The present investigation did not involve a dream analysis session with the participants; instead, they were instructed to utilize a self-guided dream interpretation based on the cognitive-experiential model of dream interpretation, as described by Hill (1996, 2004).

2.13 Gender Differences in Dreams

Many previous studies have shown that there are notable differences in dream themes between biological males and females; for instance, women are more likely to dream of school, teachers, and studying (Griffith et al., 1958; Nielsen et al., 2003; Zadra & Nielsen, 1997). Past research has also found that biological males tend to report more in their dreams than biological females (Domhoff, 2003; Hall et al., 1982; Hall & Van de Castle, 1966; Schredl et al., 2010, 2019; L. Zhang et al., 2020).

In general, it has been observed that biological women tend to exhibit a higher frequency of dream recall than biological men, as indicated by several large-scale studies involving a sample size of up to 2,328 participants. (Giambra et al., 1996; Pagel et al., 1995; Schredl, 2002; Schredl & Piel, 2003; Schredl & Reinhard, 2008). Similar to research on adults, studies on adolescents also found a higher dream recall frequency in female adolescents than in their male counterparts (Brand et al., 2011; Schredl et al., 2015).

In a meta-analysis, Schredl and Reinhard (2008) pointed out that gender differences in dream recall might be a result of studies adopting different methods for measuring the dream recall rate. The most common methods include questionnaire scales, dream diaries, and sleep-lab experiment awakenings. However, the meta-

analysis revealed that there are significant gender differences in the results regardless of whether the data were obtained by questionnaire scales, dream diaries, and a question about the most recent dream or dream themes. Schredl and Reinhard's (2008) meta-analysis found that biological females tended to recall their dreams more often than biological males, and such sex differences in dream recall were found to be independent of methodological factors and publication year. There were no significant differences between biological sex in the methods using REM awakenings and recalling dreams from the previous night, despite more dream recall in females. Potential factors contributing to this phenomenon may include a relatively small sample size (Schredl & Reinhard, 2008) as well as the selection of participants with high dream recall for REM awakenings (Schredl & Fulda, 2005; Schredl & Reinhard, 2008).

In a study examining the potential factors contributing to gender differences in dream recall frequency, women were once again confirmed to have higher dream recall frequency. This is believed to be their higher interest in dreams, as evidenced by their higher scores on the items "meaningfulness of dreams" and "occurrence of problem-solving dreams" (Schredl, 2002). Various factors may contribute to the substantial gender differences in dream recall; for instance, women have more interest

in dreams, higher frequency of talking about or recalling emotional experiences and matters, higher verbal intelligence, better verbal memory, lower sleep quality, and insomnia (Chipman & Kimura, 1998; Halpern, 2000; Hyde & Linn, 1988; Kring & Gordon, 1998; Schredl, 2000b; Schredl, Schenck, et al., 1998; Schredl & Reinhard, 2008; Seidlitz & Diener, 1998; Zhang & Wing, 2006). Such gender differences could be further elaborated, as dream recall frequency is linked to biological females being more prone to nocturnal awakenings, poor sleep quality, and insomnia (Schredl et al., 1997; Schredl, Schäfer, et al., 1998; Schredl, Wittmann, et al., 2003; Schredl & Reinhard, 2008).

In dream work, biological females also report greater gains than biological males (Hill, Rochlen, et al., 2003; Kolchakian & Hill, 2002; Rochlen, 2004). Schredl and Bulkeley (2020) conducted a study on how people have been affected by the COVID-19 pandemic. It was found that females are more likely to report dreams about COVID and they are more prone to negative changes in dream emotions than males (Schredl & Bulkeley, 2020).

Nielsen et al. (2000) found that disturbing dreams are more prevalent in adolescent biological females than in adolescent biological males. They further

suggested that for adolescents as young as 13 years of age, the frequency of disturbing dream recall positively correlated with the pathological symptoms of trait anxiety.

A study using the Dream Intensity Scale, same instrument as this present study, found that biological females when comparing to biological males, biological females scored significantly higher in Dream Quantity, Vividness, Regular Dreams, Major Modalities, and Minor Modalities (Yu, 2012b), whilst another study also using the same instrument also found that biological females scored significantly higher on the Dream Intensity total than did the male participants (Yu, 2010b).

The aforementioned studies serve as references for the current study, which aims to explore the dream experiences of TGNC individuals. The current study aimed to investigate the impact of self-identified gender on the dream experiences of TGNC participants while recognizing that their anatomical characteristics are associated with their biological sex. The findings should broaden the existing knowledge on the intricate interplay between biological and psychological influences in shaping the dream experiences of TGNC individuals.

2.14 Sex Role Orientation and Attitudes toward dreams

Schredl and Reinhard (2008) found that there is a minimal gender difference in dream recall frequency for children under 10 years of age. The implication is that

the socialization of sex roles is a contributing factor to sex differences in dream recall frequency among adults (Schredl, 2002; Schredl & Lahl, 2010). Sex role orientation influences not only dream recall frequency but also nightmare frequency, dream tone, emotional intensity, and attitudes toward dreams (Schredl et al., 2013). It has been suggested that femininity partially explains gender differences in dream recall frequency (Schredl & Lahl, 2010), while attitudes toward dreams might have a moderating effect on sex role orientation and natal sex (Schredl et al., 2013). Femininity is associated with dream emotional intensity, while masculinity is related to positive emotional tone in dreams (Schredl et al., 2013).

Numerous previous studies have demonstrated the positive correlation between attitude toward dreams and dream recall frequency (Belicki, 1987; Cernovsky, 1984; Herman & Shows, 1984; Hill et al., 1997; Robbins & Tanck, 1978; Rochlen et al., 1999; Schredl, Ciric, Götz, et al., 2003; Schredl et al., 1996). Schredl (2009). These studies have also highlighted various factors that influence dream recall, such as biological sex and attitudes toward dreams. It has been observed that biological females generally exhibit more positive attitudes toward dreams than biological males.

Schredl (2009) found that attitudes toward dreams were correlated with most of the dream variables examined, including dream recall frequency and recalling dream details. He further found that attitudes toward dreams were more strongly correlated with recalling dream details than dream recall frequency, indicating that individuals possessing more positive or favorable attitudes toward dreams were more likely to be able to recall their dreams in greater detail. Schredl et al. (2013) found that attitudes toward dreams moderated the effect of sex role orientation and biological sex on dream recall frequency.

The findings of the aforementioned studies hold meaningful reference values in the present study, as they provide insights into the impact of sex role orientation, birth-assigned sex, and attitudes toward dreams on dream recall frequency. These factors may influence the dream content recorded in the dream diaries. They serve as a solid reference for comparing the results of the current study, which aimed to explore the relationship between sex role orientation, natal sex, self-identified gender, attitudes toward dreams, and dream content among the TGNC participants.

Additionally, the current study conducted a moderation analysis to examine whether findings similar to those found in Schredl et al.'s (2013) study could be obtained

regarding the interaction between attitudes toward dreams, sex role orientation, self-identified gender (biological in Schredl et al.'s study), and dream variables.

2.15 Dreams and Insights

Dreaming and personal realization or insights have been linked together in the literature, such as those in the areas of psychoanalysis and psychotherapy (Blass, 2002; Blechner, 2001; Freud, 1955; Lippmann, 2002). In science, the discovery of the benzene ring structure is believed to be a result of insights from a dream of August Kekulé, the founder of the benzene ring structure, after he dreamed of a snake seizing its tail (Barrett, 1993). When comparing insights obtained from working with a recent dream, a recent event in waking life, or a dream from another person, it was found that insight from working with one's own recent dream is the greatest (Hill et al., 1993). It seems that dreams are a useful source for problem solving when no good solutions are found in a waking life.

In a study examining the effect of sleep on solving a number reduction task (NRT; Wagner et al., 2004), the participants underwent training on doing the task; they were then assigned to one of three conditions, that is, eight hours of night sleep, night wakefulness, or daytime wakefulness. The NRT is a math task that is supposed to be solved by lengthy calculation, yet there is a shortcut to solving it if a hidden rule

is discovered. The results showed that, when compared with those who were awake, more than twice as many participants who had slept obtained insight into the hidden rule. The researchers concluded that memory representations are restricted during sleep, which helps to extract knowledge and facilitates insightful behaviors (Wagner et al., 2004).

In another study that used NRT, neuroimaging was used to examine the cerebral correlates of cognitive insights (Darsaud et al., 2011). The results revealed that the cerebral responses associated with implicit learning were different between participants who gained insight into hidden rules after sleep and those who did not.

Dreaming is highly associated with REM sleep, in a study of solving anagrams, participants with REM awakenings solved much more anagrams than those with NREM awakenings. The researchers proposed that such results indicated the brain is more flexible in cognitive processing during REM sleep than in NREM sleep (Walker et al., 2002). With this concept in mind, it is not surprising that dreaming may bring insights or mastery solutions to problems, as dreams with detailed and bizarre stories typically occur during REM sleep.

Michael Schredl and Allan Hobson are both renowned experts in dream research. In their discussion on continuity and discontinuity between waking and

dreaming, Schredl suggested that functions of dreaming may include preparing the dreamer for their future waking experiences and further suggested that dreaming facilitates self-actualization and personal growth (Hobson & Schredl, 2011). Based on this opinion, if we look from the perspective of dream functions, it is worth speculating that Schredl would likely agree with the idea that one of the functions of dreaming is to provide insights for the dreamer to handle or solve problems in waking life.

2.16 Cognitive-Experiential Model of Dream Interpretation

Psychotherapists sometimes use dream interpretation to help clients solve their problems by working with their dreams. In psychotherapy, one of the well-established ways of dreamwork is the Hill cognitive-experiential model of dream interpretation, which consists of exploration stage, insight stage, and action stage (Hill, 1996).

In an article discussing the cognitive-experiential model and clinical issues related to dreamwork, Hill and Rochlen (2002) explicitly stated that crucial assumptions underlie the Hill cognitive-experiential model of dream interpretation. First, they argued that standard symbolic interpretations have limited utility, because dreaming is highly personal. Therefore, sexual symbolism from the Freudian approach and archetypes from the Jungian approach may not hold a significant

meaning within the client's schema. Second, they emphasize that the "key" to dream interpretation lies solely in the dreamer's hands, with the psychotherapist serving as a facilitator rather than an expert providing definitive answers (Hill & Rochlen, 2002). These concepts are of extreme importance in the current study because participants filled in a self-guided dream interpretation workbook (Hill, 1996). Although a brief facilitation interview was provided to them, there was no therapist-facilitated dream interpretation session in the current study considering this study did not aim to provide any intervention. However, based on the critical assumptions that the dreamer is holding the key and dream content interpretations should be performed using the dreamer's schema, the self-guided dream interpretation with the facilitation session should be able to produce effective results. Although a self-guided dream interpretation may not be as preferred by dreamers as a therapist-facilitated dream interpretation session, self-guided dream interpretation is found to be as effective as a regular therapy session, indicating the efficacy of the self-guided dream interpretation (Heaton et al., 1998).

Attitudes toward dreams are believed to be predictor of whether dream work succeeds (Hill & Goates, 2004). However, there are conflicting findings concerning the relationship between attitudes toward dreams and session outcomes. Hill et al.

(1997) found that positive attitudes toward dreams did not show any association with both client-rated and therapist-rated session outcomes. However, Zack and Hill (1998) found that participants with positive attitudes toward dreams had worse session outcomes than those with moderate attitudes. In a study (Tien et al., 2006) of Taiwanese participants, the relationship between attitudes toward dreams and gains from dream interpretation was investigated. The results showed no significant difference in dream interpretation gains between the positive and negative dream-attitude groups.

In the current study, the potential relationships among attitudes toward dreams, gains from dream interpretation, and other TGNC variables were investigated. Based on clinical experience, many TGNC individuals may experience a long period of confusion before reaching a definite answer for their self-identified gender. Even TGNC people who are relatively sure about their gender identity may experience some struggles, particularly when they decide whether to have a gender-affirming surgery. They want to be “100% sure” about the gender they identified with because there is no “turning-back” when the surgery is performed. It would be useful for future researchers or TGNC individuals to unveil the associations between dream variables and TGNC variables. The study's results could not offer complete assurance;

however, they could provide additional data for the individuals to consider.

2.17 Hypotheses

A simple differentiation between sex and gender in humans is that sex is a classification of males or females based on their reproductive organs and chromosomal complement functions, whereas gender is about the self-representation of the individual as male or female (Wizemann & Pardue, 2001). Although previous dream studies used the term “gender” when analyzing gender differences, such differences were referring to “sex differences” instead of gender differences, because the findings were based on the biological sex of the participants (Björkqvist, 2018; Blume-Marcovici, 2010; Domhoff, 2005; Hyde & Linn, 1988; Lippa & Connelly, 1990; Schredl, 2000b, 2002; Schredl et al., 2004, 2010, 2015, 2019; Schredl & Lahl, 2010; Schredl & Piel, 2003, 2008; Schredl & Reinhard, 2008; L. Zhang et al., 2020), and very few dream or sleep studies have been conducted on TGNC participants (Andrew et al., 2020; Auer et al., 2017; Dolsen et al., 2022; Kolp et al., 2020). Since previous dream studies concerning gender were viewed from the natal sex perspective, it is unknown whether TGNC people show the same pattern; that is, transgender men dream like cisgender men or transgender women dream like cisgender women. What is more interesting is the situation involving nonbinary or

gender fluid TGNC participants, as the binary categorization does not apply to them. However, from the perspective of sex role orientation, the findings of a previous study indicated that TGNC people do not mirror the image of their cisgender counterparts (Herman-Jeglińska et al., 2002). Sex role orientation partially explains gender differences in dreams (Schredl et al., 2013); however, it is important to note that these findings were based on cisgender participants. Therefore, it remains unclear whether these findings would extend to transgender individuals. Therefore, investigating the relationship between sex role orientation and dream variables in transgender samples not only expands the existing knowledge but also provides valuable insights into the dream experiences of transgender people and enhances our understanding of this population.

Gender identity does not equate to the biological transition of a transgender individual, which means that a TGNC person may identify himself as a man without removing reproductive organs. There are places in the world that do not require sterilization to change the gender marker in official documentation. In addition, how comfortable a transgender person is with their self-identified gender is related to their social-environmental and psychological experiences. This reflects the importance of measuring transgender congruence and minority stress variables without invalidating

the influence of the transitioning stage on a transgender participant's life and well-being.

Therefore, the current study first tested the relationship between self-identified gender and sex role orientation, as in the hypothesis of "self-identified males (trans males) exhibit a higher level of masculinity compared to self-identified nonbinary individuals and self-identified females (trans females) despite their female primary sex characteristics" (Table 1, H1) and the hypothesis of "self-identified females (trans females) exhibit a higher level of femininity compared to self-identified nonbinary individuals and self-identified males (trans males) despite their male primary sex characteristics" (Table 1, H2).

Also, previous studies have shown significant sex differences on dream experiences (Björkqvist, 2018; Blume-Marcovici, 2010; Domhoff, 2005; Hyde & Linn, 1988; Lippa & Connelly, 1990; Schredl, 2000b, 2002; Schredl et al., 2004, 2010, 2015, 2019; Schredl & Lahl, 2010; Schredl & Piel, 2003, 2008; Schredl & Reinhard, 2008; L. Zhang et al., 2020), including dream intensity (Yu, 2009, 2012b), dream attitude and dream recall frequency (Beaulieu-Prévost & Zadra, 2005; Schredl et al., 1996; Schredl, Ciric, Götz, et al., 2003; Schredl, 2009; Schredl et al., 2013).

The theoretical framework of ATD is closely linked to the constructs of femininity

and gender, as previous research on sexual differentiation has demonstrated. It was expected to have an explanatory role. Hence, the present study tested the hypotheses related to dream intensity: (a) “both femininity/masculinity and attitudes toward dreams predict dream intensity” (Table 1, H3), (b) “the relationship between femininity/masculinity and dream intensity is mediated by attitudes toward dreams” (Table 1, H4), (c) “the relationship between femininity/masculinity and dream intensity is moderated by self-identified gender” (Table 1, H5).

Existing research has demonstrated distinct patterns in the dream content of biological males and biological females. Notably, studies have found that biological males tend to report a higher prevalence of sexual content manifesting in their dream experiences than their female counterparts (Domhoff, 2003; Hall et al., 1982; Hall & Van de Castle, 1966; Schredl et al., 2010, 2019; L. Zhang et al., 2020). Previous research has indicated that biological males exhibit more aggressive dream content than biological females (L. Zhang et al., 2020). Furthermore, the relationship between testosterone levels and aggression in humans has well been confirmed (Delville et al., 1996; Fuxjager et al., 2017; Gray et al., 1991; Mazur, 1995), and based on the continuity hypothesis, biological males are expected to have more aggressive dream content than biological females based on their higher testosterone levels. The current

study examined hypotheses related to sexual dream content as in (a) “both femininity/masculinity and attitudes toward dreams predict sexual and aggressive dream contents” (Table 1, H6), (b) “the relationships between femininity/masculinity and sexual and aggressive dream contents are mediated by attitudes toward dreams” (Table 1, H7), and (c) “the relationships between femininity/masculinity and sexual and aggressive dream contents are moderated by self-identified gender” (Table 1, H8).

TGNC people are under additional stress being outcast in the local society, as the researchers of the largest-scale local survey on marginalization in Hong Kong put it, “all of such social and legal marginalization took a toll on transgender people’s mental health in Hong Kong” (Suen et al., 2021, p. 11). If one of the key functions of dreaming is to provide solutions or ways of mastery to solutions, then dreaming might be a great source of insight for TGNC people to deal with daily hassles or problems as large as whether to perform gender-affirming surgery.

Although the causes of nightmares are still unclear, nightmares are found to be highly related to the level of stress of the person, while nightmares are associated with coping strategies; thus, the proposition of nightmares is to alleviate stress (Picchioni et al., 2002). Numerous scholars have suggested that dreaming may be a regulatory

process for modulating a person's negative emotions, which may help the individual experience stressful events (Cartwright, 1991; Cartwright et al., 1998, 2001, 2003; Domhoff, 1993; Kramer, 1993; Kramer & Brik, 2002; Kramer & Glucksman, 2006; Yu, 2001, 2007, 2011). To examine the gains from dreams in relation to sex role orientation and self-identified gender, the current study tested the hypothesis of "the relationship between attitudes toward dreams and insights from dreams is moderated by the level of femininity and self-identified gender" (Table 1, H11).

Dream recall frequency is associated with events, particularly if they are intensely emotionally loaded, and the valence of affect when the individual is awake (Cartwright et al., 2006; Gilchrist et al., 2007; Nielsen et al., 1991; Schredl, 2006; Yu, 2007), and it may be fair to anticipate that TGNC individuals with a higher level of minority stress may report more dream recall, and perhaps more nocturnal awakening from nightmares. Dreaming is an emotional experience with representations filled with visual and auditory senses (Yu 2008a, 2010). With the concept that dreaming itself is emotional in nature, it is not surprising that Brand et al. (2011) found in their study that when the dreamer finds that the dreams are more related to oneself, the dreams may likely influence the mood of the dreamer on the following day. In the current study, an exploration of the potential relationships between dream intensity,

dream content, and variables of well-being/self-acceptance may contribute to the development of novel dream theories that are specifically applicable to the TGNC population.

Transgender congruence (gender identity acceptance and appearance congruence) is believed to be an important resource that protects individuals from adverse psychological outcomes (Glynn et al., 2016; Kozee et al., 2012). Based on the assumptions of the minority stress model (Meyer, 2003), it may be anticipated that significant stress may be derived from feeling uncomfortable with external appearance and not accepting one's own gender identity.

TGNC individuals may experience additional stress, but a previous study found that they show implicit ingroup favoritism (Axt et al., 2021), which is one of the self-acceptance variables measured in the present study. Although this finding has never been replicated in other published studies, implicit attitude toward TGNC is an indicator of self-acceptance, a source of stress, and a potential factor for well-being. Hence, the current study also tested the findings on the dream experiences of TGNC participants by accounting for the potential effects of self-acceptance and well-being variables on the relationship related to dream intensity, with the hypothesis of "the relationships between femininity/masculinity and dream intensity retain even with

consideration of self-acceptance and well-being variables” (Table 1, H9), as well as dream content, with the hypothesis of “the relationships between femininity/masculinity and sexual and aggressive dream contents retain even with consideration of self-acceptance and well-being variables” (Table 1, H10).

Table 1 presents the hypotheses of this study.

Table 1

Hypotheses of the Study

Category	Corresponding Research Objectives	Hypotheses
Gender related variables	Research objective 1: To investigate the relationship between femininity/masculinity and self-identified gender.	<p>H1. Self-identified males (trans males) exhibit a higher level of masculinity (BSRI, TMF) compared to self-identified nonbinary individuals and self-identified females (trans females) despite their female primary sex characteristics.</p> <p>H2. Self-identified females (trans females) exhibit a higher level of femininity (BSRI, TMF) compared to self-identified nonbinary individuals and self-identified males (trans males) despite their male primary sex characteristics.</p>
Dream variables and gender related variables	Research objective 2: To investigate the roles that self-identified gender and femininity/masculinity have on the intensity and content of dreams in TGNC individuals.	<p>H3. Both femininity/masculinity (BSRI, TMF) and attitudes toward dreams (ATD) predict dream intensity (DIS).</p> <p>H4. The relationship between femininity/masculinity (BSRI, TMF) and dream intensity (DIS) is mediated by attitudes toward dreams (ATD).</p> <p>H5. The relationship between femininity/masculinity (BSRI, TMF) and dream intensity (DIS) is moderated by self-identified gender (DEM).</p> <p>H6. Both femininity/masculinity (BSRI, TMF) and attitudes toward dreams (ATD) predict sexual and aggressive dream contents (CA).</p> <p>H7. The relationships between femininity/masculinity (BSRI, TMF) and sexual and aggressive dream contents (CA) are mediated by attitudes toward dreams (ATD).</p>

Category	Corresponding Research Objectives	Hypotheses
		H8. The relationships between femininity/masculinity (BSRI, TMF) and sexual and aggressive dream contents (CA) are moderated by self-identified gender (DEM).
Dream variables and gender related variables, with addition of self-acceptance/well-being variables	Research objective 3: To investigate the roles that self-identified gender and femininity/masculinity have on the intensity and content of dreams in TGNC individuals while controlling the effects of self-acceptance and well-being.	H9. The relationships between femininity/masculinity (BSRI, TMF) and dream intensity (DIS) retain even with consideration of self-acceptance (TCS, IAT) and well-being variables (GMSR, SWEMWBS). H10. The relationships between femininity/masculinity (BSRI, TMF) and sexual and aggressive dream contents (CA) retain even with consideration of self-acceptance (TCS, IAT) and well-being variables (GMSR, SWEMWBS).
Potential function of dreaming in TGNC people	Research objective 4: To investigate the relationship among the degree of insights which TGNC individuals obtain from their dreams, attitudes toward dreams, self-identified gender, and femininity/masculinity.	H11. The relationship between attitudes toward dreams (ATD) and insights from dreams (GDI) is moderated by the level of femininity (BSRI, TMF) and self-identified gender (DEM).

Note. Demographics (DEM), Bem Sex Role Inventory (BSRI), Traditional Masculinity-Femininity Scale (TMF), Dream Intensity Scale (DIS), Attitudes Toward Dreams (ATD), Transgender Congruence Scale (TCS), Gender Minority Stress and Resilience Measure (GMSR), Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS), Implicit Association Test on transgenderism (IAT), Content Analysis on Diary Dreams (CA), Gains from Dream Interpretation scale (GDI).

CHAPTER III

METHOD

3.1 Participants

All participants in the present study were TGNC individuals residing in Hong Kong. The local TGNC population is unknown, but figures from the US can be used as a reference (Meerwijk & Sevelius, 2017), which state that the TGNC population comprises 0.39% of the US population. Putting into the local context and based on the figures from the Census and Statistics Department of the HKSAR Government, the population of Hong Kong in 2021 based on the population census was 7,413,070 (HKSAR Govt, 2021). With reference to figures from the United States, the estimated transgender population in Hong Kong could reach 29,000. Although the estimated number of TGNC people is not small, it is not easy to hold them and invite them to participate in the research. In Hong Kong society, TGNC people are very likely to encounter discrimination in various aspects of life, such as at work and school (Ma, 1997, 1999), which may further reduce their willingness to be involved in any activities that they may see as the risk of potentially exposing their transgender identity.

In the present study, a purposive sampling method was used to recruit participants. I conducted recruitment for participants in activities organized by diverse TGNC organizations, with the organizers fully informed that I would be responsible for the recruitment process. I contacted participants through various local TGNC health group activities, which provided participants with a sense of security, as these events were not open to the general public. In other words, only members or allies who had been approved by the organizers were allowed to attend. All participants were notified that my gender identity is a cisgender male, and I attended the activities as an ally to the transgender community.

Eighty-five TGNC people aged 16 years (considered mature minors) or above were recruited. All participants were native Chinese speakers residing in Hong Kong, and they possessed proficiency in reading the Chinese language.

To relieve participants' time costs, a HKD40 cash coupon allowance was given to each participant upon the completion of the study.

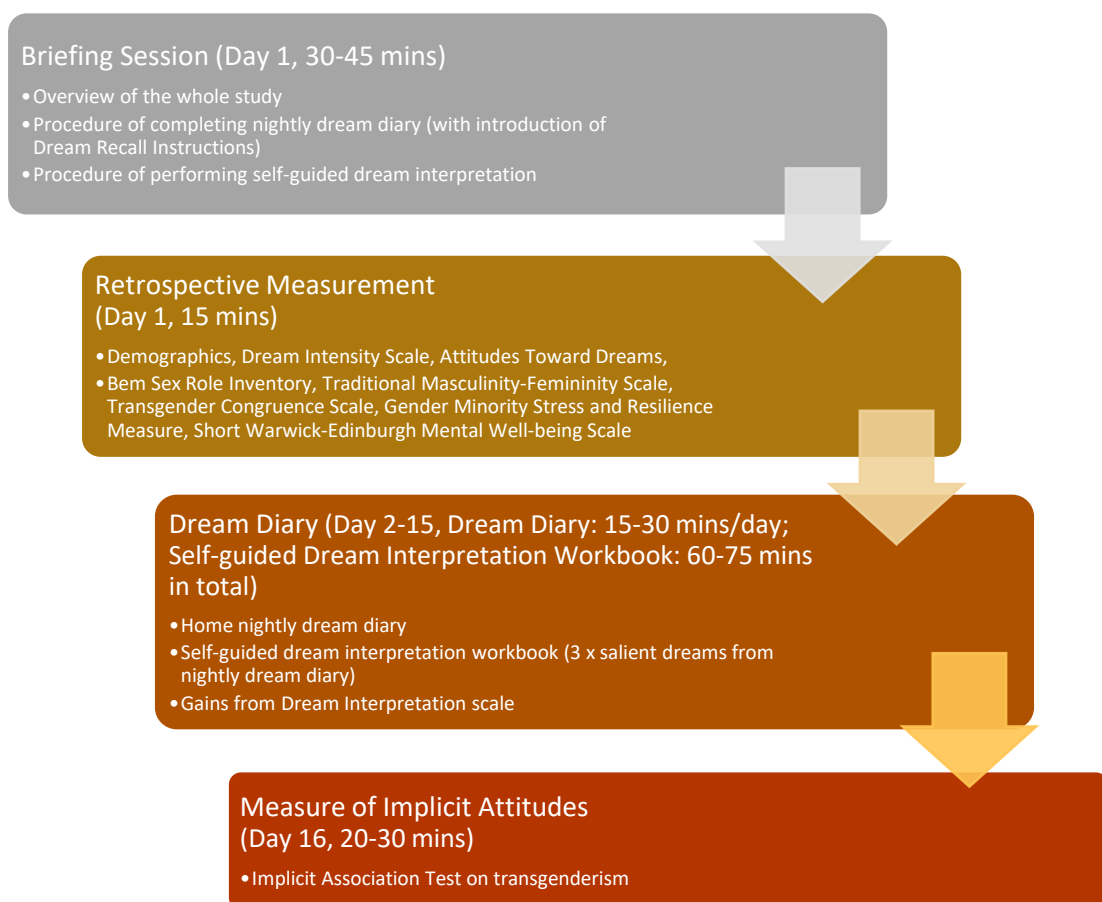
3.2 Procedure

Prior to the commencement of the study, participants were required to sign an informed consent form (see Appendix A), on which the purpose and benefits of the current study were stated, with a table showing the procedure. All participants were

well informed of the consent form, and during the briefing session, they were free to choose if they preferred to continue with the study. There would be no consequences if they decided to withdraw at any time. A debriefing note (see Appendix B) was provided after the study for a more in-depth explanation, and further readings were suggested. Figure 3 shows an overview of the procedure presented to the participants.

Figure 3

Procedure of the Present Study



Note. The day numbers served as a reference, and did not necessarily indicate consecutive days. Participants may have preferred gaps in their schedules.

3.2.1 Briefing Session – Day 1

A briefing session was conducted to provide all participants with an overview of the study. During the briefing, the researcher thoroughly explained the informed consent form and ensured that the participants understood the content. All participants were provided with an individual online briefing session, during which the informed consent form was shared on the screen and explained in detail. Following the briefing, the electronic consent form was sent to the participants, who were required to sign it prior to the commencement of the study. Participants were informed from the outset that the study focused on dreams and trans individuals. Although some participants may have expressed worries that they had very few dreams, they were reassured that this would not pose an issue, and they were only required to report and describe their experiences as they had actually occurred. The procedures of the study were also explained in detail to familiarize the participants with the process. To enhance the participants' ability to recall dreams more effectively, Dream Recall Instructions (Yu, 2006), which were developed based on samples from the local Chinese population, were provided to the participants (see Appendix C).

The researcher also explained the self-guided dream interpretation workbook step-by-step to the participants to ensure that they had a clear and accurate

understanding of the procedure. An example of a self-guided dream interpretation was provided during a walk-through for better illustration.

3.2.2 Retrospective Measurements – Day 1

Retrospective measurements were crucial for the current study. All measures were provided to the participants in an electronic format for easy access. Participants were instructed to complete the measures at their convenience on their personal electronic devices. In addition to the scales that participants were required to complete, selected basic demographic information was also collected.

Instruments. The study collected demographic information and data from seven scales pertaining to three domains: (a) dreams, (b) femininity/masculinity (i.e., sex role orientation related), and (c) self-acceptance/well-being.

Dream-related scales include the Dream Intensity Scale (DIS; Yu, 2010, 2012) and Attitudes Toward Dreams – Revised (ATD-R; Hill et al., 2001; Tien et al., 2006).

Femininity/masculinity-related scales include the Bem Sex Role Inventory (BSRI; Bem, 1974) and Traditional Masculinity-Femininity Scale (TMF; Kachel et al., 2016).

Self-acceptance/well-being scales include the Transgender Congruence Scale (TCS; Kozee et al., 2012), the Gender Minority Stress and Resilience Measure

(GMSR; Testa et al., 2015), and the Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS; Sun et al., 2019; Tennant et al., 2007).

All scales were translated into Chinese as all participants were Chinese language readers. Among the scales, three previously validated Chinese versions were used (DIS, ATD-R, and SWEMWBS). The Chinese translation of the DIS used was a validated version previously used by Hong Kong Chinese participants (Yu, 2014), the Chinese version of the ATD-R used was a validated translation previously administered to Taiwanese participants (Tien et al., 2006), and the Chinese version of SWEMWBS used was a translation validated using the Hong Kong general population (Sun et al., 2019). The other five scales were translated by the researcher, and the translated version was given to two translators for back translation without access to the original texts. The two back-translators possessed post-graduate qualifications and were proficient in both Chinese and English languages.

3.2.2.1 Demographics. Apart from preexisting instruments, demographics and information potentially related to gender identity were important in the current study. Participants were asked to state their (a) age, (b) biological sex, and (c) self-identified gender (see Appendix D). Pseudonyms were used instead of real names to maintain anonymity while gathering the demographic information from each participant.

Dream-related scales: (a) Dream Intensity Scale and (b) Attitudes Toward Dreams – Revised.

3.2.2.2 *Dream Intensity Scale (DIS)*. The Dream Intensity Scale (DIS; Yu, 2010, 2012) was used to investigate participants' awareness of dream experience, the phenomenological nature of dreaming, and the variations in their subjective dream experience (see Appendix E). The DIS is a 23-item scale derived from the 11-item Dream Intensity Inventory (Yu, 2008, 2009), which measures dream intensity using four higher-order and eight lower-order latent factors. The four higher-order factors are dream quality (regular dreams and bad dreams), dream vividness (major modalities and minor modalities), diffusion (dream work and paramnesia), and altered dream episodes (lucid dreaming and autosuggestion); these four higher-order factors include the following eight lower-order latent factors: (a) regular dreams (e.g., "Have you ever had two dreams or more in a single night?"); (b) bad dreams (e.g., "How often do you experience nightmares?"); (c) major modalities (e.g., "Do you see colors in dreams?"); (d) minor modalities (e.g., "Do you smell anything in dreams?"); (e) dream work (e.g., "Has a certain person in the real world ever been represented by another character in your dreams?"); (f) paramnesia (e.g., "Have you experienced the following situation: You have memories that, upon reflection, feel as if they were of

events that had actually happened in real life but you truly know that merely happened in dreams?"); (g) lucid dreaming (e.g., "Have you ever been able to control the contents of your dreams and make things happen in them at will?"); and (h) autosuggestion (e.g., "Have you ever experienced the following situation: You have had some dreams that make you 'wish to dream them once again.' Some days later, these dreams actually turn up again.") These two layers of factors make the DIS a tool for viewing dream intensity from a multidimensional perspective. Eleven items of the scale require participants to choose from a standardized 10-point absolute scale (0 = never, 9 = almost every day), while the remaining items are with scales having different numbers of response categories (Yu, 2012b).

3.2.2.3 Attitudes Toward Dreams – Revised (ATD-R). The Attitudes Toward Dreams – Revised (ATD-R; Hill et al., 2001) is a 9-item self-reported measure. Positive attitudes reflect a belief in the significance of dreams and the potential for personal growth through them. In contrast, negative attitudes view dreams as unimportant or pseudoscientific. The items in this scale are phrased as statements (e.g., "I value my dreams.") and as questions (e.g., "Do you have any beliefs or theories about the meanings of dreams?"; see Appendix F). Participants were asked to rate all items on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). In

the factor analysis performed in the original article, a single factor was found to account for 51% of the total variance, while both internal consistency and test-retest reliability were high (0.91 and 0.92 respectively). The Attitude Toward Dream – Revised scale, which was used in the current study, is a validated Chinese translation tested to have good psychometric properties (Tien et al., 2006).

Femininity/masculinity related scales: (a) Bem Sex Role Inventory, and (b) Traditional Masculinity-Femininity Scale.

3.2.2.4 Bem Sex Role Inventory (BSRI). The Bem Sex Role Inventory (BSRI; Bem, 1974) was used to measure participants' socially-ascribed masculinity and femininity levels (see Appendix G). Instead of treating masculinity and femininity as two poles on the same continuum, they are two independent dimensions of the BSRI. The BSRI consists of 60 items in total: 20 masculine items (e.g., "Acts as a leader"), 20 feminine items (e.g., "Affectionate"), and 20 neutral items (e.g., "Adaptable"). Participants were instructed to rate each item on a 7-point Likert Scale (1 = never true, 7 = almost always true). In the initial study, the internal consistency and reliability were high, and it was concluded that the masculine and feminine items were independent of each other (Bem, 1974).

In the current study, three scores were computed: one from the femininity subscale, referred to as BSRI Femininity; one from the masculinity scale, referred to as BSRI Masculinity; and one derived from the difference between BSRI Femininity and BSRI Masculinity, known as BSRI Sex Role Difference (i.e., BSRI Femininity minus BSRI Masculinity). A positive value indicates a relatively higher level of femininity in an individual, whereas a negative value indicates a relatively higher level of masculinity.

3.2.2.5 Traditional Masculinity-Femininity Scale (TMF). The Traditional Masculinity-Femininity Scale (Kachel et al., 2016) was used to measure masculinity-femininity from a self-ascribed perspective (see Appendix H). There were six items (e.g., “I consider myself as...”). Participants were asked to rate the items on a 7-point Likert Scale (1 = totally masculine, 7 = totally feminine). The TMF is believed that TMF is a reliable and valid tool for predicting gender orientation.

Self-acceptance/well-being scales: (a) Transgender Congruence Scale, (b) Gender Minority Stress and Resilience Measure, and (c) Short Warwick-Edinburgh Mental Well-being Scale.

3.2.2.6 Transgender Congruence Scale (TCS). The Transgender Congruence Scale (TCS; Kozee et al., 2012) was designed to evaluate the extent to which

transgender individuals feel genuine, authentic, and comfortable regarding their gender identity and external appearance (see Appendix I). According to a review of contemporary assessment tools for use with transgender participants (Shulman et al., 2017), TCS allows the researcher to quantitatively assess whether the transgender individuals' outward expression matches the gender identity they internalize. The reviewer also recommended TCS over other scales because the items of TCS created were backed by the clinical literature, feedback from TGNC people was incorporated, and factor analysis was used in the creation process. The 12 items of TCS were grouped into two domains, which are Appearance Congruence (e.g., "My physical appearance adequately expresses my gender identity."), and Gender Identity Acceptance (e.g., "I feel that my mind and body are consistent with one another."). Participants were required to rate each item on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The TCS examined the well-being of individuals' feelings about their self-identified gender, and the relationship between TCS and other measures of distress and psychological well-being was examined. A higher TCS score was found to be negatively related to anxiety, depression, and body dissatisfaction, which could be related to body dysphoria encountered by many TGNC people. This

score is associated with more steps toward transitioning and higher life satisfaction (Kozee et al., 2012; Shulman et al., 2017).

3.2.2.7 Gender Minority Stress and Resilience Measure (GMSR). The Gender Minority Stress and Resilience Measure (GMSR; Testa et al., 2015) measures the protective factors as well as difficulties associated with TGNC people (see Appendix J). The scale was developed using minority stress theory (Meyer, 1995, 2003; Meyer & Dean, 1998) and expanded to focus on TGNC people (Hendricks & Testa, 2012). There are 58 items in the GMSR that are divided into nine factors, which include seven stress-related factors (a to g) and two resilience-related factors (h to i). The factors are (a) gender-related discrimination (e.g., “I have experienced difficulty getting identity documents that match my gender identity.”), (b) gender-related rejection (e.g., “I have been rejected at school or work because of my gender identity or expression.”), (c) gender-related victimization (e.g., “I have been threatened with physical harm because of my gender identity or expression.”), (d) non-affirmation of Gender Identity (e.g., “I have difficulty being perceived as my gender.”), (e) internalized transphobia (e.g., “I resent my gender identity or expression.”), (f) negative expectations for future events (e.g., “If I express my gender identity/history, others wouldn’t accept me.”), (g) nondisclosure (e.g., “Because I don’t want others to

know my gender identity/history, I modify my way of speaking.”), (h) community connectedness (e.g., “I feel part of a community of people who share my gender identity.”), and (i) pride (e.g., “My gender identity or expression makes me feel special and unique.”). Participants were asked to choose from four options (Never; Yes, before age 18; yes, after age 18; yes, in the past year) for the 17 items related to gender, while all other questions were rated on a 5-point Likert scale (0 = strongly disagree, 4 = strongly agree). The GMSR has good construct validity and is recommended for measuring the impact of gender minority stress (Shulman et al. 2017). Moreover, when creating the items, factor analysis was utilized, and feedback from the TGNC participants was collected (Shulman et al., 2017; Testa et al., 2015).

3.2.2.8 Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS). The Short Warwick-Edinburgh Mental Well-being Scale (Tennant et al., 2007) was used to measure the participants’ mental well-being (see Appendix K). The Chinese version used in the current study was found to have good validity and reliability when administered to the Hong Kong general population (Sun et al., 2019). The SWEMWBS is a short version of the original Warwick–Edinburgh Mental Well-being Scale; it consists of seven positively phrased items (e.g., “I’ve been feeling optimistic

about the future.”). Participants were asked to rate each item using a 5-point Likert scale (1 = none of the time, 5 = all the time).

3.2.3 Dream Diary – Day 2-15

Participants were instructed to document all their dreams for a fortnight, using the electronic form provided, which was accessible via their cell phones, tablets, or computers. They were advised that dreams should be logged down in as much detail as possible immediately after awakening. Participants were briefed to include their emotions in the dream, instead of only describing the objects, characters, time, place, etc. They were also reminded that regardless of how awkward or unusual the dream contents were, they were supposed to write them down accordingly.

Among the dreams collected in the two weeks, participants were instructed to choose at least three dreams that were the most salient and meaningful to them. They were required to follow eight steps (Hill, 1996) to complete a self-guided dream interpretation workbook. At the end of the two-week dream diary period, participants were given the Chinese translation of the Gains from Dream Interpretation (GDI; Heaton et al., 1998; Tien et al., 2006) to investigate the level of insights gained from the self-guided interpretations of their dreams.

Instruments. In this part of the study, participants completed a two-week period of nightly dream diaries at home. Afterward, participants were required to complete a self-guided dream interpretation of three dreams (three salient dreams from home nightly dream diary), followed by the gains from the dream interpretation scale. Instructions for home nightly dream diaries and those for self-guided dream interpretation were translated into Chinese by the researcher with back translations to ensure validity. As for the scale, the validated Chinese translation of Gains from Dream Interpretation (Tien et al., 2006) was used.

3.2.3.1 Home Nightly Dream Diary. To conduct dream collection, a non-intrusive method of dream logs was chosen rather than an intrusive method, such as laboratory awakening, because dreams can be easily influenced by the methodology of measurement (Schredl, 2002, 2004; Schredl, Ciric, Götz, et al., 2003). Participants were instructed to log down their dreams every night for two weeks. By adopting the Most Recent Dream (Domhoff, 1996), a dream diary template was created (see Appendix L). Participants were instructed to meticulously record all pertinent details of their dreams, encompassing not only the physical setting and characters but also their accompanying emotions. This directive is based on the observation that

individuals often tend to prioritize the narration of descriptive elements within their dreams, inadvertently underreporting their emotions and feelings (Kahan, 1994).

3.2.3.2 The Hall and Van de Castle (HVdC) coding system. The HVdC system (1966) involves coding dream reports for specific elements and categories of *the* dream content. In the current study, the HVdC system was used for coding instances of sexual interaction and aggression in the diary dreams provided by the participants. The coding of aggressive interactions (e.g., “An aggressive act in which a serious threat or accusation is made against a character.”) and that of sexual interactions (e.g., “has or attempts to have sexual intercourse.”) were performed utilizing the HVdC system.

All coding for the dreams was completed by me. To guarantee the accuracy of the coding, the coding for 101 (15%) dream reports was subsequently reviewed by a postgraduate-level judge who possessed extensive knowledge of the HVdC system and was fluent in both written English and Chinese. The inter-rater reliability was 97%, $\kappa = .94$, indicating a high level of agreement. All items with coding discrepancies were earmarked for further discussion and resolved by consensus.

3.2.3.3 Self-Guided Dream Interpretation. Self-guided dream interpretation was based on the Hill cognitive-experiential model (see Appendix M; Hill, 1996). For

each dream, participants were required to write down all the details and then identify up to 14 dream elements, including thoughts, feelings, adjectives, and verbs.

Participants were then instructed to think of and write down any memories associated with each element, and they were encouraged to think of links between the dream elements and waking life events and to write down the details. After this exploration process, the participants were required to try to interpret their dreams using the strategies of (a) linking the dream to recent waking-life events, (b) linking the dream to past waking-life events, (c) examining dream elements as reflecting parts of the dreamer's self, and (d) exploring the actual dream experience. Finally, the participants were requested to choose from either changing the dream itself or identifying possible behavioral or life changes (Heaton et al., 1998; Hill, 1996).

3.2.3.4 Gains from Dream Interpretation (GDI). The Gains from Dream Interpretation (Heaton et al., 1998) is a 14-item scale (e.g., "I learned more about issues in my waking life from working with the dream.") to measure gains sensitive to the specific effects of dream interpretation (see Appendix N). Participants were asked to complete this task at the end of the 14-day period after completing the self-guided dream interpretation. The items were divided into three outcome categories: exploration gains, action gains, and experiential gains, according to the Hill cognitive-

experiential model of dream interpretation (Hill, 1996). Participants were asked to rate each item on a 9-point Likert scale (1 = strongly disagree, 9 = strongly agree). A validated Chinese translation with acceptable psychometric properties was used in this study (Tien et al., 2006). Since therapist-guided dream interpretation was used in Tien et al.'s (2006) study, certain wordings were modified owing to the self-guided nature of the present study.

3.2.4 Implicit Association Test – Day 16

The Implicit Association Test measures the differential association of two target concepts (transgender people vs. cisgender people) with an attribute (positive vs. negative words).

Instruments. The Implicit Association Test (IAT) was administered using Qualtrics, an online survey platform. Instructions for the IAT and words used in the IAT trials were written in Chinese to match the primary language of participants.

Implicit Association Test (IAT). Qualtrics, an online survey application, was used to host the Implicit Association Test (see Appendix O). The IAT in the current study was created in the Qualtrics application, using an open-source tool provided by Carpenter et al. (2019). In the present study, the IAT measured participants' implicit attitudes toward transgenderism (transgender people vs. cisgender people and positive

words vs. negative words). The design of the IAT and scoring algorithm in the current study followed the design recommended by Greenwald et al. (2003) with an improved algorithm.

The design of IAT for transgenderism in the current study adopted the design of transgenderism IAT under the Project Implicit of Harvard University (Harvard University, n.d.). Axt et al. (2021) conducted research on implicit transgender attitudes and details have been clearly laid down, they have also made the IAT materials and findings of their studies available (<https://osf.io/rcgdx/>) to encourage future studies on the topic. Certain adjustments are necessary for the IAT design to suit the local context and ensure more accurate results. Adjustments included having the language changed to Chinese, using pictures of Chinese people, and increasing the number of trials of Block 5 from 28 trials (as in Project Implicit) to 40 trials. The reason for changing the images to Chinese people is that if participants were not familiar with the Western celebrities being used in the Project Implicit test, it could lead to poor internal reliability as they might not be able to categorize the images (Axt et al., 2021). Increasing the number of trials of Block 5 from 28 to 40 can greatly reduce the order effect; the increase can wash out the learning from the first half of the test much better (Greenwald et al., 2003; Nosek, 2005). The participants were

instructed to conduct the IAT of the block structure, as stated in Table 2, three times in a row. Scoring followed the improved algorithm provided by Greenwald et al. (2003), and the mean of the three scores for each participant was calculated. The details of the improved algorithm are presented in Table 3.

Table 2
Block Structure of the Transgender IAT

Block number	No. of trials	Trial type	Contents
1	20	Only images	Cisgender/Transgender (categories)
2	20	Only words	Good words/Bad words (categories)
3	20	Words and images	Transgender People + Bad words/Cisgender People + Good words
		Words and images	Transgender People + Bad words/Cisgender People + Good words
4	40	Only images	Transgender/Cisgender (categories)
5	40	Words and images	Cisgender People + Bad words/Transgender People + Good words
		Words and images	Cisgender People + Bad words/Transgender People + Good words
6	20	Only images	Transgender/Cisgender (categories)
7	40	Words and images	Cisgender People + Bad words/Transgender People + Good words
		Words and images	Cisgender People + Bad words/Transgender People + Good words

Table 3*Steps of Improved Implicit Association Test (IAT) Scoring Algorithm*

Step	Improved algorithm
1	Trials over 10,000 ms are deleted
2	Participants with more than 10% of responses (< 300 ms) are excluded
3	No time penalty is added for errors (belief behind is that when the participant needs to take time to correct the answer, the extra time is counted)
4	Calculate Mean (blk6, combined incongruent blk, i.e., cisgender/bad) - Mean (blk3, combined congruent blk, i.e. transgender/bad)
5	Calculate Mean (blk7, combined incongruent blk, i.e., cisgender/bad) - Mean (blk4, combined congruent blk, i.e. transgender/bad)
6	Divide the mean difference (blk6-blk3) by inclusive SD of blk3+6
7	Divide the mean difference (blk7-blk4) by inclusive SD of blk4+7
8	<i>D</i> -score = Average of the two mean differences

Note. From “Understanding and using the Implicit Association Test: I. An improved scoring algorithm” by Anthony G. Greenwald, Brian A. Nosek, and Mahzarin R. Banaji, 2003, *Journal of Personality and Social Psychology*, 85(2), 197–216 (<https://doi.org/10.1037/0022-3514.85.2.197>). Copyright 2003 by the American Psychological Association.

3.3 Ethical Considerations

3.3.1 Privacy and Confidentiality

Pseudonyms were employed to replace participants' actual names as well as the names of individuals, schools, hospitals, and organizations mentioned in the participants' dream reports. This measure was taken to ensure anonymity and prevent any potential identification of the participants' identities. Information obtained in this

research will under no circumstances be publicly disclosed in a fashion that would identify any specific person or organization.

All information obtained was kept strictly confidential and was used solely for research purposes. Raw data were stored securely to ensure safety and integrity. Apart from using pseudonyms throughout the study, all collected data will be anonymized three years after completion of the study. Due to these data are extremely valuable, anonymized data will be permanently retained. To further protect the participants' confidentiality, informed consent forms were kept separately from the dream data and dream reports.

3.3.2 Potential Harm

It was stated upfront to the participants that the current study was of low risk, but when they were writing down or giving verbal reports of their dreams, it might induce recall of their negative emotions from their dreaming experiences. All the participants were reminded to complete the questionnaires at their own pace to avoid fatigue. They were also informed that they could withdraw at any time, without any negative consequences. Contacts of selected organizations providing counseling services were stated on the debriefing note given to participants if they might require psychological support.

CHAPTER IV

RELATIONSHIPS AMONG BIOLOGICAL SEX, SELF-IDENTIFIED GENDERS, AND FEMININITY/MASCULINITY

Eighty-five ($n=85$) transgender and gender-nonconforming adults (age: 16-59 years; $M = 29.31$, $SD = 9.28$) in Hong Kong were recruited. Table 4 shows the number of participants in respective parts of the study.

Table 4

Distribution of Participants in Respective Parts of the Study

Parts of the Study	Self-reported measures (scales)	Dream diaries	Self-guided dream interpretation and GDI	IAT
Birth-assigned sex				
Males	32 (38%)	29 (36%)	29 (37%)	30 (38%)
Females	53 (62%)	52 (64%)	49 (63%)	50 (62%)
Self-identified gender				
Trans female	26 (31%)	23 (28%)	23 (30%)	24 (30%)
Trans male	44 (52%)	43 (53%)	40 (51%)	41 (51%)
Nonbinary	15 (17%)	15 (19%)	15 (19%)	15 (19%)
Total (n)	85	81 ^a	78 ^b	80 ^c

Note. GDI = Gains from Dream Interpretation, IAT = Implicit Association Test. ^aFour participants withdrew after completing self-reported measures. ^bThree participants withdrew after providing their dream diaries. ^cOne participant's IAT results were excluded because of excessive speed following the guidelines of the scoring algorithm.

Self-reported measures were given to all 85 TGNC participants, the reliability of the completed scales is satisfactory: Dream Intensity Scale (DIS; $\alpha = .79$), Attitudes Toward Dreams (ATD; $\alpha = .90$), Traditional Masculinity-Femininity Scale (TMF; $\alpha = .92$), Bem Sex Role Inventory (BSRI) Masculinity subscale ($\alpha = .90$) and Femininity subscale ($\alpha = .83$), Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS; $\alpha = .85$), Gender Minority Stress and Resilience Measure (GMSR) Stress subscale ($\alpha = .92$) and Resilience Subscale ($\alpha = .86$), Transgender Congruence Scale (TCS; $\alpha = .92$), Gains from Dream Interpretation Scale (GDI; $\alpha = .88$), and the Implicit Association Test (IAT) also demonstrated satisfactory internal consistency with a split-half reliability ($r = .84$).

To compare the biological sex and self-identified gender among the 85 participants of the study, a chi-square test of independence was used to check whether the two categories were independent of each other. The contingency table shows the observed and expected counts, and the results showed that biological sex and self-identified gender were not independent of each other (see Table 5).

Table 5

Contingency Table for Biological Sex and Self-Identified Gender (Trans Male, Trans Female, Nonbinary)

	Biological female	Biological male	Total	$\chi^2(2)$	p	Cramer's V
Biological Sex and Self-Identified Gender				69.66	<.001	.91
Trans male	44 (27.4)	0 (16.6)	44			
Trans female	0 (16.2)	26 (9.8)	26			
Nonbinary	9 (9.4)	6 (5.6)	15			
Total	53	32	85			

Note. Expected counts are shown in parentheses.

Upon conducting a post-hoc test of the chi-square test using Bonferroni Adjustment to avoid family-wise type I error, the adjusted p -value for an alpha level of .05 became $p = .00833$, and the adjusted p -value for an alpha level of .001 became $p = .00167$. It was observed that biological male participants were more likely to self-identify as trans females, adjusted $p < .00167$, while biological female participants were more likely to self-identify as trans males, adjusted $p < .00167$. However, no significant difference was found between biological sex and nonbinary self-identified gender, adjusted $p = .84148$. These post-hoc test findings suggested that the null hypothesis of independence between biological sex and self-identified genders was rejected for biological male participants being trans female and biological female

participants being trans male, both reaching an alpha level of .001. However, the null hypothesis was not rejected for the relationship between biological sex and nonbinary gender.

Although the number of nonbinary participants was relatively small, it is important to note that the study did not solely focus on self-identified genders. Instead, it also analyzed levels of femininity and masculinity for all participants, and looked at the results from the perspective of sex role orientation. Therefore, it is essential to include nonbinary participants in the present study rather than excluding them entirely.

Table 6 displays Pearson's correlations among the various key variables in the study. Three variables were derived from the BSRI scale (socially-ascribed femininity/masculinity): BSRI Femininity, BSRI Masculinity, and BSRI Sex Role Difference (i.e., BSRI Femininity minus BSRI Masculinity: positive value = more feminine, negative value = more masculine). In the BSRI, the femininity and masculinity subscales were scored independently. For example, if an individual obtains a high score on the femininity scale and an even higher score on the masculinity subscale, this person's femininity score alone would suggest that the individual is more feminine than another person who scored moderately on femininity

but low on masculinity. However, when comparing both the femininity and masculinity scores of the same individual (as indicated by the BSRI Sex Role Difference), the first person would have a negative score for BSRI Sex Role Difference (indicating a higher level of masculinity within the person), whereas the second person would have a positive score (indicating a higher level of femininity within the person). Therefore, examining the difference between the two scores of the same individual can help highlight the relative femininity and masculinity of that person. For this purpose, BSRI Sex Role Difference (BSRI Femininity – BSRI Masculinity) was also included in the analyses.

The study found a significant positive Pearson's correlation between BSRI Sex Role Difference and BSRI Femininity ($r = .59, p < .001$) and a significant negative correlation between BSRI Sex Role Difference and BSRI Masculinity ($r = -.76, p < .001$). However, BSRI Femininity and BSRI Masculinity were not significantly correlated ($r = .08, p = .473$). The results showed that TMF was significantly correlated with BSRI Femininity ($r = .36, p = .001$), BSRI Masculinity ($r = -.34, p = .002$), and BSRI Sex Role Difference ($r = .51, p < .001$).

Table 6*Pearson's Correlations of Major Variables for All Participants*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Age																
2. ATD	.10															
3. DIS	-.19	.28**														
4. Dream Quantity	-.17	.32**	.75**													
5. Dream Vividness	-.23*	.10	.47**	.30**												
6. Diffusion	-.10	.15	.54**	.09	.14											
7. Altered Dream Episodes	-.10	.11	.78**	.39**	.15	.32**										
8. GDI	-.30**	.16	.14	.18	.00	-.07	.15									
9. SWEMWBS	.21*	.26*	-.24*	-.19	-.24*	-.13	-.14	.30**								
10. GMSR Stress	-.16	-.15	.17	.16	-.01	.10	.14	.00	-.54**							
11. GMSR Resilience	.21	.09	-.24*	-.25*	-.15	-.12	-.09	.01	.41**	-.41**						
12. TCS	.27*	.20	-.07	-.11	.02	.02	-.08	.02	.47**	-.46**	.24*					
13. BSRI Masculinity	.12	.15	.03	-.02	.03	.12	-.04	.08	.67**	-.46**	.17	.44**				
14. BSRI Femininity	.13	.34**	.09	.16	-.09	.06	.03	.23*	.33**	-.22*	.30**	.19	.08			
15. BSRI Sex Role Difference	-.01	.11	.04	.12	-.09	-.06	.06	.09	-.33**	.23*	.06	-.23*	-.76**	.59**		
16. TMF	.11	-.02	.06	.15	-.11	.05	-.01	.12	-.12	.28*	-.03	-.31**	-.34**	.36**	.51**	
17. IAT	.18	-.01	.01	.00	-.01	.04	-.01	.13	-.02	.01	.08	-.06	-.03	.15	.12	.09

Note. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed). BSRI Sex Role Difference: BSRI Femininity minus BSRI Masculinity; TMF: a lower score indicates higher masculinity and a higher score indicates higher femininity.

Table 7*Differences on Femininity/Masculinity by Biological Sex and Self-Identified Genders (Trans Male, Trans Female, Nonbinary)*

	Biological sex			Self-identified genders							
	Males	Females	<i>t</i> (83)	<i>p</i>	<i>d</i>	Trans male	Trans female	Nonbinary	<i>F</i>	<i>p</i>	η^2
	(<i>n</i> =32) <i>M</i> (<i>SD</i>)	(<i>n</i> =53) <i>M</i> (<i>SD</i>)				(<i>n</i> =44) <i>M</i> (<i>SD</i>)	(<i>n</i> =26) <i>M</i> (<i>SD</i>)	(<i>n</i> =15) <i>M</i> (<i>SD</i>)	(2,82)		
BSRI Femininity	95.22 (14.71)	85.77 (13.03)	3.08**	.003	0.68	87.02 (11.96)	95.04 (13.32)	86.20 (19.81)	3.13*	.049	.07
BSRI Masculinity	83.97 (15.05)	92.87 (18.59)	-2.29*	.025	0.53	93.64 (19.06)	84.42 (14.65)	86.27 (16.96)	2.59	.081	.06
BSRI Sex Role Difference	11.25 (18.75)	-7.09 (20.99)	4.06**	<.001	0.98	-6.61 (22.30)	10.62 (17.52)	-0.07 (21.70)	5.58**	.005	.12
TMF	30.31 (5.07)	15.60 (5.81)	11.85**	<.001	2.70	14.82 (5.10)	30.65 (4.61)	23.20 (8.61)	63.62**	<.001	.61

Note. ***p* <.01 level (2-tailed), * *p* <.05 level (2-tailed). BSRI Sex Role Difference: BSRI Femininity minus BSRI Masculinity; TMF: a lower score indicates higher masculinity and a higher score indicates higher femininity.

4.1 Self-Identified Gender and Femininity/Masculinity [H1, H2]

To ensure that the variables of femininity and masculinity were related and specific to their sex and self-identified gender groups, an independent *t*-test and ANOVA were conducted. Table 7 presents the results of the independent *t*-test and ANOVA comparing differences in femininity/masculinity based on biological sex and self-identified gender, while Table 8 shows the post-hoc test results.

Table 8

Post-Hoc Test of Femininity/Masculinity on Self-Identified Genders (Trans Males, Trans Females, Nonbinary)

	Mean difference	Standard error	<i>p</i>	95% CI
BSRI Femininity				
Trans male – trans female	-8.02*	3.17	.039	-15.69, -0.34
Trans male – nonbinary	0.82	5.42	.987	-13.05, 14.69
Trans female – nonbinary	8.84	5.74	.293	-5.62, 23.29
BSRI Masculinity				
Trans male – trans female	9.21	4.06	.068	-0.54, 18.96
Trans male – nonbinary	7.37	5.24	.351	-5.61, 20.35
Trans female – nonbinary	-1.84	5.24	.934	-14.86, 11.17
BSRI Sex Role Difference				
Trans male – trans female	-17.23**	4.81	.002	-28.77, -5.69
Trans male – nonbinary	-6.55	6.54	.583	-22.83, 9.74
Trans female – nonbinary	10.68	6.57	.254	-5.71, 27.07
TMF				
Trans male – trans female	-15.84**	1.19	<.001	-18.69, -12.98
Trans male – nonbinary	-8.38**	2.35	.006	-14.40, -2.36
Trans female – nonbinary	7.45*	2.40	.016	1.35, 13.56

Note. ***p* <.01 level (2-tailed), **p* <.05 level (2-tailed).

The results showed that biological males scored significantly higher on BSRI Femininity ($p = .003$), BSRI Sex Role Difference ($p < .001$), and TMF ($p < .001$), while biological females scored significantly higher on BSRI Masculinity ($p = .025$). One-way ANOVA also indicated that there were significant differences found among self-identified genders in BSRI Femininity ($p = .049$), BSRI Sex Role Difference ($p = .005$), and TMF ($p < .001$), but not BSRI Masculinity ($p = .081$).

Post-hoc tests showed that trans females scored significantly higher than trans males in BSRI Femininity ($p = .039$), BSRI Sex Role Difference ($p = .002$), and TMF ($p < .001$). Trans females also had significantly higher TMF scores than nonbinary participants ($p = .016$), while nonbinary participants had significantly higher TMF scores than trans male ($p = .006$).

Trans males scored significantly lower than trans females on BSRI Femininity ($p = .039$) and BSRI Sex Role Difference ($p = .002$), but no significant differences were found between nonbinary participants and trans males or females. On the other hand, significant differences were found among all three self-identified genders in TMF. Trans males scored significantly lower in TMF scores than trans females ($p < .001$) and nonbinary participants ($p = .006$), while trans females scored significantly higher than nonbinary participants ($p = .016$).

4.2 Chapter Discussion

Approximately two-thirds of the participants in the current study were biological females, contributing 52% of the transgender male composition of the entire participant pool. This was unexpected because the transgender female population is believed to be larger than the transgender male population, although there is no known population distribution. Some studies have suggested that the ratio of trans females to trans males could be as high as 2:1 (Arcelus et al., 2015; Rider et al., 2018). The potential reason behind this relatively high percentage of trans males is the transgender youth organization, from which most of the participants were recruited.

Data showed that BSRI Femininity and BSRI Masculinity were not significantly correlated ($r = .08, p = .473$). This finding supports the idea that femininity and masculinity are measured as separate constructs on the BSRI scale. From the design perspective of BSRI and TMF, BSRI measures socially-ascribed femininity/masculinity, whereas TMF measures self-ascribed femininity/masculinity, with an increase in score indicating an increase in the femininity of the person. The significant correlations between the BSRI (designed for measuring socially-ascribed femininity/masculinity) and TMF (designed for measuring self-ascribed

femininity/masculinity) indicate a significant overlap between how society views the roles of the two sexes and how TGNC people view themselves as feminine/masculine.

Among the 85 participants in the present study, nine biological females and six biological males identified themselves as nonbinary. Among the remaining participants, all biological female participants identified themselves as trans males, while all biological male participants identified themselves as trans females.

The results showed that biological male participants (all trans females) scored significantly higher on BSRI Femininity, BSRI Sex Role Difference, and TMF, whereas biological female participants (all trans males) scored significantly higher on BSRI Masculinity. The results shown in Table 7 and Table 8 illustrate the biological sex differences in the BSRI and TMF. Biological male participants were significantly more feminine than their biological female counterparts and vice versa for masculinity.

4.2.1 Testing Hypothesis 1

When examining the level of femininity and masculinity among participants based on their self-identified gender (trans males, trans females, and nonbinary individuals), Hypothesis 1 (“H1: Self-identified males (trans males) exhibit a higher level of masculinity (BSRI, TMF) compared to self-identified nonbinary individuals

and self-identified females (trans females) despite their female primary sex characteristics.”) is supported by TMF but not by BSRI Masculinity. There were no statistically significant differences in BSRI Masculinity scores among the three gender groups. However, when considering the TMF scores (where a lower score indicates higher masculinity and a higher score indicates higher femininity), the data revealed that trans males scored significantly lower than trans females or nonbinary participants. In other words, the results for TMF supported H1, while the results for BSRI Masculinity did not.

4.2.2 Testing Hypothesis 2

Concerning Hypothesis 2 (“H2: Self-identified females (trans females) exhibit a higher level of femininity (BSRI, TMF) compared to self-identified nonbinary individuals and self-identified males (trans males) despite their male primary sex characteristics.”), it is also partially supported. The results indicated that trans females scored significantly higher than trans males on BSRI Sex Role Difference (i.e., BSRI Femininity minus BSRI Masculinity) but not compared to nonbinary individuals. However, when examining the TMF scores, it was found that trans females scored significantly higher than both trans males and nonbinary participants. In summary, when the results are considered collectively, they provide partial support for H2.

Comparing the mean TMF scores among the three self-identified genders, trans females scored the highest, followed by nonbinary and trans males. The higher the TMF score, the more feminine the person. Therefore, the results showed that the femininity levels, ranked from highest to lowest, were trans female, nonbinary, and trans male. However, it may not be appropriate to conclude that nonbinary participants fall between trans males and trans females, because binary and nonbinary are two mutually exclusive concepts instead of the same spectrum of femininity/masculinity.

Although H1 and H2 are partially supported by the results, when only binary self-identified gender (trans males and trans females), trans females were found to be more feminine than trans males in BSRI Femininity, BSRI Sex Role Difference, and TMF. If femininity and masculinity are considered to be on a spectrum, it can be concluded that trans males are more masculine than trans females, and that trans females are more feminine than trans males. These results suggest that among participants with binary self-identified genders (trans male and trans female), biological male participants (trans females) were psychologically more feminine, while biological female participants (trans males) were psychologically more masculine.

These findings reveal the nuanced differences between self-ascribed and socially-ascribed femininity/masculinity. Although trans males did not exhibit any statistically significant results in terms of socially-ascribed masculinity as measured by BSRI Masculinity, their self-ascribed masculinity, as indicated by a lower TMF score, was significantly higher than that of trans females. This suggests that while trans male participants may not conform to societal expectations of masculinity, they still personally identify with traditional masculine sex roles and characteristics to a greater extent than trans female participants. On the other hand, trans female participants exhibited significantly higher levels of socially-ascribed femininity, as measured by BSRI Femininity and BSRI Sex Role Difference, as well as self-ascribed femininity, as indicated by a higher TMF score, in comparison to trans males. This implies that trans female participants not only meet societal sex role expectations but also internalize these expectations to a greater extent than trans males.

CHAPTER V

INVESTIGATIONS ON FEMININITY/MASCULINITY, SELF-IDENTIFIED GENDER, AND DREAM INTENSITY

Due to the significant association of biological males being trans females and biological females being trans males, $\chi^2(2) = 69.66, p < .001$, Cramer's $V = .91$ (see Table 2), the analyses followed mainly focused on trans males and trans females, while the relationship between BSRI and TMF and other variables was also examined.

5.1 Predictability of Femininity/Masculinity and Attitudes Toward Dreams on Dream Intensity [H3]

Multiple linear regression was used to investigate the predictability of femininity/masculinity variables (i.e., BSRI Femininity, BSRI Masculinity, BSRI Sex Role Difference, TMF) and Attitudes Toward Dreams (ATD) on DIS variables (DIS Total and its 12 subscales scores). Table 9 shows the significance of each overall model and the effects of the respective predictor variables.

Among all the models tested using femininity/masculinity variables and ATD as predictors, with DIS variables as the outcome variable, only the models with DIS

Total, DIS Dream Quantity, and DIS Regular Dreams as outcome variables were statistically significant. The other tested models had p -values ranging from .074 to .951. However, when examining the coefficients of the respective variables in the models, it was found that all significant models were significantly affected by ATD but not the femininity/masculinity variables.

Table 9*Predictability of Femininity/Masculinity and Attitudes Toward Dreams on Dream**Intensity*

Predictors	Outcome Variable	R^2/b	$F(2,82)/t(82)$	p
TMF + ATD	DIS Total	.08	3.71*	.029
TMF		0.06	0.60	.547
ATD		0.28	2.67**	.009
BSRI Masculinity + ATD	DIS Total	.08	3.52*	.034
BSRI Masculinity		-0.01	-0.11	.916
ATD		0.28	2.64*	.010
BSRI Femininity + ATD	DIS Total	.08	3.52*	.034
BSRI Femininity		-0.01	-0.04	.966
ATD		0.28	2.50*	.014
BSRI Sex Role Difference + ATD	DIS Total	0.08	3.52*	.034
BSRI Sex Role Difference		0.01	0.06	.953
ATD		0.28	2.63*	.010
TMF + ATD	DIS Dream Quantity	.13	5.85**	.004
TMF		0.15	1.48	.143
ATD		0.32	3.11**	.003
BSRI Masculinity + ATD	DIS Dream Quantity	.11	4.86*	.010
BSRI Masculinity		-0.07	-0.63	.531
ATD		0.33	3.11**	.003
BSRI Femininity + ATD	DIS Dream Quantity	.10	4.76*	.011
BSRI Femininity		0.05	0.47	.640
ATD		.301	2.70**	.008
BSRI Sex Role Difference + ATD	DIS Dream Quantity	.11	4.99**	.009
BSRI Sex Role Difference		0.08	0.80	.427
ATD		0.31	2.95**	.004
TMF + ATD	DIS Regular Dreams	.16	7.76**	.001
TMF		0.11	1.06	.291
ATD		0.39	3.81**	.000
BSRI Masculinity + ATD	DIS Regular Dreams	.15	7.10**	.001
BSRI Masculinity		0.01	0.07	.946
ATD		0.38	3.72**	.000
BSRI Femininity + ATD	DIS Regular Dreams	.15	7.35**	.001
BSRI Femininity		0.07	0.66	.513
ATD		0.36	3.32**	.001
BSRI Sex Role Difference + ATD	DIS Regular Dreams	.15	7.17**	.001
BSRI Sex Role Difference		0.04	0.35	.728
ATD		0.38	3.71**	.000

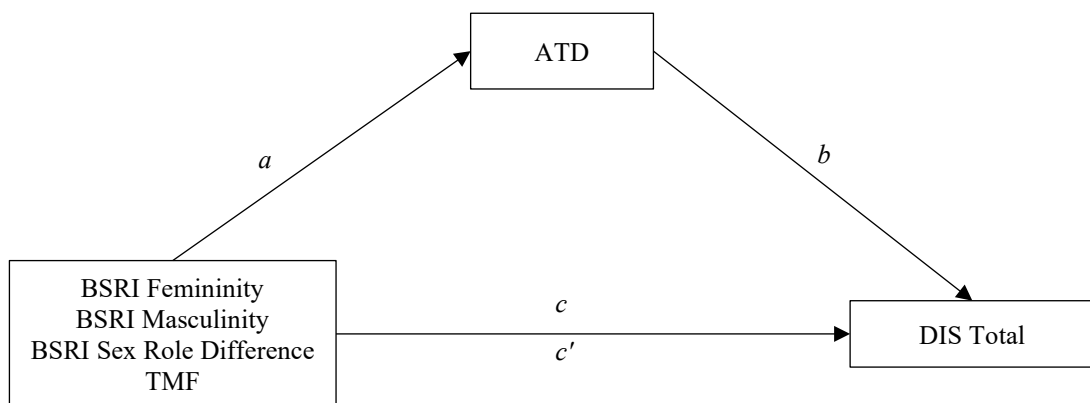
Note. The R^2 and F statistics are reported for the overall model, and the standardized coefficient b and t statistics are reported for the respective predictor variables. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed).

5.2 Mediating Role of Attitudes Toward Dreams between Femininity/Masculinity and Dream Intensity [H4]

Mediation analysis was conducted using PROCESS macro model 4 to examine the relationships between femininity/masculinity variables (BSRI and TMF) and DIS Total, with ATD serving as the mediator. The conceptual path diagram depicting the relationships among these variables is shown in Figure 4.

Figure 4

Path Diagram of Mediation Role of Attitudes Toward Dreams between Femininity/Masculinity and Dream Intensity



Note. c' = direct effect of predictor on outcome, c = total effect of predictor on outcome through mediator.

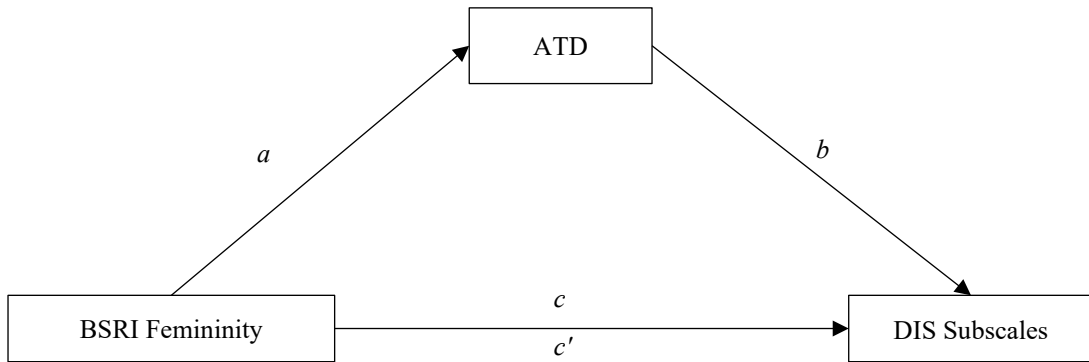
In the examination of the models, full complimentary mediation was observed in the model of BSRI Femininity as the predictor and DIS Total as the outcome. This

indicates that no significant direct effect was found between BSRI Femininity and DIS Total, but BSRI Femininity only influenced DIS Total via indirect effect.

Considering DIS Total as the outcome variable yielded significant results, subsequent follow-up examinations on the subscales of DIS were conducted. The conceptual path diagram depicting the relationships among these variables is shown in Figure 5. Significant results of the tests, including the initial analysis on DIS Total and the follow-up analyses, were outlined in Table 10. All three models had 95% CI for the indirect effect through ATD not crossing zero, which suggests the presence of a significant mediation effect.

Figure 5

*Follow-Up Analyses of Mediation Role of Attitudes Toward Dreams between BSRI
Femininity and Dream Intensity Subscales*



Note. c' = direct effect of predictor on outcome, c = total effect of predictor on outcome through mediator. DIS Subscales: Dream Quantity, Regular Dreams, Bad Dreams, Dream Vividness, Major Modalities, Minor Modalities, Diffusion, Dream Work, Paramnesia, Altered Dream Episodes, Lucid Dreaming, and Autosuggestion.

Table 10

Mediation of Attitudes toward dreams between Femininity/Masculinity and Dream Intensity

BSRI Femininity (predictor)	Path <i>a</i>				Path <i>b</i>				Path <i>c</i> '				Path <i>c</i>			Indirect effect (<i>a</i> * <i>b</i>)				
	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	95% <i>CI</i>	
DIS Total (outcome)	0.18	0.05	3.34**	.001	0.68	0.27	2.50*	.014	-0.01	0.14	-0.04	.966	0.11	0.13	0.85	.400	0.12	0.06	0.02, 0.24	
Follow-Up Tests:																				
DIS Dream Quantity (outcome)	0.18	0.05	3.34**	.001	0.34	0.13	2.70**	.008	0.03	0.06	0.47	.640	0.09	0.06	1.44	.154	0.06	0.02	0.02, 0.11	
DIS Regular Dreams (outcome)	0.18	0.05	3.34**	.001	0.27	0.08	3.32**	.001	0.03	0.04	0.66	.513	0.07	0.04	1.81	.074	0.05	0.02	0.02, 0.09	

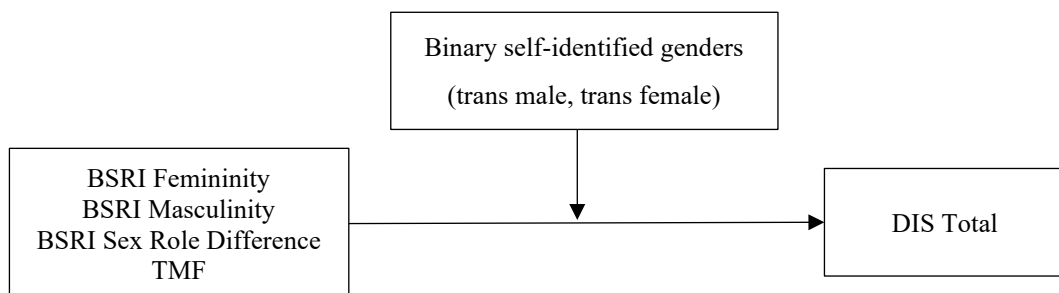
Note. Path *a* = BSRI Femininity to attitudes toward dreams; Path *b* = attitudes toward dreams to dream variable; Path *c*' = BSRI Femininity to dream variable (direct effect); Path *c* = total effect of BSRI Femininity on dream variable via the mediator. ***p* <.01 level (2-tailed), **p* <.05 level (2-tailed)

5.3 Moderating Role of Binary Self-Identified Genders (Trans Male, Trans Female) between Femininity/Masculinity and Dream Intensity [H5]

The moderating role of binary self-identified genders (trans male, trans female) between femininity/masculinity and DIS variables was examined using PROCESS macro model 1. The conceptual diagram is shown in Figure 6.

Figure 6

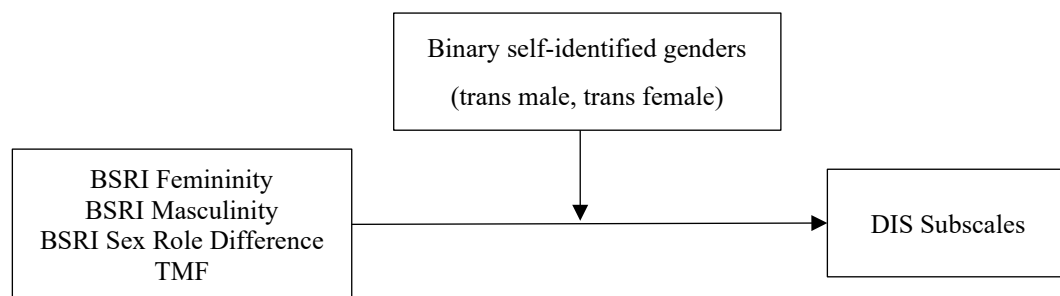
Conceptual Diagram of Moderating effect of Binary Self-identified Genders (Trans Male, Trans Female) on Femininity/Masculinity to Dream Intensity Total



No significant results were yielded in examining the moderating effect on the models tested with DIS Total as the outcome variable. Further follow-up analyses were done on the subscales of DIS to provide more detailed insights into the specific areas of dream experience encountered by the participants. The conceptual diagram is shown in Figure 7.

Figure 7

Follow-Up Analyses of Moderating effect of Binary Self-identified Genders (Trans Male, Trans Female) on Femininity/Masculinity to Dream Intensity Subscales



Note. DIS Subscales: Dream Quantity, Regular Dreams, Bad Dreams, Dream Vividness, Major Modalities, Minor Modalities, Diffusion, Dream Work, Paramnesia, Altered Dream Episodes, Lucid Dreaming, and Autosuggestion.

When looking into the correlation between age and respective dream variables (see Table 3), age was found to be significantly correlated with DIS Dream Vividness ($r = -.28, p = .018$) and DIS Major Modalities ($r = -.26, p = .031$). Therefore, age was controlled for as a covariate when conducting moderation testing on these two variables. However, when using PROCESS macro model 1 to examine the moderation of binary self-identified gender among models involving DIS Dream Vividness of DIS Major Modalities, age was not a significant covariate ($p = .058$) in the model of BSRI Sex Role Difference (predictor) and DIS Major Modalities (outcome). Therefore, age was excluded from the analysis in this particular model.

The results show that moderations of binary self-identified gender were found in the five models tabulated in Table 11. Models that did not show significant

moderating effects were excluded from the table. TMF was found to positively predict DIS Regular Dreams, while BSRI Sex Role Difference positively predicted DIS Major Modalities, but only in trans females. In the case of trans males but not trans females, BSRI Femininity positively predicted DIS Altered Dream Episodes and DIS Lucid Dreaming, while BSRI Sex Role Difference positively predicted DIS Lucid Dreaming.

Table 11

Moderation of Binary Self-Identified Gender (Trans Males, Trans Females) between Femininity/Masculinity and Dream Intensity

	Effect	SE	t(66)	p
Model: TMF → DIS Regular Dreams (see Figure 8)				
TMF	-0.85	0.41	-2.10*	.040
Self-identified gender	-21.85	7.84	-2.79**	.007
TMF x Self-identified gender	0.77	0.29	2.66*	.010
Conditional effects of predictor on:				
Trans males	-0.08	0.16	-0.51	.613
Trans females	0.69	0.24	2.87**	.005
Model: BSRI Sex Role Difference → DIS Major Modalities (see Figure 9)				
BSRI Sex Role Difference	-0.08	0.04	-1.80	.077
Self-identified gender	-0.95	0.67	-1.41	.164
BSRI Sex Role Difference x Self-identified gender	0.07	0.03	2.23*	.029
Conditional effects of predictor on:				
Trans males	-0.01	0.02	-0.34	.734
Trans females	0.07	0.03	2.40*	.019
Model: BSRI Femininity → DIS Altered Dream Episodes (see Figure 10)				
BSRI Femininity	0.53	0.22	2.44	.017
Self-identified gender	30.89	13.43	2.30*	.025
BSRI Femininity x Self-identified gender	-0.33	0.15	-2.30*	.025
Conditional effects of predictor on:				
Trans males	0.20	0.09	2.11*	.039
Trans females	-0.14	0.11	-1.23	.224
Model: BSRI Femininity → DIS Lucid Dreaming (see Figure 11)				
BSRI Femininity	0.38	0.13	2.89**	.005
Self-identified gender	19.57	8.18	2.39*	.020
BSRI Femininity x Self-identified gender	-0.22	0.09	-2.52*	.014
Conditional effects of predictor on:				
Trans males	0.16	0.06	2.81**	.007
Trans females	-0.06	0.07	-0.92	.361
Model: BSRI Sex Role Difference → DIS Lucid Dreaming (see Figure 12)				
BSRI Sex Role Difference	0.22	0.08	2.71**	.009
Self-identified gender	0.12	1.26	0.10	.924
BSRI Sex Role Difference x Self-identified gender	-0.15	0.06	-2.49**	.015
Conditional effects of predictor on:				
Trans males	0.07	0.03	2.22*	.030
Trans females	-0.08	0.05	-1.57	.121

Note. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed).

Figure 8

Simple Slope Diagram of Binary Self-Identified Gender (Moderator) on TMF (Predictor) and DIS Regular Dreams (Outcome)

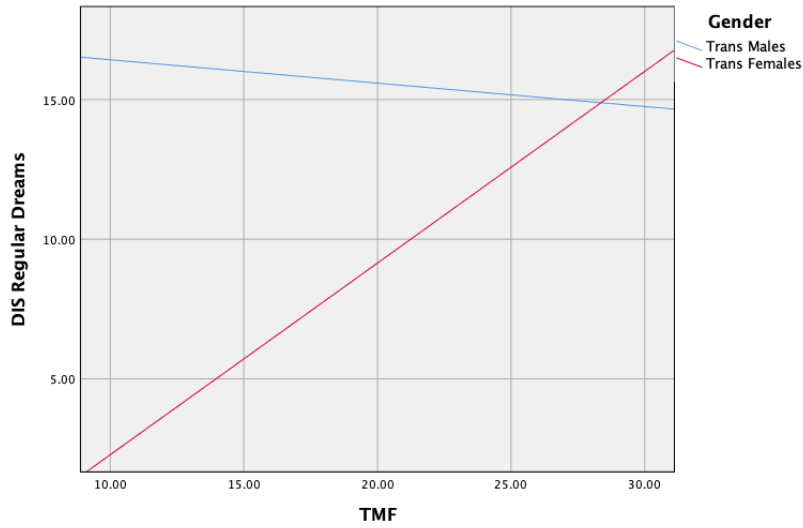


Figure 9

Simple Slope Diagram of Binary Self-Identified Gender (Moderator) on BSRI Sex Role Difference (Predictor) and DIS Major Modalities (Outcome)

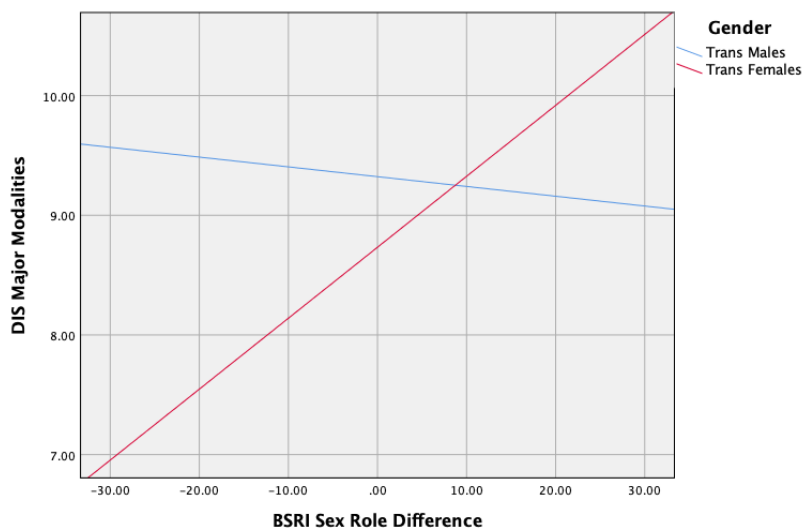


Figure 10

Simple Slope Diagram of Binary Self-Identified Gender (Moderator) on BSRI Femininity (Predictor) and DIS Altered Dream Episodes (Outcome)

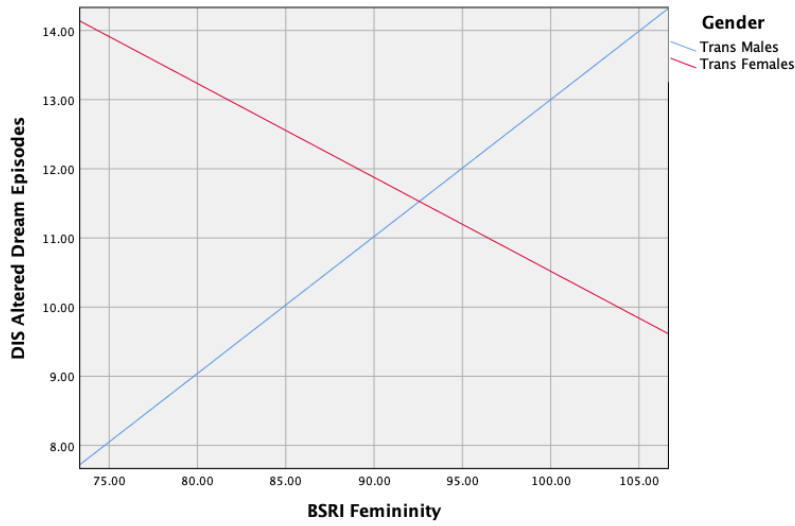


Figure 11

Simple Slope Diagram of Binary Self-Identified Gender (Moderator) on BSRI Femininity (Predictor) and DIS Lucid Dreaming (Outcome)

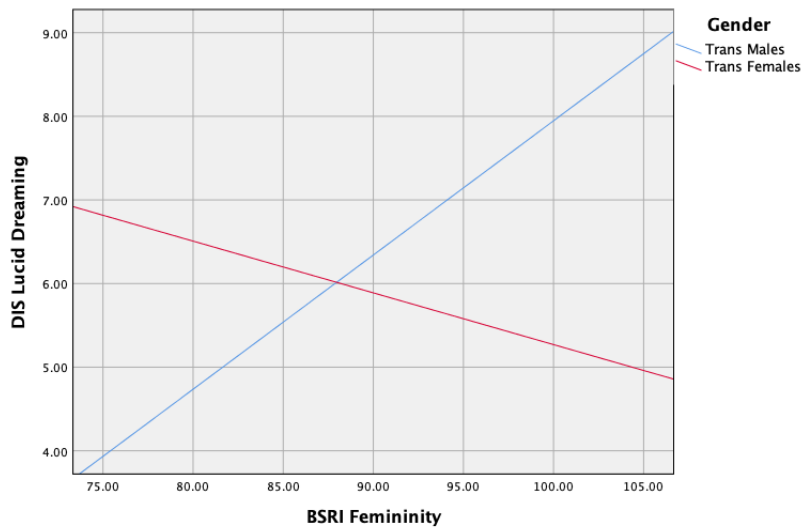
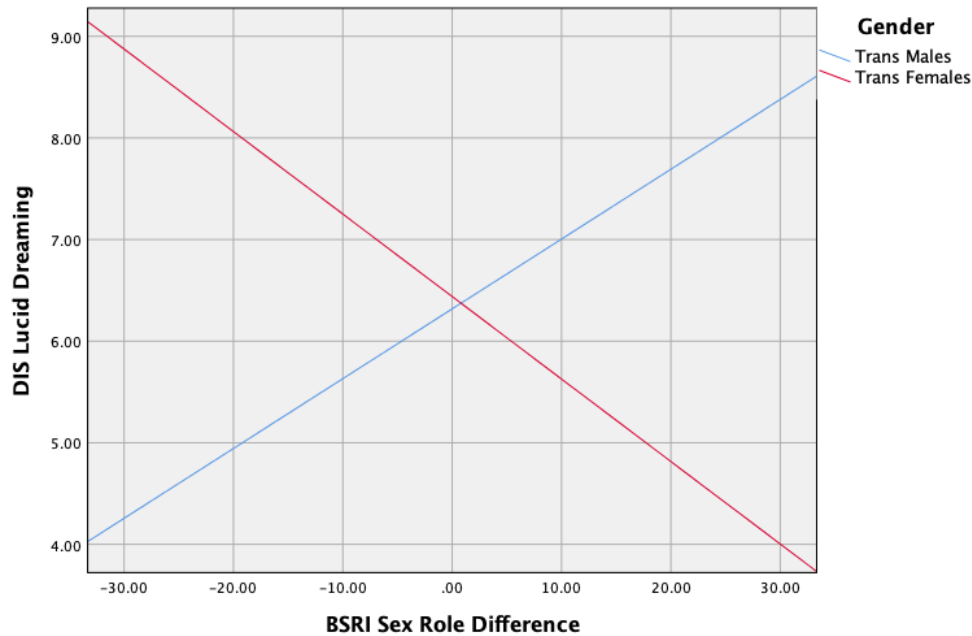


Figure 12

Simple Slop Diagram of Binary Self-Identified Gender (Moderator) on BSRI Sex Role Difference (Predictor) and DIS Lucid Dreaming (Outcome)



5.4 Chapter Discussion

This chapter focuses on exploring the connections between femininity/masculinity, self-identified gender, and dream intensity. The aim was to gain a better understanding of how these factors relate to each other, and how they may influence the intensity of dreams.

5.4.1 Testing Hypothesis 3

Regarding Hypothesis 3 (“H3: Both femininity/masculinity [BSRI, TMF] and attitudes toward dreams [ATD] predict dream intensity [DIS]”), it is not supported by the results. Although there were significant overall models of ATD and BSRI/TMF predicting DIS, the effect of BSRI/TMF on significance was negligible. In other

words, ATD was found to be related to DIS; however, multiple regression analyses showed no significant results for ATD and BSRI/TMF as significant predictors of DIS. The lack of significant predictive ability of BSRI/TMF scores for DIS, despite the overall model significance, indicates that H3 was not supported. Although ATD scores were significantly predictive, BSRI/TMF scores did not significantly improve the prediction of DIS in the regression model. There is no evidence in the current study that femininity/masculinity and attitudes toward dreams predict the dimensions of dream intensity. Thus, the null hypothesis cannot be rejected for H3.

5.4.2 Testing Hypothesis 4

Although femininity/masculinity measured by the BSRI/TMF variables was found to be a nonsignificant predictor of dream intensity (i.e., the rejection of H3), the interplay among femininity/masculinity, dream intensity, and attitudes toward dreams is hypothesized to be present. Further testing was performed on Hypothesis 4 (“H4: The relationship between femininity/masculinity [BSRI, TMF] and dream intensity [DIS] is mediated by attitudes toward dreams [ATD]”). The findings of this chapter support H4, indicating that ATD acts as a mediator in the relationship between BSRI Femininity and DIS Total. Further analysis of the DIS subscales revealed that ATD

also mediates the relationship between BSRI Femininity and DIS Dream Quantity, as well as between BSRI Femininity and DIS Regular Dreams.

Among the femininity/masculinity variables (BSRI Femininity, BSRI Masculinity, BSRI Sex Role Difference, TMF) tested, only BSRI Femininity showed significant mediation effects, but not the other three. It can be claimed that the level of socially-ascribed femininity, as measured by the BSRI, serves as a dependable indicator of the overall dream intensity, as demonstrated by the DIS Total, as well as specific aspects of dream intensity, such as regular dream recall. These relationships are positively mediated by attitudes toward dreams. In fact, BSRI Femininity predicts DIS variables via ATD as a significant mediator in the models. This suggests that attitudes toward dreams play a critical role in the relationship between BSRI Femininity and dream intensity. The hypothesized mediating effect of attitudes toward dreams was thus supported, as BSRI Femininity predicted key dream intensity variables, such as DIS Total and DIS Regular Dreams through ATD.

A previous study (Beaulieu-Prévost & Zadra, 2005) found that attitudes toward dreams were positively correlated with self-estimated DRF, but not with diary-based DRF. In the current study, dream recall frequency (DRF) was assessed using DIS Dream Quantity (estimated DRF). The ATD demonstrated positive correlations

with DIS Dream Quantity and DIS Regular Dreams (a subscale of DIS Dream Quantity). Furthermore, ATD was identified as a significant mediator that fully mediated the relationship between BSRI Femininity and DIS Dream Quantity as well as its subscale (DIS Regular Dream). These findings echo those of Beaulieu-Prévost and Zadra's study that attitudes toward dreams are associated with the estimated DRF.

5.4.3 Testing Hypothesis 5

In answering Hypothesis 5 (“H5: The relationship between femininity/masculinity [BSRI, TMF] and dream intensity [DIS] is moderated by self-identified gender [DEM]”), the findings presented in this chapter provide partial support, which partly suggests a positive relationship between femininity and dream intensity moderated by binary self-identified gender. The findings showed that for trans females, TMF score predicted DIS Regular Dreams, and BSRI Sex Role Difference predicted DIS Major Modalities. These results align with the findings of previous research using DIS that biological females scored significantly higher than biological males for DIS Regular Dreams and DIS Major Modalities (Yu, 2012b), while the previous research compared biological females and biological males, and the current study compared trans females and trans males. In such side-by-side comparisons, trans females showed results similar to biological females in dream

experience as in the certain perspectives of dream intensity being measured by the DIS.

For trans males, BSRI Femininity predicted both DIS Altered Dream Episodes and DIS Lucid Dreaming (a subscale of DIS Altered Dream Episodes), and BSRI Sex Role Difference also predicted DIS Lucid Dreaming. However, it is important to acknowledge that several other dream intensity variables did not show any significant differences between trans males and trans females. Taken together, these findings suggest that femininity positively predicts some, but not all, dimensions of dream intensity for the transgender individuals who participated in this study.

Among all the significant findings presented in this chapter regarding femininity and masculinity, only scores related to femininity yielded significant results. These scores encompass socially-ascribed femininity, as measured by the Bem Sex Role Inventory (BSRI), and self-ascribed femininity, as indicated by the lower end of the Traditional Masculinity-Femininity (TMF) scale. However, no significant results were observed with respect to masculinity scores.

CHAPTER VI

INVESTIGATIONS ON FEMININITY/MASCULINITY, SELF-IDENTIFIED GENDER, AND SEXUAL/AGGRESSIVE DREAM CONTENT

This chapter presents the results of an investigation into the dream content of the diary dreams of the participants in this study. Due to the distinct sex differences on sexual and aggressive dream contents, the sexual and aggressive interactions in dreams were examined. I completed all of the coding for the dream entries coded using the Hall and Van de Castle (HVdC) system. To confirm the precision of the coding, a postgraduate-level judge who had extensive knowledge of the HVdC system and was proficient in both written English and Chinese subsequently reviewed the coding for 101 (15%) dream reports. The inter-rater reliability was 97%, $\kappa = .94$, indicating a high level of agreement between raters. Any discrepancies in coding were resolved through discussion, resulting in consensus on all disputed items. The coded HVdC dream content elements for each participant were averaged such that each participant had a mean score for each dream element. These mean scores were used in the statistical analyses.

6.1 Diary Dreams

Descriptive data for the diary dreams are presented in Table 12. An independent samples *t*-test showed no statistically significant difference in the number of diary dreams between biological males and biological females, $t(79) = 1.20, p = .236$. ANOVA also showed no statistically significant difference among the means of the self-identified genders, $F(2,78) = 0.90, p = .412$.

Table 12

Descriptive Data of Diary Dreams based on Birth-Assigned Sex and Self-Identified Genders (Trans Male, Trans Female, Nonbinary)

	Number of participants	Number of diary dreams			
		<i>n</i>	<i>M</i>	<i>SD</i>	95%CI
Birth-assigned sex					
Males	29	269	9.28	5.60	7.15, 11.41
Females	52	412	7.92	4.45	6.69, 9.16
Self-identified genders					
Trans female	23	211	9.17	6.10	6.54, 11.81
Trans male	43	332	7.72	4.49	6.34, 9.10
Nonbinary	15	138	9.20	3.90	7.04, 11.36
Total	81	681	8.41	4.90	7.32, 9.49

6.2 Predictability of Femininity/Masculinity and Attitudes Toward Dreams on

Sexual and Aggressive Dream Contents [H6]

Multiple linear regression analyses were conducted to investigate the effects of femininity/masculinity variables (BSRI Femininity, BSRI Masculinity, BSRI and

TMF) and attitudes toward dreams (ATD) on instances of sexual and that of aggressive dream content. Results indicated that femininity/masculinity variables and ATD did not significant predict sexual or aggressive instances.

Despite the lack of significant results on the instances, exploring the variables under sexual and aggressive interactions remains crucial. This is because these variables, such as dreamer as the initiator of sexual interactions, could potentially provide insights into the influence of femininity/masculinity that underpin TGNC people's dream content. Hence, follow-up analyses with HVdC Sexual Interactions variables (i.e., dreamer-involved, dreamer as initiator, dreamer as recipient) and HVdC Aggression variables (i.e., dreamer-involved, dreamer as aggressor, dreamer as victim, physical aggression) were conducted. Among the models tested, only the model incorporating TMF and ATD as predictors of HVdC Sexual Interactions – dreamer as initiator demonstrated significant effects from both predictors (see Table 13). All other regression models yielded *p*-values greater than .05 level, indicating a lack of statistical significance, including all tested models related to aggressive dream content.

Table 13

Follow-Up Analyses on Predictability of Femininity/Masculinity and Attitudes Toward Dreams on Sexual Dream Contents

Predictors	Outcome Variable	R^2/b	$F(2,78)/t(78)$	p
TMF + ATD	HVdC Sexual Interactions – dreamer as initiator	.15	6.69**	.002
TMF		-0.29	-2.80**	.006
ATD		0.24	2.34*	.022

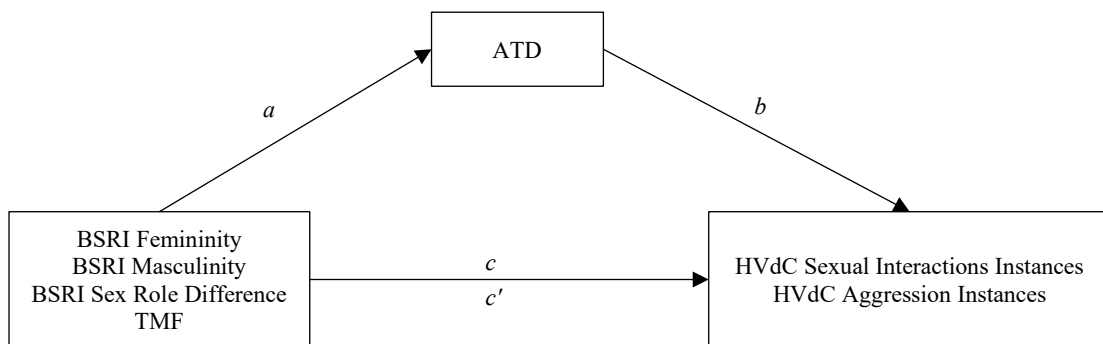
Note. The R^2 and F statistics are reported for the overall model, and the standardized coefficient b and t statistics are reported for the respective predictor variables. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed).

6.3 Mediating Role of Attitudes Toward Dreams between Femininity/Masculinity and Sexual or Aggressive Dream Contents [H7]

To examine the potential mediation posed by ATD on the relationships between femininity/masculinity (BSRI, TMF) and sexual and aggressive dream content in the entire sample, PROCESS macro model 4 was utilized. The conceptual diagram of the tested models is shown in Figure 13.

Figure 13

*Conceptual Diagram of Mediation Role of Attitudes Toward Dreams on
Femininity/Masculinity and Sexual or Aggressive Dream Contents*

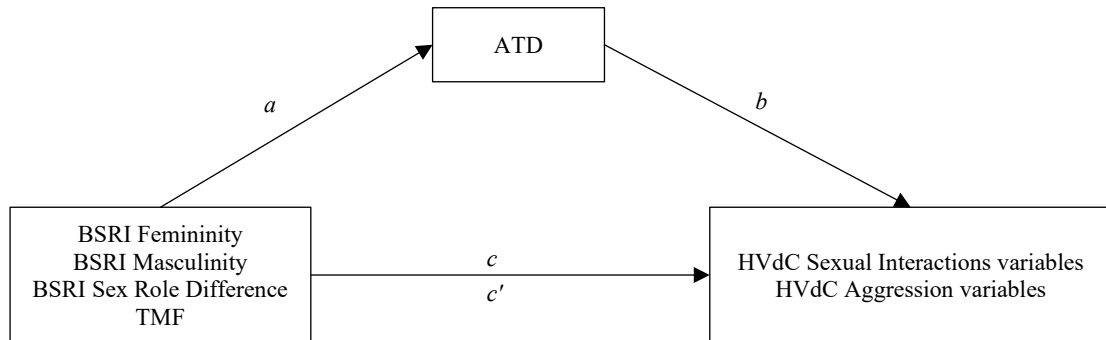


Note. c' = direct effect of predictor on outcome, c = total effect of predictor on outcome through mediator.

Results showed that ATD served as a significant mediator for both the relationships of BSRI Femininity to HVdC Sexual Interactions – instances, and BSRI Femininity to HVdC Aggression – instances. Subsequent follow-up analyses were performed to further look into the relationships with variables under HVdC Sexual Interactions and HVdC Sexual Interactions (see Figure 14 for the conceptual diagram).

Figure 14

*Follow-Up Analyses of Mediation Role of Attitudes Toward Dreams on
Femininity/Masculinity and Sexual or Aggressive Dream Contents*



Note. c' = direct effect of predictor on outcome, c = total effect of predictor on outcome through mediator. HVdC Sexual Interactions variables = dreamer-involved, dreamer as initiator, dreamer as recipient; HVdC Aggression variables = dreamer-involved, dreamer as aggressor, dreamer as victim, and physical aggression.

Significant results were illustrated in Table 14, all five models exhibited a 95% CI for indirect effects that did not encompass zero. This implies that the indirect effect of these models was statistically significant, suggesting that the mediation through ATD was also significant. Note that BSRI Femininity was not correlated with any of the HVdC Sexual Interactions variables when the ATD was not considered.

Table 14

Mediation of Attitudes toward dreams between Femininity/Masculinity and Sexual or Aggressive Dream Contents

BSRI Femininity (predictor)	Path <i>a</i>				Path <i>b</i>				Path <i>c</i> '				Path <i>c</i>				Indirect effect (<i>a*b</i>)			
	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	95% <i>CI</i>	
HVdC Sexual Interactions – instances (outcome)	0.170	0.054	3.166**	.002	0.031	0.016	2.005*	.048	0.001	0.008	0.130	.897	0.006	0.008	0.836	.406	0.005	0.003	0.001, 0.012	
HVdC Aggression – instances (outcome)	0.170	0.054	3.166**	.002	0.093	0.056	1.647	.104	-0.039	0.029	-1.367	.175	-0.023	0.027	-0.0855	.395	0.016	0.009	0.001, 0.037	
Follow-Up Tests:																				
HVdC Sexual Interactions – dreamer-involved (outcome)	0.170	0.054	3.166**	.002	0.030	0.016	1.946	.055	0.003	0.008	0.314	.754	0.008	0.008	1.009	.316	0.005	0.003	0.001, 0.011	
HVdC Sexual Interactions – dreamer as initiator (outcome)	0.170	0.054	3.166**	.002	0.018	0.010	1.882	.064	0.004	0.005	0.717	.475	0.007	0.005	1.410	.163	0.003	0.002	0.000, 0.007	
HVdC Aggression – dreamer-involved (outcome)	0.170	0.054	3.166**	.002	0.074	0.045	1.647	.104	-0.035	0.023	-1.539	.128	-0.022	0.022	-1.035	.304	0.013	0.008	0.000, 0.031	

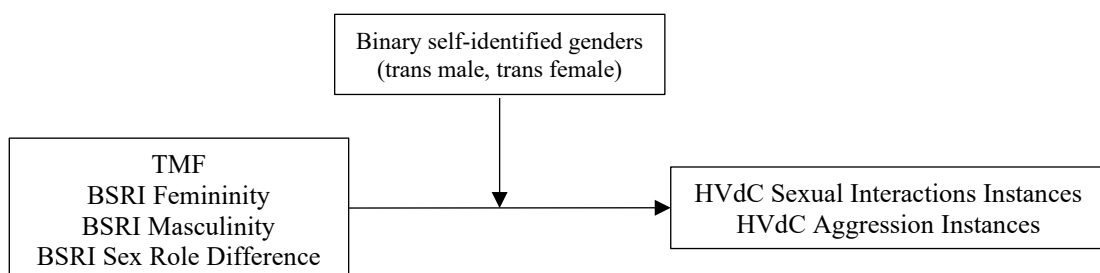
Note. Path *a* = femininity/masculinity to attitudes toward dreams; Path *b* = attitudes toward dreams to sexual/aggressive dream contents; Path *c*' = femininity/masculinity to sexual/aggressive dream contents (direct effect); Path *c* = femininity/masculinity to sexual/aggressive dream contents through mediator (total effect). ***p* <.01 level (2-tailed), **p* <.05 level (2-tailed)

6.4 Moderating Role of Binary Self-Identified Genders (Trans Male, Trans Female) between Femininity/Masculinity and Sexual or Aggressive Dream Contents [H8]

Analyses were undertaken to investigate the potential moderating effect of self-identified gender on the relationships between femininity/masculinity (BSRI, TMF) and instances of sexual and aggressive dream content (HVdC Sexual Interactions – instances, and HVdC Aggression – instances). Figure 15 presents the conceptual diagram of the moderation model.

Figure 15

Conceptual Diagram of Moderation effect of Self-identified Gender on Femininity/Masculinity and Sexual or Aggressive Dream Contents

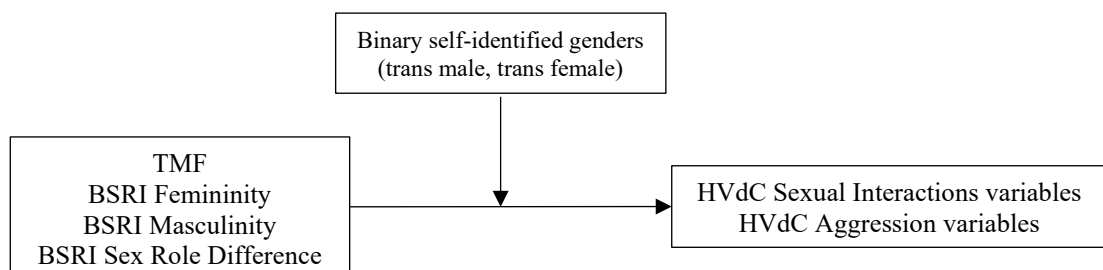


Moderation analyses were performed using PROCESS macro model 1 to examine self-identified gender as a moderator in each of the models. Among the models tested, all models with HVdC Sexual Interactions – instances had no

significant moderating effects from self-identified gender. However, for trans females, BSRI Sex Role Difference positively predicted HVdC Aggression – instances.

Figure 16

Follow-Up Analyses on Moderation effect of Self-identified Gender on Femininity/Masculinity and Sexual or Aggressive Dream Contents



Note. HVdC Sexual Interactions variables = dreamer-involved, dreamer as initiator, dreamer as recipient; HVdC Aggression variables = dreamer-involved, dreamer as aggressor, dreamer as victim, and physical aggression.

Follow-up analyses on variables under HVdC Sexual Interactions and HVdC Aggression were subsequently performed considering their prevalence of sex differences found in previous studies. The conceptual diagram is shown in Figure 16.

The findings of these subsequent investigations demonstrated that only for trans females, but not trans males, both TMF and BSRI Sex Role Difference positively predicted HVdC Aggression - dreamer as victim. Results of the primary analysis on instances and those of the follow-up analyses are presented in Table 15.

Table 15

Moderation of Binary Self-Identified Gender (Trans Males, Trans Females) between Femininity/Masculinity and Aggressive Dream Content

	Effect	SE	t(62)	p
Model: BSRI Sex Role Difference (predictor) → HVdC Aggression – instances (outcome) (see Figure 17)				
BSRI Sex Role Difference	-0.11	0.06	-1.75	.085
Self-identified gender	-2.16	0.99	-2.19*	.033
BSRI Sex Role Difference x Self-identified gender	0.10	0.05	2.16*	.035
Conditional effects of predictor on:				
Trans males	-0.01	0.02	-0.34	.734
Trans females	0.09	0.04	2.31*	.024
Follow-Up Tests:				
Model: TMF (predictor) → HVdC Aggression – dreamer as victim (outcome) (see Figure 18)				
TMF	-0.17	0.11	-1.53	.130
Self-identified gender	-5.43	-2.22	-2.44*	.018
TMF x Self-identified gender	0.17	0.08	2.03*	.047
Conditional effects of predictor on:				
Trans males	-0.01	0.05	-0.19	.853
Trans females	0.16	0.07	2.33*	.023
Model: BSRI Sex Role Difference (predictor) → HVdC Aggression – dreamer as victim (outcome) (see Figure 19)				
BSRI Sex Role Difference	-0.07	0.03	-2.65*	.010
Self-identified gender	-0.70	0.43	-1.63	.107
BSRI Sex Role Difference x Self-identified gender	0.05	0.02	2.64*	.011
Conditional effects of predictor on:				
Trans males	-0.02	0.01	-1.75	.085
Trans females	0.03	0.02	2.03*	.046

Note. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed).

Figure 17

Simple Slope Diagram of Binary Self-Identified Gender (Moderator) on BSRI Sex Role Difference (Predictor) and HVdC Aggression – Instances (Outcome)

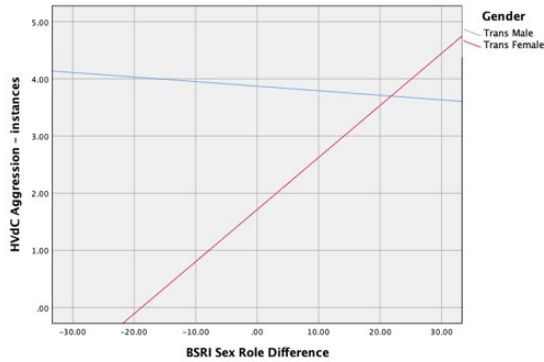


Figure 18

Simple Slope Diagram of Binary Self-Identified Gender (Moderator) on TMF (Predictor) and HVdC Aggression – Dreamer as Victim (Outcome)

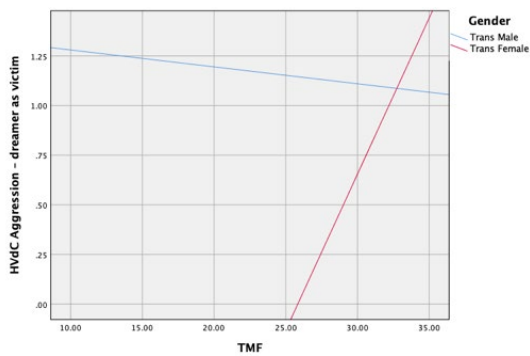
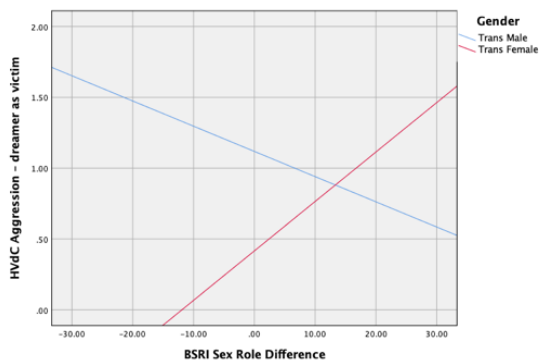


Figure 19

Simple Slope Diagram of Binary Self-Identified Gender (Moderator) on BSRI Sex Role Difference (Predictor) and HVdC Aggression – Dreamer as Victim (Outcome)



6.5 Chapter Discussion

Sexual interactions and aggression were coded using the Hall and Van de Castle (HVdC) coding system (Hall & Van de Castle, 1966). Previous studies have found sex differences in sexual and aggressive content in dreams (Hall et al., 1982; Hall & Van de Castle, 1966; Schredl et al., 2010).

6.5.1 Testing Hypothesis 6

Linear regressions were employed to examine Hypothesis 6 ("H6: Both femininity/masculinity [BSRI, TMF] and attitudes toward dreams [ATD] predict sexual and aggressive dream contents [CA]"), which is only partially supported, as there was only one model that yielded statistically significant results. The findings revealed that only the combined model of TMF and ATD significantly predicted HVdC Sexual Interactions – dreamer as initiator. In this model, TMF exhibited a negative and significant relationship, while ATD demonstrated a positive and significant relationship with HVdC Sexual Interactions – dreamer as initiator. It is important to note that a higher score on TMF indicates higher self-ascribed femininity (lower self-ascribed masculinity), whereas a lower score indicates higher self-ascribed masculinity (lower self-ascribed femininity), as per the measurement design. Based on these results, it can be inferred that individuals who identify with higher levels of

masculinity are more likely to experience instances of sexual interactions in their dream contents.

Previous research has found that sexual elements in dreams are more frequently reported by biological males than by biological females (Hall et al., 1982; Hall & Van de Castle, 1966; Schredl et al., 2010), while individuals with higher levels of femininity were less likely to have sexual content in their dreams (Schredl et al., 2010). The results of this study echo those of previous studies in that higher femininity, as measured by TMF, negatively predicts sexual interaction content in dreams. The findings reveal that trans females have significantly higher self-ascribed femininity than trans males do. This suggests that trans females are more similar to biological females than to biological males in terms of dream content manifestation, while trans males are more similar to biological males.

These findings added to the results of Herman-Jeglińska et al.'s (2002) study, which suggested that TGNC individuals may not necessarily display the same characteristics as their cisgender counterparts in terms of sex role orientation, the findings of this current study demonstrate that, specifically in relation to sexual and aggressive dream contents, trans males exhibit similarities to cisgender males, while trans females exhibit similarities to cisgender females.

6.5.2 Testing Hypothesis 7

Further investigation on the potential mediating role of attitudes toward dreams on femininity/masculinity and sexual/aggressive dream contents were done using PROCESS macro model 4, this was to test Hypothesis 7 (“H7: The relationships between femininity/masculinity [BSRI, TMF] and sexual and aggressive dream contents [CA] are mediated by attitudes toward dreams [ATD]”). The results indicate that attitudes toward dreams (ATD) played a mediating role in the relationship between socially-ascribed femininity (BSRI Femininity) and sexual dream content. Specifically, attitudes toward dreams complementarily mediated the relationship between socially-ascribed femininity and various sexual dream elements, such as instances of sexual interactions (HVdC Sexual Interactions – instances), dreams involving the dreamer in sexual interactions (HVdC Sexual Interactions – dreamer-involved), and dreams where the dreamer initiated sexual interactions (HVdC Sexual Interactions – dreamer as initiator). Additionally, attitudes toward dreams mediated the relationship between socially-ascribed femininity and aggressive dream content, including instances of aggression (HVdC Aggression – instances) and dreams involving the dreamer in aggressive interactions (HVdC Aggression – dreamer-involved). Although the upper and lower limits of the 95% CI did not include

zero, they were close to zero. This indicates that the effect size was small, which suggests that the strength of the relationship was relatively weak.

In essence, the said results suggest that increases in socially-ascribed femininity as measured by BSRI Femininity are indirectly associated with increases in aggression within dream contents and sexual dream contents, through increases in ATD (viewing dreams as useful and insightful). Based on these findings, H7 is partially supported, as ATD was a significant mediator of the relationships with BSRI Femininity as a predictor, but not in those relationships with BSRI Masculinity, BSRI Sex Role Difference, and TMF as predictors.

6.5.3 Testing Hypothesis 8

Concerning Hypothesis 8 (“H8: The relationships between femininity/masculinity [BSRI, TMF] and sexual and aggressive dream contents [CA] are moderated by self-identified gender [DEM]”), the results of the moderation analysis revealed that binary self-identified gender did not significantly moderate sexual dream content. However, there were significant moderation effects for aggressive dream content. The relationships between the femininity/masculinity variables and aggressive dream content were found to be significant only for trans females and not for trans males. In particular, both self-ascribed femininity (TMF)

and socially-ascribed sex role difference (BSRI Sex Role Difference) significantly predicted dreams involving the dreamer as the victim in aggressive interactions (HVdC Aggression - dreamer as victim) for trans females. Similarly, the socially-ascribed sex role difference (BSRI Sex Role Difference) significantly predicted dreams with aggression content (HVdC Aggression – instances) for trans females.

In other words, the findings suggest that within the realm of sexual and aggressive dream content, trans females who self-ascribed themselves as more feminine (TMF) were more prone to experiencing dreams in which they were victims of aggression. Additionally, trans females who exhibited higher levels of socially-ascribed femininity within themselves than their socially-ascribed masculinity (BSRI Sex Role Difference) were also more likely to have dreams containing aggressive content or dreams in which they were victims of aggression. Considering the aforementioned findings, H8 receives partial support in relation to aggressive dream content but is rejected in relation to sexual dream content.

The mixed findings of this chapter indicate that while certain aspects of dream content may exhibit similarities between trans males and biological males as well as between trans females and biological females, there are also notable differences. It is important to recognize that binary TGNC individuals cannot simply be regarded as

the direct opposite of their binary cisgender counterparts in terms of their dream content.

In conclusion, it is not entirely valid to assume that trans males will have dreams exactly as those of biological males, or that trans females will have dreams exactly resembling those of biological females. Yet, it is justified to say that trans males and biological males share many similarities in their dreams, such as trans females and biological females.

CHAPTER VII

INFLUENCE OF SELF-ACCEPTANCE AND WELL-BEING

This study also considered the variables associated with self-acceptance and well-being, which might have influenced the dream experiences of the TGNC participants. These variables examined the participants' transgender congruence, gender minority stress and resilience, implicit preference for TGNC versus cisgender individuals, and overall mental well-being.

In this study, participants' self-acceptance was assessed using two measurement tools: the Transgender Congruence Scale (TCS) and the Implicit Association Test (IAT). The TCS was utilized to gauge the level of congruence between an individual's gender identity and physical appearance. On the other hand, IAT was employed to investigate whether participants exhibited implicit preferences toward their own group (i.e., TGNC individuals) or the majority group (i.e., cisgender individuals).

Participants' well-being was evaluated using two scales: the Gender Minority Stress and Resilience Measure (GMSR) and the Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS). The GMSR was used to measure the unique

stressors and resilience factors experienced by TGNC individuals. Additionally, the SWEMWBS was used to assess the mental well-being and positive mental health of the individuals.

7.1 Brief Results on Implicit Association Test

The IAT was administered to 80 participants, with each participant conducting the test three times using randomized block sequences to mitigate order effects. A total of 240 test entries were collected, but two test entries were excluded owing to excessive speed (i.e. faster than 300ms) based on Greenwald et al.'s (2003) data cleaning and scoring algorithm. The IAT *D*-scores were calculated using the same scoring algorithm, where positive *D*-scores indicated a preference for cisgender individuals and negative *D*-scores indicated a preference for transgender individuals.

The internal consistency of the IAT in this study was assessed using the split-half procedure with the Spearman-Brown correction, as recommended by De Houwer and De Bruycker (2007). The result ($r = .84$) fell within the usual range of IAR reliabilities of .70 to .90 (Hofmann et al., 2005). The *D*-score for the IAT ranged from -2 to +2, with 0 indicating no preference. Positive *D*-scores indicate a preference for cisgender people over TGNC individuals, whereas negative *D*-scores indicate a preference for TGNC individuals over cisgender people.

A one-sample *t*-test was used to determine whether the scores were significantly different from the test value of 0 (i.e., no preference), which is a commonly used test to evaluate any difference in preference between the two conditions (i.e., transgender and cisgender) by comparing their reaction times (Axt et al., 2021; Greenwald et al., 2003, 2022; Lai et al., 2016). An overall significant positive *D*-score (i.e., preference for cisgender people) was found, $n = 80$, $M = 0.22$, $SD = 0.33$, $t(79) = 6.01$, $p < .001$, 95%CI[0.15, 0.29], Cohen's $d = 0.67$.

7.2 Influence of Self-Acceptance and Well-Being Variables on Relationships between Femininity/Masculinity and Dream Intensity [H9]

The results from Chapter 6 concerning the Dream Intensity Scale (DIS) suggest that Attitudes Toward Dreams (ATD) mediate the relationship between BSRI Femininity and DIS Total, DIS Dream Quantity, and DIS Regular Dreams (see Table 10). Meanwhile, binary self-identified gender was found to significantly moderate the relationship between BSRI or TMF and DIS variables (see Table 11). Further examinations of these results were performed using controlled self-acceptance and well-being variables.

Table 16

Mediation of ATD between BSRI Femininity and DIS Variables, Controlling for Self-Acceptance and Well-Being Variables

	Path <i>a</i>				Path <i>b</i>				Path <i>c'</i>				Path <i>c</i>				Indirect effect (<i>a*b</i>)		
	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	95% <i>CI</i>
DIS Total	0.1 6	0.0 6	2.78* *	.00 7	0.7 1	0.2 8	2.51* *	.01 4	0.1 8	0.1 5	1.2 0	.23 6	0.2 9	0.1 5	2.00 *	.04 9	0.11 5	0.06 1	0.012 , 0.244
DIS Dream Quantit y	0.1 6	0.0 6	2.78* *	.00 7	0.3 3	0.1 3	2.56* *	.01 3	0.1 2	0.0 7	1.7 2	.08 9	0.1 7	0.0 7	2.55 *	.01 3	0.05 3	0.02 7	0.006 , 0.113
DIS Regular Dreams	0.1 6	0.0 6	2.78* *	.00 7	0.2 6	0.0 9	2.99* *	.00 4	0.0 7	0.0 4	1.5 2	.13 3	0.1 1	0.0 4	2.44 *	.01 7	0.04 2	0.02 0	0.007 , 0.085

Note. Path *a* = BSRI Femininity (predictor) to ATD (mediator); Path *b* = ATD (mediator) to DIS variable (outcome); Path *c'* = BSRI Femininity to DIS variable (direct effect); Path *c* = total effect of BSRI Femininity on DIS variable via the mediator. ***p* <.01 level (2-tailed), **p* <.05 level (2-tailed)

Table 16 presents the findings of examining the continued significance of ATD as a mediator, while accounting for self-acceptance variables (TCS and IAT) and well-being variables (GMSR Stress, GMSR Resilience, and SWEMWBS) as covariates. The results revealed that ATD retained its mediating effect in all three models. This was substantiated by a 95% CI that did not include zero, signifying the mediation effect of ATD (see Table 16). Multicollinearity was evaluated using a variance inflation factor (VIF) ranging from 1.13 4.88. Given the widely accepted threshold that multicollinearity is present only if the VIF exceeds 5, no multicollinearity was detected in these analyses (James et al., 2013; Menard, 2002; Vittinghoff et al., 2005).

Table 17

Moderation of Binary Self-Identified Gender (Trans Males, Trans Females) between Femininity/Masculinity and Dream Intensity, Controlling for Self-Acceptance and Well-Being Variables

		Effect	SE	t	p
TMF predicting DIS Regular Dreams	TMF x Self-identified gender	0.86	0.34	2.54*	.014
	(Conditional effects) Trans males	-0.17	0.19	-0.89	.376
	(Conditional effects) Trans females	0.69	0.27	2.61*	.012
BSRI Sex Role Difference predicting DIS Major Modalities	BSRI Sex Role Difference x Self-identified gender	0.06	0.03	1.91	.061
	(Conditional effects) Trans males	-	-	-	-
	(Conditional effects) Trans females	-	-	-	-
BSRI Femininity predicting DIS Altered Dream Episodes	BSRI Femininity x Self-identified gender	-0.38	0.16	-2.35*	.022
	(Conditional effects) Trans males	0.25	0.11	2.37*	.021
	(Conditional effects) Trans females	-0.12	0.12	-1.01	.315
BSRI Femininity predicting DIS Lucid Dreaming	BSRI Femininity x Self-identified gender	-0.25	0.10	-2.52*	.015
	(Conditional effects) Trans males	0.20	0.07	3.11**	.003
	(Conditional effects) Trans females	-0.04	0.07	-0.58	.562
BSRI Sex Role Difference predicting DIS Lucid Dreaming	BSRI Sex Role Difference x Self-identified gender	-0.17	0.06	-	.010
	(Conditional effects) Trans males	0.09	0.04	2.44*	.018
	(Conditional effects) Trans females	-0.08	0.05	-1.46	.149

Note. Age was controlled as a covariate for relationships involving DIS Major Modalities because of its significant correlation with the variable. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed).

Table 17 presents the results of analyses examining the moderating effect of binary self-identified gender (trans male, trans female) on the previously established models of associations between femininity/masculinity and DIS variables. When controlling for the influence of the self-acceptance and well-being variables, only the

model with BSRI Sex Role Difference predicting DIS Major Modalities ceased to exhibit a significant moderation effect of binary self-identified gender. The significant moderating effect of binary self-identified gender retained in the other four models.

7.3 Influence of Self-Acceptance and Well-Being Variables on Relationships between Femininity/Masculinity and Sexual and Aggressive Dream Contents [H10]

The results from Chapter 6 indicated that the combination of TMF with ATD predicted HVdC Sexual Interactions – dreamer as initiator in multiple regression (see Table 10). Furthermore, a significant mediation role of ATD was observed in five models, where BSRI Femininity served as the predictor and the respective outcome variables were HVdC Sexual Interactions – instances, HVdC Sexual Interactions – dreamer-involved, HVdC Sexual Interactions – dreamer as initiator, HVdC Aggression – instances, and HVdC Aggression – dreamer-involved.

In terms of the moderation effect of binary self-identified gender, it was found to be a significant moderator in the relationships between TMF and HVdC Aggression – dreamer as victim, as well as between BSRI Sex Role Difference and HVdC Aggression – dreamer as victim, and BSRI Sex Role Difference and HVdC Aggression – instances.

Table 18

Predictability of TMF and Attitudes Toward Dreams on HVdC Sexual Interactions – Dreamer as Initiator, Controlling for Self-Acceptance and Well-Being Variables

Predictors	$\Delta R^2/b$	$\Delta F/t$	$\Delta p/p$
TMF + ATD	.09	4.26*	.018
TMF	-0.23	-2.05*	.045
ATD	0.23	2.12*	.038

Note. The R^2 change, F statistics change, and p -value change are reported for the overall model after controlling for the controlled variable. Standardized coefficient b , t statistics, and p -values were reported for the respective predictor variables. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed).

Table 18 displays the results of a regression analysis that investigated the relationship between TMF and ATD, as well as HVdC Sexual Interactions - Dreamer as Initiator, while accounting for self-acceptance and well-being variables. These findings indicate that the model retains its significance.

Table 19 shows the results of the investigation of the mediation of ATD between BSRI Femininity and sexual/aggression variables (i.e., HVdC Sexual Interactions – instances, HVdC Sexual Interactions – dreamer-involved, HVdC Sexual Interactions – dreamer as initiator, HVdC Aggression – instances, and HVdC Aggression – dreamer-involved), with self-acceptance and well-being variables controlled.

Table 19

Mediation of ATD between BSRI Femininity and Sexual/Aggressive Dream Contents, Controlling for Self-Acceptance and Well-Being

Variables

Outcome variable	Path <i>a</i>				Path <i>b</i>				Path <i>c</i> '				Path <i>c</i>				Indirect effect (<i>a*b</i>)		
	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>B</i>	<i>SE</i>	95% <i>CI</i>
HVdC Sexual Interactions – instances	0.16	0.06	2.72**	.008	0.03	0.02	1.83	.071	0.01	0.01	0.83	.409	0.01	0.01	1.44	.155	0.005	0.003	-0.000, 0.012
HVdC Sexual Interactions – dreamer-involved	0.16	0.06	2.72**	.008	0.03	0.02	1.77	.082	0.01	0.01	0.99	.325	0.01	0.01	1.58	.118	0.005	0.003	-0.000, 0.011
HVdC Sexual Interactions – dreamer as initiator	0.16	0.06	2.72**	.008	0.02	0.01	1.60	.114	0.01	0.01	1.14	.260	0.01	0.00	1.69	.096	0.003	0.002	-0.000, 0.006
HVdC Aggression – instances	0.16	0.06	2.72**	.008	0.13	0.06	2.23*	.029	-0.01	0.03	-0.39	.701	0.01	0.03	0.30	.764	0.020	0.010	0.003, 0.043
HVdC Aggression – dreamer-involved	0.16	0.06	2.72**	.008	0.11	0.05	2.39*	.020	-0.02	0.02	-0.76	.451	-0.00	0.02	-0.03	.976	0.017	0.009	0.003, 0.039

Note. Path *a* = BSRI Femininity (predictor) to ATD (mediator); Path *b* = ATD (mediator) to sexual/aggression variable (outcome); Path *c*' = BSRI Femininity to sexual/aggression variable (direct effect); Path *c* = total effect of BSRI Femininity on sexual/aggression variable via the mediator. ***p* < .01 level (2-tailed), **p* < .05

The findings indicate that after controlling for TCS, IAT, GMSR Stress, GMSR Resilience, and SWEMWBS, the mediating role of ATD in all three models related to HVdC Sexual Interactions was no longer statistically significant. However, the mediation effect of ATD remained significant in the two models that examined the relationship between BSRI Femininity and HVdC Aggression. This is supported by the confidence intervals of the corresponding models shown in Table 16, where the lower and upper limits do not include zero.

Table 20

Moderation of Binary Self-Identified Gender between Femininity/Masculinity and Sexual or Aggressive Dream Content, Controlling for Self-Acceptance and Well-Being Variables

		Effect	SE	t	p
TMF → HVdC Aggression – dreamer as victim	TMF x Self-identified gender (Conditional effects) Trans males (Conditional effects) Trans females	0.09 - -	0.09 - -	0.98 - -	.332 - -
BSRI Sex Role Difference → HVdC Aggression – dreamer as victim	BSRI Sex Role Difference x Self-identified gender (Conditional effects) Trans males (Conditional effects) Trans females	0.04 -0.02 0.03	0.02 0.01 0.02	2.23* -1.20 2.06	.030 .237 .081
BSRI Sex Role Difference → HVdC Aggression – instances	BSRI Femininity x Self-identified gender (Conditional effects) Trans males (Conditional effects) Trans females	0.09 - -	0.05 - -	1.88 - -	.065 - -

Note. ** $p < .01$ level (2-tailed), * $p < .05$

Table 20 presents the results after considering the self-acceptance and well-being variables when examining the moderation effect of binary self-identified gender on the models of femininity/masculinity variables and sexual/aggression dream contents, which were previously found to be significant. The interaction effect in the model of BSRI Sex Role Difference predicting HVdC Aggression - dreamer as victim was found to be significant. However, no significant conditional effects were observed for trans males or trans females. In other words, after controlling for TCS, IAT, GMSR Stress, GMSR Resilience, and SWEMWBS in all three previously significant models, the moderating effect of binary self-identified gender was no longer evident.

7.4 Chapter Discussion

This chapter discusses the influence of self-acceptance and well-being variables on the relationships between femininity/masculinity and dream intensity, as well as femininity/masculinity and sexual and aggressive dream contents among transgender participants.

Variables included in the analyses were: (1) dream intensity variables as measured by the DIS, (2) sexual and aggressive dream content from the coding of dream content following the HVdC system, (3) femininity/masculinity variables

including BSRI and TMF, (4) self-acceptance variables including TCS for measuring self-acceptance of appearance and gender identity, and IAT for measuring the implicit preference for cisgender over transgender) or vice versa, and (5) well-being variables including GMSR Stress for measuring minority stress, GMSR Resilience for measuring, and SWEMWBS for general mental well-being.

An intriguing finding regarding the implicit attitude of TGNC participants in this study was the overall significant positive IAT *D*-score, which suggests a preference for cisgender individuals over transgender individuals. The IAT results of this study are consistent with most existing studies on minority groups which discovered implicit outgroup favoritism in minority or non-dominant groups (Gonsalkorale et al., 2014; Jost et al., 2002, 2004; Nosek et al., 2002, 2007; Rudman et al., 2002; Schuchart et al., 2021; Uhlmann et al., 2002). However, the results differ from a study that utilized the Implicit Association Test (IAT) and included TGNC participants (Axt et al., 2021). The data from Axt et al.'s study (2021) revealed that TGNC participants showed ingroup favoritism, which means they preferred TGNC individuals over cisgender people.

Implicit attitudes are influenced by cultural and societal factors, and the findings of this study align with the local society's perspective on transgenderism

compared to cisgenderism. Dunham et al.'s (2007) research uncovered that by the age of three, White American children display an in-group preference, whereas Hispanic and Black American children do not exhibit such a preference. This finding suggests that implicit attitudes are absorbed from the culture and internalized by young children. In a another IAT study, Morehouse and Banaji (2024) found that when third-party groups are tested using an IAT (such as Asian Americans taking a White-Black IAT), they consistently demonstrate an implicit pro-White bias. Rather than associating both out-groups with good equally, third-party respondents exhibit an implicit preference for the socially dominant group.

Among the limited studies utilizing IAT on TGNC populations, one study had a similar finding to the current study that TGNC people showed cisgender preference, which is an outgroup favoritism (Wang-Jones et al., 2017). Some other IAT studies specifically investigating IAT related to the TGNC population found that TGNC children implicitly associated themselves with their self-identified gender (i.e., their gender identity) rather than their biological sex (Gülgöz et al., 2019; Olson et al., 2015), but did not consider ingroup or outgroup favoritism in the TGNC population.

7.4.1 Testing Hypothesis 9

To test Hypothesis 9 (“H9: The relationships between femininity/masculinity [BSRI, TMF] and dream intensity [DIS] retain even with consideration of self-acceptance [TCS, IAT] and well-being variables [GMSR, SWEMWBS]”), the previously significant mediations of ATD between BSRI Femininity and DIS total, DIS Dream Quantity, and DIS Regular Dreams were re-examined, controlling for the self-acceptance and well-being variables. The results indicate that the models tested in Chapter 6, which showed a significant mediation effect of ATD, remained significant even after accounting for the effects of the self-acceptance and well-being variables (see Table 16).

Next, the previously significant moderating effect of binary self-identified gender between femininity/masculinity and dream intensity variables was tested. For trans female, TMF (self-ascribed femininity) positively predicted DIS Regular Dreams (the quantitative aspect of regular dream activities), and BSRI Sex Role Difference (the difference between femininity and masculinity scores of an individual) positively predicted DIS Major Modalities (sensory experiences during dreaming, such as seeing, hearing, and feeling emotions in dreams). These results are similar to those found in biological females in a previous study (Yu, 2012b).

However, when self-acceptance and well-being variables were controlled for, the moderation effect of binary self-identified gender on BSRI Sex Role Difference predicting DIS Major Modalities was no longer significant. Meanwhile, the positive predictive effect of TMF on DIS Regular Dreams retained. In other words, self-acceptance and well-being may be important factors in determining whether trans females are similar to their biological females in certain dream perspectives.

Based on these findings, H9 was generally supported. Specifically, there is support for the mediation effects imposed by ATD after accounting for the influence of the self-acceptance and well-being variables. All models yielded significant results upon examination of the moderation effect of binary self-identified gender, with the only exception being the model with BSRI Sex Role Difference predicting DIS Major Modalities.

7.4.2 Testing Hypothesis 10

The findings showed that Hypothesis 10 (“H10: The relationships between femininity/masculinity [BSRI, TMF] and sexual and aggressive dream contents [CA] retain even with consideration of self-acceptance [TCS, IAT] and well-being variables [GMSR, SWEMWBS]”) was mostly supported but not fully, as detailed below.

Hierarchical regression analysis was employed to control the self-acceptance and well-being variables while testing the previously significant relationship of TMF and ATD predicting HVdC Sexual Interactions – Dreamer as Initiator (see Table 18). The results indicated that the significant association of TMF with ATD in predicting HVdC Sexual Interactions – dreamer as initiator remained significant even after accounting for the effects of self-acceptance and well-being variables.

In the analysis of the previously significant mediation of ATD and BSRI femininity on sexual and aggression dream content, when controlling the effects of self-acceptance and well-being variables, it was found that the mediation of ATD for all three models associated with sexual dream content were no longer significant. However, the two previously significant models related to aggressive dream content remained significant (see Table 19).

Self-acceptance and well-being variables were also controlled to check whether the moderation effect of binary self-identified gender retained on previously significant relationships between femininity/masculinity variables and aggressive dream content (see Table 20). Note that all models related sexual dream content no longer showed significant moderating effects of self-identified gender; thus, no further analyses related to sexual dream content were performed in this chapter. The

results showed that the moderation effect of binary self-identified gender was no longer significant for all three models tested. In other words, self-acceptance and well-being may be important factors to be considered when determining the relationships between aggressive dream content and the level of femininity/masculinity, rather than simply considering one's binary self-identified gender. For the above reasons, H10 is considered mostly supported, although not fully.

The findings presented in this chapter indicate that the majority of the previously significant models concerning dream intensity remained statistically significant. However, in terms of dream content, most previously significant models lost their statistical significance, except for the negative prediction of socially-ascribed femininity on aggressive dream contents involving instances and the dreamer. These findings suggest that the self-acceptance and well-being of the dreamers have an impact on their sexual and aggressive dream content while having less influence on dream intensity.

CHAPTER VIII

INSIGHTS FROM DREAMS THROUGH GAINS FROM DREAM

INTERPRETATION

Participants were instructed to interpret their three most significant dreams within the 14-day study period for interpretation. Participants were only provided access to the online GDI hosted on Google Form upon completion of their dream interpretations. Seventy-eight participants (40 trans males, 23 trans females, 15 nonbinary) completed the Gains from Dream Interpretation scale (GDI).

The current study employed the protocol of the original study in which the GDI was developed (Heaton et al., 1998), with both studies instructing participants to conduct self-guided dream interpretation using Hill's (1996) cognitive-experimental model. Table 21 displays the Gains from Dream Interpretation subscale means from the original study in which the GDI was developed compared with the mean scores from the current study. No statistically significant differences in the mean scores of the three subscales of the GDI (Exploration-Insight Gains, Experiential Gains, and Action Gains) obtained in the current study when compared with those from the original study.

Table 21

Comparison between Gains from Dream Interpretation Subscale Means of Original Paper and that of Current Study

	Original paper	Current study	<i>t</i> (77)	<i>p</i>
GDI Exploration-Insight gains	6.61 (1.35)	6.39 (1.17)	-1.69	.096
GDI Experiential gains	6.76 (1.74)	6.98 (1.37)	1.43	.158
GDI Action gains	5.99 (1.11)	6.03 (1.27)	0.30	.764

8.1 Moderation of Femininity/Masculinity on Attitudes toward dreams and

Insights from Dreams [H11]

Table 22 shows the Pearson's correlations between the major variables in this study and Gains from Dream Interpretation. The GDI total showed no significant correlation with ATD. Among the subscale scores of GDI Exploration-Insight Gains, GDI Experiential Gains, and GDI Action Gains, only GDI Action Gains score was significantly correlated with ATD, $r = .27, p = .016$. When examining the relationship between GDI and femininity/masculinity variables (BSRI and TMF), only BSRI Femininity was significantly correlated with GDI total, $r = .23, p = .039$, and GDI Action Gains, $r = .35, p = .001$ (see Table 22).

Table 22

Pearson's Correlations of Gains from Dream Interpretation, Dream Intensity, Attitudes toward dreams, and Femininity/Masculinity

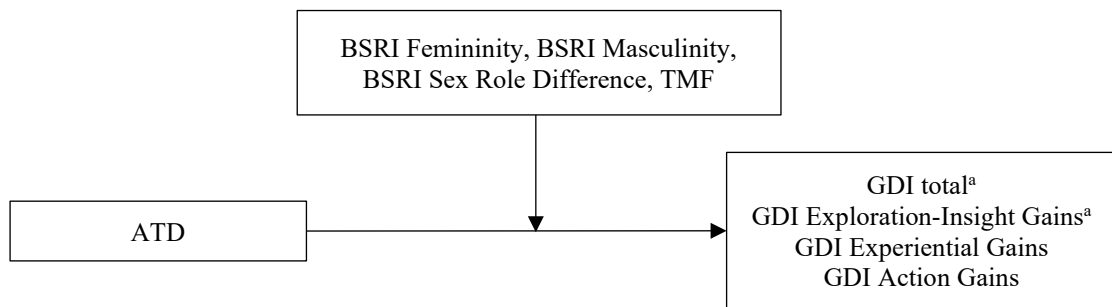
	1	2	3	4	5	6	7	8	9
1. Age									
2. GDI total	-.30**								
3. GDI Exploration-Insight Gains	-.33**	.94**							
4. GDI Experiential Gains	-.20	.60**	.48**						
5. GDI Action Gains	-.18	.87**	.69**	.35**					
6. ATD	.10	.16	.05	.12	.27*				
7. BSRI Masculinity	.12	.08	.02	.05	.13	.15			
8. BSRI Femininity	.13	.23*	.13	.05	.35**	.34**	.08		
9. BSRI Sex Role Difference	-.01	.09	.07	-.01	.13	.11	-.76**	.59**	
10. TMF	.11	.12	.10	.02	.13	-.02	-.34**	.36**	.51**

Note. All three gender groups of participants were included, $n = 78$. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed).

PROCESS macro model 1 was used to examine the relationships with femininity/masculinity variables (TMF, BSRI Sex Role Difference, BSRI Femininity, BSRI Masculinity) as the moderator between ATD and GDI variables (GDI Exploration-Insight Gains, GDI Experiential Gains, and GDI Action Gains). Considering the significant correlation between age and GDI total and GDI Exploration-Insight Gains (see Table 22), age was controlled as a covariate for the models being tested using GDI total and GDI Exploration-Insight Gains as the outcome variable. The conceptual diagram is shown in Figure 20).

Figure 20

Moderating effect of Femininity/Masculinity on Attitudes toward dreams to Gains from Dream Interpretation



Note: ^aAge was controlled for as a covariate.

Table 23

Models with Significant Moderation of Femininity/Masculinity between Attitudes toward dreams and Gains from Dream Interpretation

	Effect	SE	t(74)	p
Model: ATD (predictor) → GDI Exploration-Insight Gains ^a (outcome)				
ATD	-0.07	0.04	-1.68	.096
TMF (moderator)	-0.11	0.06	-1.80	.077
ATD x TMF	0.00	0.00	2.13*	.037
Age (covariate)	-0.05	0.01	-3.41**	.001
Model: ATD (predictor) → GDI Experiential Gains (outcome)				
ATD	-0.26	0.14	-1.90	.061
BSRI Femininity (moderator)	-0.10	0.05	-2.01*	.049
ATD x BSRI Femininity	0.00	0.00	2.08*	.041

Note. ^aAge was controlled for as a covariate. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed).

Among the 16 models tested, which encompassed various combinations of femininity/masculinity and GDI variables, only two demonstrated significant moderation results, as presented in Table 23.

ATD was found to predict GDI Exploration-Insight Gains significantly and positively when TMF exceeded the mean ($M = 21.12$) by slightly more than one standard deviation ($SD = 9.10$), and when the TMF score was at $M+1SD$ (30.22), the p -value was slightly higher than .05 level. Further analysis using the Johnson-Neyman method revealed that the moderation effect of TMF became significant when the TMF score reached 30.63; $B = 0.05$, $SE = 0.03$, $t(73) = 1.99$, $p = .050$, 95%CI [0.00, 0.10].

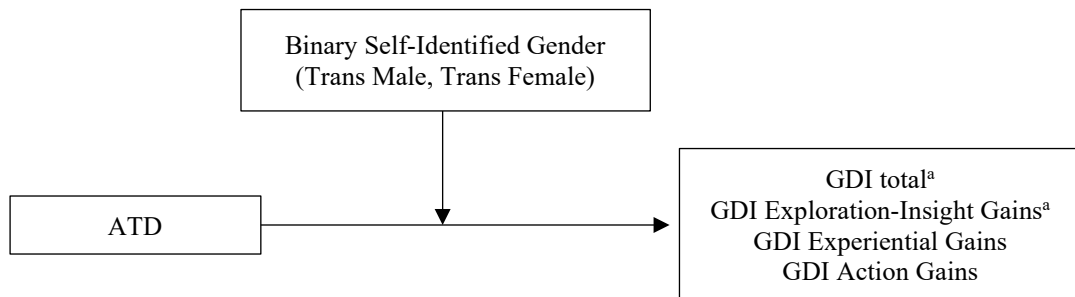
Another model with a significant moderation effect was ATD predicted GDI Experiential Gains when BSRI Femininity was high. At the level of one standard deviation ($SD = 14.64$) above the mean ($M = 89.28$), significant moderation results were observed, $B = 0.08$, $SE = 0.03$, $t(74) = 2.19$, $p = .032$, 95%CI [0.01, 0.14].

8.2 Moderation of Binary Self-Identified Gender (Trans Males, Trans Females) on Attitudes toward dreams and Insights from Dreams [H11]

Moderation analysis using PROCESS macro model 1 was once again utilized to examine the potential role of the moderator of binary self-identified gender; the conceptual diagram is illustrated in Figure 21.

Figure 21

Conceptual Diagram of Moderation by Binary Self-Identified Genders (Trans Male, Trans Female) on Attitudes toward dreams to Gains from Dream Interpretation



Note: ^aAge was controlled for as a covariate.

Table 24 showed the results of the moderation analyses that binary self-identified gender significantly moderated the relationship between ATD and GDI total; upon follow-up investigations on the subscales, the binary self-identified gender also significantly moderated the relationship between ATD and GDI Exploration-Insight Gains.

Table 24

Moderation of Binary Self-Identified Gender (Trans Males, Trans Females) between Attitudes toward dreams to Gains from Dream Interpretation

	Effect	SE	t(58)	p
Model: ATD (predictor) → GDI Total (outcome)				
ATD	-1.40	0.72	-1.95	.056
Self-identified gender (moderator)	-33.00	15.81	-2.09*	.041
ATD x Self-identified gender	1.22	0.51	2.41*	.019
Age (covariate)	-0.76	0.20	-3.79**	<.001
Conditional effects of predictor on:				
Trans males	-0.19	0.29	-0.64	.527
Trans females	1.03	0.41	2.50*	.015
Model: ATD (predictor) → GDI Exploration-Insight Gains (outcome)				
ATD	-0.16	0.06	-2.86**	.006
Self-identified gender (moderator)	-3.27	1.23	-2.67**	.010
ATD x Self-identified gender	0.12	0.04	2.97**	.004
Age (covariate)	-0.06	0.02	-3.83**	<.001
Conditional effects of predictor on:				
Trans males	-0.04	0.02	-1.87	.066
Trans females	0.07	0.03	2.30*	.025

Note. ** $p < .01$ level (2-tailed), * $p < .05$ level (2-tailed).

8.3 Chapter Discussion

Prior research has established a positive correlation between ATD and the degree of insight individuals gain from their dreams. In the present study, dream-derived insights were quantified using GDI, a tool that has been employed in earlier studies for the same purpose (Edwards et al., 2013; Heaton et al., 1998; Hill & Goates, 2004).

Similar to most previous studies that used the GDI, this study adopted the Hill cognitive-experiential model as the procedure for interpretation (Diemer et al., 1996;

Falk & Hill, 1995; Heaton et al., 1998; Hill et al., 2003; Hill & Knox, 2010; Hill & Rochlen, 200; Kline & Hill, 2014; Pong & Yu, 2023; Spangler & Hill, 2015; Spangler & Sim, 2023). Previous studies have primarily focused on therapist-led dream interpretation (Cogar & Hill, 1992; Diemer et al., 1996; Falk & Hill, 1995; Hill et al., 1993, 1997, 1998; Rochlen et al., 1999, 1999; Zack & Hill, 1998), with the exception of the original study in which the GDI was developed and self-guided dream interpretation and therapist-led dream interpretation (Heaton et al., 1998).

In the current study, the self-guided interpretation protocol was employed, in which participants independently conducted dream interpretation based on the written instructions provided in accordance with the self-guided interpretation protocol. The mean scores of the GDI subscales in the present study were compared with those obtained using the self-guided interpretation protocol outlined in the original paper. As presented in Table 21, the data revealed no significant differences between the two datasets. Despite the data from the original study were not considered normative, the absence of significant differences in the mean scores indicates that the data gathered in this study did not significantly deviate from those in the original study.

8.3.1 Testing Hypothesis 11

To examine Hypothesis 11 (“H11: The relationship between attitudes toward dreams [ATD] and insights from dreams [GDI] is moderated by level of femininity [BSRI, TMF] and self-identified gender [DEM]), moderation analyses were conducted between dream attitudes and gains from dreams with moderator of (a) femininity/masculinity variables, and (b) binary self-identified gender.

The results showed that when TMF (self-ascribed femininity) was high, ATD significantly predicted GDI Exploration-Insight Gains, whereas in another significant model, when BSRI Femininity (socially-ascribed femininity) was high, ATD significantly predicted GDI Experiential Gains. In moderation analyses with binary self-identified genders, the results indicated that ATD significantly predicted GDI total and GDI Exploration-Insight Gains for trans females, but not for trans males. In addition, no significant moderation was found in the relationships between ATD and GDI Experiential Gains or ATD and GDI Action Gains.

Interestingly, ATD was significantly correlated with GDI Action Gains, $r = .27, p = .016$; however, there was no moderation effect by femininity/masculinity variables or binary self-identified genders. In other words, the correlation between ATD and GDI Action Gains remains the same, regardless of the level of femininity or

the participant's self-identified gender. Meanwhile, ATD only predicted GDI Exploration-Insight Gains or GDI Experiential Gains when the femininity level is high; likewise, ATD only predicted GDI total and GDI Exploration-Insight Gains for trans females. Previous studies have shown that attitudes toward dreams are not related to obtaining insights from dream interpretation (Hill et al., 1997; Tien et al., 2006). However, in the present study, attitudes toward dreams were found to be related to insights gained from dream interpretation.

In conclusion, with the moderation effect of self-identified gender on GDI total and GDI Exploration-Insight Gains, and the moderation of femininity on GDI Exploration-Insight Gains and GDI Experiential Gains, H11 is generally supported.

Previous research found that biological females, in comparison to biological males, tend to report more open attitudes toward dreams and thus have a higher dream recall frequency (Schredl et al., 1996, 2010), which was found to be associated with more insights from dreams (Edwards et al., 2013; Wagner et al., 2004). From the perspective of attitudes toward dreams and insights from dreams were only significant in trans females or when in high femininity level, trans female participants exhibited more similarities to biological females than to biological males. This could be seen as

supporting evidence that psychological influences are stronger than biological influences in aspects related to attitudes toward dreams.

It is important to note that all the significant models found in this section were associated with femininity. These models include BSRI Femininity, TMF, and the self-identified gender of trans females. This finding aligns with previous research that utilized the BSRI, which also found significant results related to femininity rather than masculinity levels (Donnelly & Twenge, 2017; Gómez-Gil et al., 2012). For instance, a study by Gómez-Gil et al. (2012) discovered that trans women scored significantly higher on the femininity scale than transgender men and cisgender men control participants. However, no significant differences were found in masculinity. This finding supports the notion that femininity is a more salient factor in the TGNC population.

CHAPTER IX

GENERAL DISCUSSION

The fundamental and core question of this study was to investigate the influence of sex role orientation and gender identity on the dream experiences of TGNC participants. Both socially-ascribed and self-ascribed femininity and masculinity were measured, as operationalized by the BSRI and TMF. The data were analyzed in relation to biological sex and self-identified genders. The analyses provided evidence for understanding the associations between natal sex (biological construct), self-identified gender, and femininity/masculinity (psychological construct). The scores of BSRI Femininity, BSRI Masculinity, BSRI Sex Role Difference (BSRI Femininity minus BSRI Masculinity, i.e., positive score = femininity > masculinity) reflect the psychological aspect by exploring the socially-ascribed sex role orientation, whereas TMF (the higher the score, the higher the femininity) reflects the self-ascribed femininity/masculinity of the person.

9.1 Biological Sex, Self-Identified Gender, and Femininity/Masculinity

Self-identified gender is a psychological construct, whereas biological sex is determined by genetic makeup. The results of this study indicate that the majority of

participants (83%) identified themselves as either trans males or trans females, which are binary self-identified genders. The remaining participants (17%) identified themselves in categories that did not conform to binary gender.

Among the participants who fell into the binary self-identified gender category, all identified themselves as the opposite of their biological sex. In other words, biological males were identified as trans females and biological females were identified as trans males. This finding can be attributed to the influence of social factors on gender, which often simplifies it into a binary distinction.

Traditionally, most societies have recognized only two genders, which aligns with the corresponding biological sex of individuals. This simplistic binary distinction has contributed to the perception of binary gender as the societal norm, which may be one of the major factors explaining why the majority of TGNC participants in this study identified themselves within the confines of gender binary classification. A previous study on the TGNC population also found that 90% of participants self-identified as one of the binary genders (Herrmann et al., 2024).

The relationship between self-identified gender and femininity/masculinity is evident in this study, with trans females displaying higher levels of femininity and trans males displaying higher levels of masculinity. However, upon closer

examination of the scores of BSRI (socially-ascribed femininity/masculinity) and TMF (self-ascribed femininity/masculinity), no significant results were found related to BSRI Masculinity among the three self-identified gender groups. It is worth noting that previous studies comparing TGNC and their cisgender counterparts also found statistically significant differences between groups in BSRI Femininity, but not BSRI Masculinity (Gómez-Gil et al., 2012; Mandal & Jakubowski, 2015).

Regarding the socially-ascribed femininity and masculinity, it was observed that trans female participants attained significantly higher scores in terms of socially-ascribed femininity. This finding suggests that trans female participants exhibit greater adherence to societal expectations of femininity. In contrast, it was found that the scores for socially-ascribed masculinity were not significantly higher among the participants identified as trans males. One potential reason for this finding is that societal expectations of masculinity may not substantially affect this particular group. Alternatively, it is likely that societal expectations of masculinity have changed over time (Kimmel & Bridges, 2011; Wojnicka, 2021), which may have influenced the results obtained from the measure that was originally devised several years ago.

For instance, Wojnicka (2021) posits an increasing societal trend toward ‘caring masculinity,’ a concept rooted in positive emotions, interdependence, and

relationality, challenges the hegemonic and violent characteristics of ‘protective masculinity,’ which is defined by its reliance on physical power, financial support, and patriarchal dominance over women and children (Wojnicka, 2021). Kimmel and Bridges (2011) posited that the conventional paradigm of masculinity, characterized by dominance, aggression, and breadwinning, has been challenged by social changes, such as feminism, globalization, and deindustrialization. In response to the crisis of traditional masculinity, new forms of masculinity that are more flexible, egalitarian, and expressive have been embraced by many males (Kimmel & Bridges, 2011). When looking back to BSRI which was used in the current study, expressivity is indeed the direction for measuring femininity in BSRI (Bem, 1981a, 1981b), as “femininity has been associated with an expressive orientation, an affective concern for the welfare of others.” (Bem, 1974, p. 156)

The results of this study showed that trans female participants scored significantly higher in self-ascribed femininity than trans male participants and nonbinary participants. This indicates that trans females have a stronger personal identification with femininity. The ranking of self-ascribed femininity levels from high to low is trans female participants, nonbinary participants, and trans male participants.

Interestingly, throughout the study, both BSRI Femininity and TMF consistently demonstrated more significant results in differentiating between trans males and trans females. While both measures assess an individual's femininity, TMF treats femininity and masculinity as opposite ends of the same dimension, whereas BSRI measures femininity and masculinity as separate dimensions. It is not the aim of this study to argue or speculate whether femininity and masculinity should be treated as distinct constructs or as two poles of the same continuum. However, the results of this study consistently indicate that the femininity variables (TMF and BSRI Femininity) yield more significant findings.

These results suggest that the psychological influences in relation to femininity and masculinity were more prominent in the TGNC than biological influences, as trans female participants, who were all biological males, were most feminine, while trans male participants, who were all biological females, were most masculine. Echoing existing knowledge on gender and sex, gender identity (as reflected in self-identified gender) is distinguished from biologically-defined sex (American Psychological Association, 2011; Griffin et al., 2021; Twist & de Graaf, 2019; World Health Organization, 2019a). This finding also aligns with Gómez-Gil et al.'s (2012) study that trans females scored higher than trans males in BSRI

Femininity, and trans males scored higher than trans females in BSRI Masculinity, despite their anatomical characteristics.

One meta-analysis (Donnelly & Twenge, 2017) compared studies that utilized the BSRI between 1993 and 2012. Their findings revealed a significant decrease in BSRI Femininity in biological women, whereas their BSRI Masculinity remained unchanged. Moreover, there were no significant changes in biological men over the years. The researchers of the meta-analysis concluded that these findings indicate a decrease in the tendency of biological women to identify with feminine characteristics, suggesting a diminishing value placed on traditional femininity. This could be viewed as supporting evidence of BSRI as a measure of femininity and masculinity from the lens of sex role stereotypes in society. Moreover, the findings of the abovementioned meta-analysis showed how biological women are less inclined to embrace feminine traits as self-representatives, indicating their societal perception of themselves.

The findings of the meta-analysis may not be applicable to the participants of the current study. Although the comparisons are not strictly the same, as this study did not compare changes in BSRI scores of TGNC people throughout the years, the results of the current study showed that trans females scored significantly higher on

BSRI Femininity than the other two gender groups. This may be related to the tendency of trans females to overly feminize themselves, as found by Herman-Jeglińska et al.'s (2002) study, which adopted BSRI, the same instrument as this study. Researchers comparing femininity and masculinity among trans females, trans males, cisgender females, and cisgender males found that transgender females scored higher in femininity than cisgender males and females; in other words, trans females were found to be the most feminine group among the transgender and cisgender groups (Herman-Jeglińska et al., 2002). Mandal and Jakubowski's (2015) study of masculinity and femininity in transgender women found similar results: trans women scored higher than cisgender women on the BSRI Femininity scale.

In the present study, the findings indicated that sex role orientation is closely associated with psychological constructs as in self-identified gender, rather than the anatomical sex of the participants. This suggests that psychological factors exert a greater influence on individuals' perspectives regarding sex role orientation, surpassing the impact of anatomical or biological sex.

9.2 Related to Dream Intensity

When examining dream intensity, Yu (2010b) found that biological females had a significantly higher overall dream intensity. Gackenbach et al.'s (2018) study

also showed that biological females tend to possess more positive attitudes toward dreams and experience higher dream intensity compared to biological males. In the present study, it was found that attitudes toward dreams significantly mediated the relationship between socially-ascribed femininity and overall dream intensity, particularly dream quantity (including dream recall frequency). This finding suggests that individuals who adhere more closely to societal expectations of femininity are more likely to believe in the usefulness of dreams and experience higher levels of dream intensity. This significant influence of attitudes toward dreams retained even after controlling for well-being and self-acceptance variables.

In a previous study with biological male and biological female participants, findings suggested that femininity partially explains the sex difference in dream recall frequency, meaning that individuals who scored higher on femininity tended to have a higher dream recall frequency (Schredl & Lahl, 2010). Schredl et al. (2013) further found that femininity was positively associated with dream recall frequency, so as attitudes toward dreams. However, when attitudes toward dreams were controlled for in the analysis, the effect of femininity on dream recall frequency was no longer significant (Schredl et al., 2013).

The findings of the present study indicate that socially-ascribed femininity was not significantly correlated with dream quantity, which included a measure of dream recall frequency; however, socially-ascribed femininity became a predictor of dream quantity under the significant mediation of attitudes toward dreams. The finding that socially-ascribed femininity predicts dream quantity (i.e., dream recall frequency) only when mediated by attitudes toward dreams supports the idea that attitudes toward dreams may be an important factor in understanding the relationship between femininity and dream recall frequency.

This finding adds an additional perspective that TGNC individuals who are socially-ascribed as feminine may be more likely to have positive attitudes toward dreams, which in turn leads to better dream recall. This is in accordance with previous research that biological females tend to recall their dreams more often than biological males, while the socialization of sex roles is a contributing factor to the gender difference in dream recall frequency in adults (Schredl, 2002; Schredl & Lahl, 2010).

Studies have found that individuals with a higher level of femininity tend to exhibit behaviors that are considered desirable for women, whereas those with a high level of masculinity are more likely to display behaviors that are desirable for men (Bakan, 1966; Bales & Parsons, 1956; Bem, 1974; Erikson, 1964; Kagan, 1964;

Kohlberg, 1966). In this study, participants with higher levels of femininity also demonstrated similarities in their dream experiences and attitudes toward dreams as biological females do, as biological females have more positive attitudes toward dreams and have higher dream recall frequency (Schredl & Lahl, 2010).

In general, the above-mentioned findings together with the findings that trans female participants scored the highest in femininity among the three gender groups; in other words, they were comparatively more likely to exhibit higher dream intensity, indicating that trans females have dream experiences more similar to those of biological females rather than biological males.

Further investigations related to binary self-identified gender (trans male and trans female) revealed significant moderating effects of binary self-identified gender on various dream-related models. For trans female participants, self-ascribed femininity was found to predict dream intensity on regular dreams and major modalities such as colors, sounds, and emotions, while for trans male participants, socially-ascribed femininity positively predicted dream intensity on altered dream episodes and lucid dreaming.

When controlling for the well-being and self-acceptance variables, the model of self-ascribed femininity predicting major modalities in dream experiences was no

longer significant for trans female participants. These findings indicate that self-ascribed femininity may be an important factor in shaping the dream experiences of trans female individuals, but that this relationship is complex and may be influenced by other factors such as psychological well-being and self-acceptance. However, even after controlling for these confounding factors, the remaining three models remained significant: (a) self-ascribed femininity predicted dream intensity of regular dreams for trans females, (b) socially-ascribed femininity predicted dream intensity on altered dream episodes for trans males, and (c) socially-ascribed femininity predicted dream intensity on lucid dreaming for trans males. This suggests that the relationships between femininity and the respective variables under investigation are robust and maintain their statistical significance, even when accounting for potential confounders.

The results obtained from self-ascribed or socially-ascribed femininity were found to predict only certain aspects of dream intensity in trans males and trans females, but not in other aspects or in both trans males and trans females. These findings imply that the interaction between adopted femininity and self-identified gender plays a significant role in determining the patterns of dream intensity in trans individuals. Also, both sex role orientation and self-identified gender partly explains

the similarities between the dream experiences of trans males and biological males, as well as those of trans females and biological females. The findings indicate that the impact of biological sex and "psychological sex" both contribute to shaping the dream experiences of TGNC individuals.

A recent study analyzing data from an online survey and over two thousand reports also demonstrated that biological females possess a higher ability to induce lucid dreams (Raduga et al., 2023). Similarly, another study focusing on lucid dreaming also discovered that biological females are more prone to experiencing spontaneous lucid dreams than biological males (Stumbrys et al., 2014). Additionally, a study with a representative sample of German adults found that lucid dream recall was significantly higher in biological females than in biological males (Schredl & Erlacher, 2011).

The differences between biological males and biological females in having lucid dreams is linked to natural distinctions in their sleep patterns, such as biological females experiencing shorter REM sleep latency (Bixler et al., 2009). Shorter latency to REM sleep is indicative of a more rapid transition to REM sleep, thereby enhancing the likelihood of having lucid dreams, which are typically associated with REM sleep (Bixler et al., 2009; Raduga et al., 2023). It is also believed that inborn

psychophysiological differences between the sexes contribute to this difference in predisposition to have lucid dreams (Raduga et al., 2023). The results of the current study indicate that higher levels of socially-ascribed femininity in trans males are associated with a greater intensity of dreams related to lucid dreaming. These findings further support the central idea of this study, which suggests that the psychological influences of femininity and the effects of biological sex are interrelated.

Previous research found that people undergoing stress have more dreams (Cartwright, 1979, 2010) and a higher intensity of affects in their dreams (Goodenough et al., 1974). In this study, dream frequency was measured by DIS Dream Quantity, while the intensity of affects was reflected by DIS Major Modalities. Meanwhile, stress was reflected by self-acceptance and well-being measures, which included measurement of minority stress, transgender congruence, and general mental well-being.

In this study, the majority of significant relationships remained intact even after considering the influence of self-acceptance and well-being variables. However, the results of the present study regarding affects lost their significance once the self-acceptance and well-being variables were statistically controlled. This aligns with previous research findings that the intensity of affects in dreams is associated with

stress and mental status in the daytime (Goodenough et al., 1974). The significant relationships in relation to affects in this study, as indicated by DIS Major Modalities, were primarily influenced by self-acceptance and well-being variables.

9.3 Related to Dream Contents

More positive attitudes toward dreams and higher level of self-ascribed masculinity were found to be associated with sexual dream content, with the dreamer as the initiator of sexual interactions. Even after controlling for well-being and self-acceptance variables, this significant relationship remained. Previous studies found that biological males have more sexual dreams (Gutiérrez-Puertas et al., 2017; Hall et al., 1982; Hall & Van de Castle, 1966; Schredl, Ciric, Bishop, et al., 2003; Schredl et al., 2010, 2013). Based on the continuity hypothesis, which suggests that dream content is directly related to waking life experiences (Hobson & Schredl, 2011; Schredl, 2012), biological males are expected to be more likely to take the role of initiate sexual interactions in dreams. The findings of this study on TGNC individuals who have a positive attitude toward dreams and are higher in masculinity were more likely to experience sexual dream content where they initiate sexual interactions, which serves as evidence that trans males are similar to biological males in dreaming of being the initiator of sexual interaction.

The present study found that attitudes toward dreams significantly mediated the relationship between socially-ascribed femininity and aggressive dream content. When well-being and self-acceptance variables were controlled for, a significant mediation effect was retained for the relationship with aggression. The lower the socially-ascribed femininity and the more positive attitudes toward dreams, the higher the aggression in dream content.

In this study's findings, trans males exhibited significantly lower levels of socially-ascribed femininity. In other words, trans males with more positive attitudes toward their dreams displayed higher levels of aggression in the content of their dreams than trans females with the same level of positive dream attitudes. This interpretation aligns with previous studies on dream content analysis, which have consistently shown that biological males tend to have more aggression in their dreams than biological females (Domhoff, 2005; Schredl et al., 2010, 2019; L. Zhang et al., 2020). A meta-analysis examining gender differences in the frequency of aggression in dreams also supports these findings, indicating that aggression is more common among biological males than among biological females (L. Zhang et al., 2020). Therefore, the results of this study provide further evidence that trans males exhibit a

similar pattern of having more aggressive dream content than trans females, mirroring the findings observed in biological males and biological females.

When analyzing the data from the entire sample, the findings showed that attitudes toward dreams mediated the relationship between socially-ascribed femininity and aggression in dream content. The results also revealed that attitudes toward dreams played a significant mediating role in the relationship between socially-ascribed femininity and sexual interactions in dream content. Specifically, socially-ascribed femininity was found to have a positive association, through positive dream attitudes, with sexual interactions in dream content, including the total number of instances, dreamer-involved sexual interactions, and dreamer-initiated sexual interactions.

According to previous findings in the current study, trans males exhibited dream patterns that were more akin to those of biological males, whereas trans females displayed dream patterns that were more similar to those of biological females. It was hypothesized that socially-ascribed femininity would be negatively correlated with the frequency of sexual interactions in dream content, as prior research has indicated that biological males tend to have dreams featuring sexual interactions more frequently than biological females (Gutiérrez-Puertas et al., 2017;

Hall et al., 1982; Hall & Van de Castle, 1966; Schredl, Ciric, Bishop, et al., 2003; Schredl et al., 2010, 2013). However, socially-ascribed femininity can indirectly increase the experience of sexual interactions in dreams, through its positive association with dream attitudes.

Nonetheless, when controlling for the well-being and self-acceptance variables, attitudes toward dreams showed no significant mediation effect on the models regarding sexual interactions in dream content. Additionally, the direct effect of socially-ascribed femininity on sexual interactions in dream content is not significant. This means that after controlling for well-being and self-acceptance variables, socially-ascribed femininity no longer predicted sexual interactions in dream content, either directly or through the mediator. This absence of a mediation effect highlights the importance of considering the well-being/self-acceptance variables of TGNC individuals when studying socially-ascribed femininity and dream experiences, especially sexual dream content.

For trans female participants, both self-ascribed femininity and socially-ascribed femininity within the individual, measured by the BSRI Sex Role Difference, predicted dreaming of being a victim of aggression. However, this moderating effect of binary self-identified gender was no longer significant when controlling for the

well-being and self-acceptance variables. This implies that the initial discovery of a moderation effect, which suggests gender differences in dream aggression among binary TGNC participants, may have been overestimated or influenced by the well-being and self-acceptance variables. In essence, the relationship between femininity and the dreaming of being a victim of aggression does not differ significantly between trans females and trans males.

The above findings suggest that after accounting for psychological factors, such as well-being and self-acceptance in TGNC participants, the influence of biological sex is greatly diminished. They provide valuable insights into whether nurture (psychological influence) plays a more prominent role in the dream experiences of TGNC individuals. In addition to self-identified gender as a psychological construct, well-being and self-acceptance are important psychological factors. In other words, the results of this study thus far indicate that nurture, specifically self-identified gender, appears to exert a stronger influence than nature, specifically biological sex, on the dream experiences of TGNC individuals.

9.4 Related to Insights from Dreams

The study found that binary self-identified gender significantly influenced the relationships between attitudes toward dreams and overall insights from dreams as

well as the experiential gains subscale. However, these significant relationships were observed only in trans female participants and not in trans male participants. The mediation analysis conducted on the levels of femininity indicated that among participants exhibiting high femininity, irrespective of whether it was socially ascribed or self-ascribed, there was a significant positive correlation between their attitudes toward dreams and the insights they derived from these dreams.

These findings provide evidence that positive dream attitudes facilitate gains from dreamwork in trans females and trans individuals with high femininity. Previous research has consistently shown that biological females tend to have more insights from dreams and hold more positive attitudes toward dreams (Schredl & Doll, 2001). However, although dream attitudes do not facilitate gains from dreamwork in trans males based on the findings of this study, they should not be interpreted as suggesting that trans male participants or those with low levels of femininity are incapable of deriving insights or benefits from dream interpretation or dreamwork.

9.5 Theoretical Significance

The potential significance of this research lies in its contribution to the ongoing debate on the role of biological and psychological influences on people's dream experiences. By investigating the relationship between the level of

femininity/masculinity and dream experiences, this study aimed to explore the interplay between biological sex (a biological construct), self-identified gender, and sex role orientation (psychological constructs) with respect to dream attitudes and dream experiences among TGNC individuals.

9.5.1 Sex Role Orientation and Self-Identified Gender on TGNC People's Dream Experiences

This study may further existing knowledge, as there are still limited dream studies on TGNC people. In fact, apart from the literature on dreams as a tool in psychotherapy from the perspective of depth psychology (Giovanardi et al., 2020; D. Knafo, 2012; Martin & Davenport, 2014; McKenzie, 2010; Suchet, 2011), there are only two studies specifically examining the dream experience of transgender people.

During the course of the present study, it was observed that significant findings related to socially-ascribed femininity/masculinity predominantly focused on femininity rather than masculinity. This observation was evident across all results, including sex role orientation within the three gender groups, dream intensity, and dream content. In socially-ascribed sex role orientation, all the obtained results were associated with the femininity scale, while none were associated with the masculinity scale.

Volentine (1981) compared the original Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1943) Scale 5 (masculinity/femininity scale) with BSRI scores and found that only BSRI Femininity was consistently correlated significantly with Scale 5 scores but not BSRI Masculinity, indicating that BSRI Femininity is a more relevant correlate of Scale 5 than BSRI Masculinity. Although Volentine's (1981) study is relatively dated, it provides a convergent validity perspective that BSRI, specifically the femininity subscale, is capable of effectively capturing and assessing the intended construct. Furthermore, a meta-analysis conducted by Donnelly and Twenge (2017) examined femininity/masculinity changes from 1993 to 2012 based on studies utilizing the BSRI. The analysis revealed a significant difference in BSRI Femininity across the reviewed aspects but no significant difference in BSRI Masculinity. It raises the possibility that the scale items of the BSRI may not accurately match with the modern gender stereotypes.

However, in examining previous studies that employed the BSRI on TGNC individuals, it became evident that masculinity consistently yielded inconclusive results. For instance, a study comparing the sex role orientation of Spanish transgender and cisgender participants using the BSRI did not reveal any significant findings on masculinity (Gómez-Gil et al., 2012). Another study conducted in Poland

on TGNC participants discovered that trans males scored higher in masculinity than cisgender females, but the difference was not statistically significant (Herman-Jeglińska et al., 2002). Drawing from the previous findings together with those in the current study, it could be inferred that the Femininity subscale of the BSRI may demonstrate greater sensitivity compared to the Masculinity subscale, particularly within the TGNC population.

Andrew et al. (2020) found that nightmare frequency was associated with suicide attempts in TGNC participants. Kovacevic and Davis (2020) delivered a combination of two treatments for post-trauma nightmares of a transgender male with psychosis, their findings suggested that individuals with frequent nightmares, PTSD, and psychosis may benefit from direct treatments targeting these conditions.

In the current study, nightmare frequency was measured using the DIS Bad Dreams, which includes nightmares and nightmare awakening. No significant findings related to DIS Bad Dreams were found in relation to the femininity/masculinity level being measured, binary self-identified genders, or insights from dream interpretation.

Salín-Pascual and Arroyo (2016) instructed participants to state their gender representation in their dream logs. The study's findings indicated that individuals who

discovered their gender identity at a tender age (less than 15 years old) reported a higher frequency of dreams in which they perceived themselves as the gender they identified with compared to those who became aware of their gender identity at a later stage in life (more than 15 years old). The study suggested that analyzing dreams from a first-person narrative perspective could be useful in evaluating the diagnosis of gender dysphoria, particularly in individuals who may be uncertain about their condition (Salín-Pascual & Arroyo, 2016).

As the primary focus of the present study was not to explore participants' certainty of their self-identified gender, there were no specific requirements for participants to log their own gender representation in the dream logs. However, all participants were instructed to provide as much detail as possible, even if some of the details appeared illogical. In the dream diaries logged, participants used the pronoun "I" to represent themselves, without explicitly stating their gender.

Even though there may be some research targeting sexual minorities such as gay, lesbian, or bisexual, there is a big gap between the LGB and the TQI+ (transgender, queer, intersex, etc.) in LGBTQI+ studies. This is because most existing dream studies on sexual minorities have investigated participants' sexual orientation as being different from heterosexuality, while for TGNC people, it is about their

gender identity not matching their natal gender. There have been very few published dream studies on this population. This could have an impact on the field of dream study, as the current study provides new information on the relationships between dream contents and self-identified gender, while existing studies mostly concern birth-assigned sex.

This study has provided evidence that TGNC individuals' gender identity and adopted sex role orientation, which are both psychological constructs, significantly influenced their dream experiences, and not only their biological sex should be considered. Most previous research on dream experiences of transgender people has focused on using dreams as a tool in psychotherapy, particularly from a depth psychology perspective (Giovanardi et al., 2020; D. Knafo, 2012; Martin & Davenport, 2014; McKenzie, 2010; Suchet, 2011), with two studies examining how nightmare frequency is related to the well-being and gender identification of TGNC individuals (Andrew et al., 2020; Salín-Pascual & Arroyo, 2016).

The present findings expand our knowledge of self-identified gender (a psychological construct) and biological sex (a biological construct) and may help refine the theoretical frameworks for guiding different areas in the field of dream research. The present findings can also inform the development of new theories and

frameworks that capture the diversity and complexity of TGNC experiences better. For example, differences between males and females are frequently observed in dream research. However, it is unclear whether these differences are due to the psychological construct of gender or the biological construct of sex is barely touched on. To further explore these implications, researchers from various fields should consider additional factors when designing their studies. This study of the TGNC population revealed that the psychological impact of self-identified gender significantly alters the expected differences between biological males and females in their dream experiences. A similar phenomenon may exist in the general cisgender population.

Researchers studying the TGNC population can investigate specific psychological and social factors that contribute to the development of TGNC gender identity. By examining how individuals perceive and understand their gender, such as their sex role orientation and their interactions with biological sex, researchers can gain a comprehensive understanding of TGNC experiences. Rather than focusing solely on one aspect, this approach captures the diversity and complexity inherent in the lives of the TGNC individuals.

The results of this study provide evidence to the continuity hypothesis, which posits that dream content is connected to an individual's waking concerns. According to this hypothesis, the contents of dreams are an extension of a person's waking thoughts and experiences (Domhoff, 1996, 2003; Hall & Nordby, 1972; Schredl, 2012; Schredl & Hofmann, 2003). TGNC participants in the present study exhibit dream patterns similar to those of their identified gender, suggesting that their psychological experiences related to their self-identified gender and ascribed sex role are carried over into their dreams.

The present study found that that TGNC dream experiences of TGNC individuals are influenced by their psychological constructs related to self-identified gender and their level of femininity or masculinity. Armed with this knowledge, researchers can develop more effective and contextually appropriate assessment tools tailored specifically to the unique situations faced by individuals with TGNC. For instance, exploring dream experiences can provide additional insights into how much TGNC individuals identify with their self-identified gender, beyond the surface level of how they label themselves.

9.5.2 Self-Ascribed Femininity/Masculinity

This study found that data on BSRI and TMF measures of femininity/masculinity yielded different results, with an overall observation that TMF was more sensitive to differences between trans male and trans female participants. In other words, the self-ascribed femininity/masculinity measured by TMF appeared to better illustrate the distinctions within binary self-identified genders. However, the disparity between the two instruments can also be attributed to their fundamentally different perspectives on femininity and masculinity. The BSRI measures femininity and masculinity based on societal norms, whereas the TMF measures them directly from an individual's self-perception. The TMF may be more attuned to subtle variations in self-ascribed femininity and masculinity within the TGNC population, particularly when it pertains to binary self-identified genders affirmed by the individual. This finding provides important implications for research on TGNC individuals, suggesting that measuring femininity and masculinity from a self-ascribed perspective, rather than solely relying on socially bound perspectives, may offer a more accurate and nuanced understanding of the levels of femininity and masculinity among TGNC individuals.

9.6 Practical Significance

This study has practical implications for healthcare professionals working with TGNC individuals, as it may help them gain a deeper understanding of the complex and dynamic nature of gender identity. This understanding can inform the design of interventions that best cater to the needs of the TGNC clients.

The TGNC population is more prone to mental health issues, and dreamwork is a common and useful tool in psychotherapy. However, existing studies have only examined the relationship between transgenderism and certain independent dream variables, such as nightmares (Abramovich et al., 2020; Andrew et al., 2020; Kovacevic & Davis, 2020; Paquet et al., 2020); hence, health practitioners may not be able to fully grasp the overall situation when doing dreamwork with transgender clients. This study provides evidence of the link between TGNC people's dreams and their psychological state of their own gender. Health practitioners can utilize this knowledge to conduct dreamwork in therapy, thereby expanding the possibility of providing better interventions for TGNC clients.

The understanding that dream experiences are significantly shaped by an individual's "psychological sex" despite their anatomical characteristics, has profound implications in clinical settings for TGNC individuals. Furthermore, these insights

into the influence of psychological sex on dream experiences can be particularly beneficial for clients who are uncertain about their gender identity. The process of exploring and affirming one's gender identity can be complex and challenging. These findings can provide an additional reference point for these individuals, helping them to better understand and make sense of their experiences. This can be a valuable tool in their journey towards self-discovery and acceptance.

Clinicians can also leverage this information to enhance their understanding and support of their clients' journey in exploring their gender identities. By recognizing the impact of "psychological sex" on aspects such as dream experiences, clinicians can develop a more comprehensive understanding of their patients' identities. This can inform their approach to treatment, enabling them to provide care that is more aligned with their patients' identities and experiences. This not only improves the quality of care but also fosters a more inclusive and affirming healthcare environment for TGNC individuals.

From a relatively specific clinical perspective, the present findings could have implications for healthcare practitioners who work with TGNC individuals. By examining the dream experiences of their clients, practitioners can gain insight into the level of self-ascribed femininity or masculinity. In particular, practitioners should

consider the potential additional stress that may be experienced by TGNC individuals who deviate from societal sex role stereotypes, such as feminine trans males or masculine trans females. Previous research has indicated that individuals who do not conform to social gender norms, such as transgender males who do not exhibit behaviors typically associated with cisgender males, or transgender females who do not exhibit behaviors typically associated with cisgender females, are often subjected to "gender policing" by members of society (Ho, 2006; Law, 2021). Based on these findings, practitioners could consider incorporating assessments of dream experiences into their evaluations of TGNC individuals and using this information to inform treatment planning.

Gender affirming healthcare practitioners often rely on the self-identified gender information provided by clients as a primary source of understanding. However, a more nuanced approach can be adopted to gain further insights into the TGNC individual's gender identity. This approach involves examining the alignment between an individual's dream experiences and their self-identified gender. This examination can be conducted by assessing the level of femininity and the intensity or content of dreams. This is not to challenge or invalidate a person's self-identified gender. Rather, it serves as an additional reference point for practitioners. This can be

particularly beneficial when working with clients who are in the exploratory stage of their gender identity journey and may still be uncertain or questioning their gender identity.

The implications of this study's findings on self-acceptance and well-being mitigating the effects of certain mediation mechanisms could suggest that the influence of well-being and self-acceptance variables may override the effects of femininity/masculinity and dream attitude, especially on dreaming sexual and aggressive contents. This signals a need for practitioners to pay particular attention to clients' sexual and aggressive dream contents, which may reflect issues relating to self-acceptance and well-being.

By focusing on these aspects, practitioners can provide more tailored and effective support to their clients. This approach not only aids in the immediate resolution of the client's concerns but also contributes to their long-term psychological health and well-being. It underscores the importance of a holistic approach in gender studies, one that takes into account the multifaceted nature of gender identity and the various factors that can influence it.

9.7 Limitations

The present study encountered a limitation in terms of the insufficient number of TGNC participants, which led to a reduced statistical power. This insufficiency was largely attributable to the low visibility of the TGNC community within the local society, ultimately resulting in a sample size of 85 individuals. However, compared to previous local Hong Kong studies on TGNC individuals, even a Community-Driven Large-Scale Quantitative Study could only recruit 106 participants (Suen et al., 2018). In a subsequent study, Suen et al. (2021) collaborated with the largest local TGNC support group, resulting in a successful recruitment of 234 transgender individuals in their two-year-long survey conducted between 2019 and 2020. Unfortunately, due to a lack of official collaboration with TGNC support groups in Hong Kong, the sample size of the current study may not be sufficient to provide the statistical power for detecting small effects. Furthermore, the relatively small sample size and limited statistical power for controlling well-being variables may have contributed to the non-significance of the mediation and moderation models after adjusting for covariates.

Hong Kong is a culturally diverse city, and there may be cultural differences in the way the TGNC people experience and interpret their dreams. Although the participants in this study were all from Hong Kong, they may not be homogeneous in

their cultural and educational backgrounds. Considering that the sample in this study is not representative of this diversity, this could limit the generalizability of the findings of this study.

TGNC individuals encounter a wide array of challenges that extend far beyond their gender identity. These challenges are influenced by various factors, such as race, age, socioeconomic status, and cultural background. According to Suen et al. (2021), a quarter of the trans respondents in their survey had no income, indicating that the challenges faced by TGNC individuals extend beyond issues directly related to their gender identity to include financial and socioeconomic aspects as well. Moreover, the study did not specifically examine the impact of different stressors. For example, systemic issues like legal discrimination or healthcare disparities may have a distinct effect on an individual's stress levels compared to daily hassles in life. Nonetheless, daily hassles such as being misgendered can also have a significant impact on an individual's mental health, even if they may not appear to be as high level as systemic issues. Without examining the distinct types of stressors, it is impossible to differentiate the effect of one among numerous stressors.

The current study did not incorporate a control group comprising cisgender individuals which impeded the ability to discern whether the findings on dream

experiences are unique to TGNC individuals. Furthermore, the TGNC spectrum is too extensive, and thus, similar to numerous other existing research studies, the participants were grouped into binary self-identify gender categories (trans males and trans females) and nonbinary categories for the sake of practicality in the analyses. However, categorizing self-identified genders into smaller groups may yield more specific outcomes. Although it would be preferable to have more precise gender groups in the study, the TGNC population is small and challenging to reach, which serves as a limitation of the present study.

In a study specifically focusing on trans males undergoing testosterone administration (Šnobrová et al., 2023), participants completed a questionnaire regarding snoring before starting testosterone treatment and after at least one year of treatment. The study found that an increased number of trans males who reported snoring after testosterone administration had a higher risk of obstructive sleep apnea (OSA) development. In their review article examining prior studies on dreams, dream recall, and dream content in individuals with OSA, BaHamman and Almeneessier (2019) discovered that OSA induces recurrent awakenings throughout the night, which can disrupt the REM phase. They also found that individuals with OSA reported decreased dream recall and a higher frequency of nightmares.

In the current study, emphasis was not placed on the effects of hormonal influence, but rather on the gender differences in dream experiences among TGNC individuals. It is important to note that the study by Šnobrová et al. (2023) did not compare the impact of hormone therapy on trans males with that on trans females. However, it is plausible that the differences, or the absence thereof, exhibited by binary self-identified genders regarding dream recall frequency and nightmares might be influenced by whether they were undergoing hormone replacement therapy (HRT) and possibly by the duration and dosage of treatment.

It would be valuable for future research to address these potential confounding factors in order to provide a more comprehensive understanding of the relationship between gender, hormone therapy, and dream experiences in the TGNC population. By controlling for HRT and its variables such as length and dosage, researchers can more accurately assess the role of gender identity in dream recall and nightmare frequency. This will contribute to a more nuanced understanding of the complex interplay between biological, psychological, and social factors that shape dream experiences in TGNC individuals.

While the findings of this study suggest that TGNC individuals tend to align more closely with their self-identified gender than with their biological sex in terms of

dream experiences, it is important to note that previous research has indicated that gender differences in dreaming, including dream recall and attitude toward dreaming, cannot be solely attributed to sex role orientation (Schredl et al., 2013). Additional factors such as the processing of emotional information in the brain and gender-specific dream socialization should also be considered to develop a more comprehensive understanding of these gender differences in dreaming.

Considering the fact that I was responsible for all the recruitment, and a great deal of trust was required for individuals to agree to participate, there are potential concerns regarding the influence of researcher bias on the results and the representativeness of the sample. To mitigate researcher bias, I implemented a pre-defined protocol, as outlined in Figure 3, and strictly adhered to it as much as possible. For instance, in the planning phase, it was intended for each participant to complete dream interpretations followed by GDI to measure their gains from the interpretation; however, this was not feasible for participants who did not recall any dreams during the study period. To minimize the impact of my personal biases, which might occur when using verbal probes, standardized questionnaires were utilized.

One potential limitation of this study is the influence of social desirability on the participants' responses. The current study did not include a direct measure of

social desirability, and if it had, the influence of this factor could have been statistically controlled to provide a more comprehensive understanding of the results. However, the results of the IAT indicated that the participants displayed outgroup favoritism, which suggested that participants did not attempt to present themselves in a positive light.

The current study encountered a limitation that stems from the dependence on dream reports, which are narratives provided by the dreamer after awakening. Despite significant advances in the field of dream studies, this reliance on dream reports remains a major limitation. The accuracy and completeness of dream reports are dependent on the dreamer's recall ability, which can vary among individuals. Factors such as cognitive abilities, emotional state, and time elapsed since awakening can also impact the reliability of dream reports. Dream reports do not provide direct access to the dream experience, but rather a retrospective account that may be influenced by the dreamer's waking consciousness, personal biases, or cultural influences.

9.8 Future Research

In the present study, simple mediation and moderation models were utilized in analyses, leveraging these models enabled the investigation of the relationships between variables in a more straightforward manner. This approach facilitates a

comprehensive understanding of the fundamental associations between variables prior to incorporating additional complexity. The implementation of simple mediation and moderation analyses in the current study allows for future research to progress to more complicated models, such as moderated mediation models, which are more complex and require a larger sample size to attain adequate statistical power.

The current study explored the dreams of TGNC people in Hong Kong and their relationship with their gender identity, level of femininity/masculinity, and the influence of well-being and self-acceptance on their dream experiences. There are gaps that future research can bridge, such as focusing on gender identity and its intersection with other social identities or with the aid of neurotechnology to help deepen our understanding of the experiences of TGNC individuals.

Future research should consider exploring the intersectionality of the TGNC population. While the current study focused on the dream experiences of TGNC individuals in Hong Kong, it is important to examine how gender identity intersects with other social identities, such as race, ethnicity, and socioeconomic status. This could involve comparing the experiences of TGNC individuals from different racial, ethnic, or cultural backgrounds to identify any differences or similarities in their experiences. For example, future research could explore how the experiences of

TGNC individuals from minority ethnic groups in Hong Kong differ from those of TGNC individuals from a Chinese majority.

Within the TGNC population, future research may also include different gender groups that go beyond the traditional binary categories of males or females. For instance, groups may include genderqueers (individuals who identify as neither male nor female, or as both male and female), genderfluid (persons whose gender identity changes over time, and may alternate between male, female, and other identities), agender (individuals who do not identify with any gender), and so on.

Societal and cultural factors are areas that future research can explore. The role of societal and cultural factors in shaping gender identity, level of femininity/masculinity, and experience of dreaming are areas worthy of further investigation. In one of the previous studies that compared Chinese and Canadian samples, utilizing the Dream Intensity Scale, which was also used in this study, it was found that culture was a modulator of the dream intensity of participants (Gackebach et al., 2018). This sheds light on the societal and cultural influences on people's dream experiences; hence, future research could examine how gender roles and expectations vary across different cultures and societies, and how these differences may impact the relationship between biological sex and self-identified gender.

Under cultural factors, collectivism and individualism could be a specific area to be investigated, which is especially meaningful for areas such as Hong Kong, where Confucian Heritage Culture is implicitly embedded, meaning that cultural attitudes of society are greatly influenced by Confucian thinking (Katyál & King, 2011), which is positively associated with the level of collectivism (Xinran et al., 2016). Hence, research could investigate how collectivist culture in Hong Kong influences the experiences of TGNC individuals compared to more individualistic cultures. Future research should consider the role of collectivism and individualism in shaping TGNC individuals' gender identity and dream experiences. Although the current study did not explicitly examine these factors, they are likely to play an important role in shaping gender roles and expectations in different cultures. This could provide valuable insights into how cultural values and norms shape the gender identity and experiences of TGNC individuals.

Rood et al.'s (2016) study showed that "expecting rejection" is frequently found in TGNC individuals, and it is a salient internal stressor for them. Tan et al. (2020) conducted a critical review of both the original minority stress theory (Meyer, 1995) and the gender minority stress framework (Testa et al., 2015) derived from the original theory. Drawing on an idea concerning collectivistic/individualistic cultures

and resilience, researchers have proposed that TGNC people from collectivistic cultures are less prone to minority stress because of their stronger positive sense of identity (Tan et al., 2020). Yet, it could be paradoxical when viewed from another aspect that since collectivistic TGNC people are likely to have a stronger sense of their collectivistic identity in the family, they are expected to maintain their identity given by their natal sex. Using this perspective, collectivistic TGNC people are likely to be more susceptible to minority stressors because they are expected to keep their birth-assigned sex while ignoring their self-identified gender.

This study used the IAT to measure the implicit bias of the TGNC participants on their preference for cisgender or transgender people, and a more precise way to measure their potential implicit preference is to utilize electroencephalogram (EEG) when administering the IAT. Event-related potentials (ERPs), which are brain responses directly related to the visual stimuli, can be measured while the participants are doing the IAT test. By studying the ERP components, the researchers would be able to gain a more nuanced understanding of the neural mechanisms underlying implicit biases of TGNC individuals.

Hormones may not only influence cognitive processing like functional lateralization but also neurological features such as cortical thickness. In a

longitudinal study examining the effect of exogenous hormone therapy on brain cortical thickness of transgender people, it was found that hormones like testosterone, estrogens, and antiandrogens influence the cortical thickness when comparing that of transgender participants before and after their hormone therapy (Zubiaurre-Elorza et al., 2014). The study used magnetic resonance imaging (MRI) and acquired high-resolution T1-weighted images (basic pulse sequences in MRI and demonstrates differences in the T1 relaxation times of tissues, which means how quickly the net magnetization vector recovers to its ground state) to conduct MRI scan before the commencement of hormone therapy of transgender participants. The researchers set their inclusion criteria to ensure no previous hormone therapy before the first MRI scan, while the second MRI was conducted six months after the commencement of hormone therapy.

The study conducted by Zubiaurre-Elorza et al. (2014) provided two main findings: (a) the cortical thickness of trans men increased in some brain regions after testosterone therapy, including the left inferior parietal, lingual, pericalcarine, and supramarginal areas, and (b) the cortical thickness and subcortical volume of trans women generally decreased after estrogen and antiandrogen treatment. Given the presence of observable structural changes in MRI images, it is indisputable that

hormone usage has a significant impact on brain structures. It is possible that such influence may subsequently affect the dream experiences of TGNC people. To further explore this phenomenon, future research should focus on investigating the effects of hormone replacement therapy on the dreams of TGNC individuals.

9.9 Conclusion

The results of the present study provide the evidence for the effects of sex role orientation and self-identified gender on dreams experienced by TGNC individuals in Hong Kong. Overall, trans males appear to have dream experiences similar to biological males, while trans females have dream experiences similar to biological females, despite their opposite anatomical sexual characteristics. Though this does not imply a direct equivalence between trans males and biological males or between trans females and biological females, the current study highlights the undeniable impact of psychological constructs related to gender identity on the dream experiences of TGNC individuals.

In summary, this research represents a significant step forward in gaining a more in-depth understanding of dream experiences and disparities between the sexes in dream studies. Although the findings from this study cannot be universally applied

to the general population, they provide a promising starting point for investigating the impact of psychological influence on dream mentation and dream experiences.

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ETHICS CLEARANCE

[Approved] HREC Application - Dreams of Transgender and Gender Nonconforming People in Hong Kong

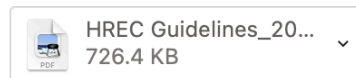


⊗ HKSJU Research Office <...>

Tuesday, 25 January 2022 at 5:02 PM

To: ⊗ 20P701D@hksyu.edu.hk

Cc: Prof. Calvin Yu; ○ Dr. Alex Chan; Helen Fung (Research Office); Kammy Chow; Benjamin Lam; HKSJU Research Office ^



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Dear SUNG Kwan-kit,

Please be informed that your application for ethical clearance for the below study has been approved by the Human Research Ethics Committee (HREC).

Reference No.	HREC 21-12 (2) <i>(Please quote this reference number in any future communication with Research Office)</i>
Study Title	Dreams of Transgender and Gender Nonconforming People in Hong Kong
Application Date	15 December 2021
Approval Date	25 January 2022

Please note that amendment(s) or change(s) made to the study documents/materials require prior approval from HREC. In principle, approval from HREC must be sought prior to the implementation of amendments that may increase possible harm/risk to participants or affect overall risk-benefit assessment of study; or affect the participants' willingness to engage in the project/experiment; or increase the risk of personal information or participants' identities be disclosed. For details, please refer to the attached HREC guidelines.

Should you have any questions, please feel free to contact us. Thank you very much.

Best regards,
Helen

Helen FUNG (Miss)
Research Office
Hong Kong Shue Yan University
Tel.: 2804 8438

APPENDIX A

INFORMED CONSENT FORM

參與研究同意書

此研究由香港樹仁大學輔導及心理學系余啟程教授監督，並由香港樹仁大學心理學哲學博士生宋均傑先生進行。

研究目的

本研究目的是瞭解跨性別人土的性別角色特質、性別一致度、性別小眾壓力與心理韌性等與夢境的互維關係。

研究步驟

研究員將提供數份問卷供您填寫，當時亦有表格用以記錄及分析夢境（為期連續兩星期）。問卷共包括大概 160 條問題或句子，你只須給每句評分。以下為各部份的所需時間，以作參考。

類別及需時	詳細內容
簡介會（第 1 天，需時約 20-30 分鐘）	介紹有關此研究。
量表填寫（第 1 天，需時約 30-40 分鐘）	填寫背景資料及問卷。

類別及需時	詳細內容
夢境日記 (第2-15天，夢境日記：需時 每天約15-30分鐘，自我引導解夢工作 冊：需時約共60-75分鐘)	填寫兩星期的夢境日記、自我引導 解夢工作冊以及一份量表。
網上測驗 (第16天，約25-35分鐘)	進行一個網上測試活動 (需電腦及鍵 盤)

注：表中的「第 X 天」以及需時僅供參考。例如，面談不一定要安排在完成夢境日記後的第二天進行，而您亦無需於 40 分鐘內完成填寫量表。

潛在危險 / 不安和舒緩方法

此研究有涉及與您的性別相關的問題，例如您的原生性別及認同自己是甚麼性別、等等。為保障您的私隱，整個研究過程所蒐集的資料只會以代號作為識別，而不會使用您的名字。此外，所有資料將以電子方式存儲，並以多重要素驗證 (MFA; Multi-Factor Authentication) 加強保護，以確保只有研究人員能夠查閱記錄。如您對此有任何疑問，可隨時向研究員查詢。另外，某些量表上的問題將觸碰到您的夢境內容、過去的經歷、以及您對自己所認同的性別的想法與感覺。同時，你可自行調節回答問卷的快慢，不致疲憊。如您在研究途中有過度的不安或負面想法，請立即聯絡研究員。

潛在得益

此研究可望有助心理學界更深入了解跨性別人土的獨特情況，以至夢境對跨性別人土的生活的影響。另外，也許您亦可從夢的日記和自我解夢練習中獲得啟發，並有助應對生活中的困難。

補償安排

在完成後，您將獲發放港幣 40 元現金券作為補貼。

資料保密

研究員會以代號代替您或您所提及的人的名字，而於研究及夢境報告中被談及的學校 / 醫院 / 機構的名字亦不會在研究報告內刊登。於這個研究所得到的有關您具有辨認能力的個人資料都絕不會公開，以防讀者可以辨認到所談及的人和機構。然而，如談話內容涉及最近的犯罪行為，研究員或須提供訪問中的資料。本研究蒐集得來的所有資料將予以保密及只會用於是次研究，以及只有研究員及其督導可取覽記錄。研究員將給您一個代號，您提供的所有資料上都只會以此代號作為識別。另外，蒐集的資料會與本同意書分開存放，換言之，您在此同意書上提供的名字，並不會在蒐集的資料上出現或有任何配對。所有資料將會在研究完成後三年作匿名化，而鑒於所蒐集的資料極為珍貴，所有匿名化的資料將作永久保存。

參與和退出研究

是次的參與是自願性質的。您可選擇隨時退出此研究，無須承擔任何後果。

問題與疑問

如對本研究有任何查詢，請聯絡宋均傑先生（電郵：

20p701d@hksyu.edu.hk）、本研究督導余啟程教授（電郵：kcyu@hksyu.edu）

或香港樹仁大學研究倫理（人類對象）委員會（電話號碼：2804 8438，電郵：

ro@hksyu.edu）。

簽署

本人 _____（參與者姓名）明白是次研究的目的和程序，同意參與是次研究。

* 本人明白所蒐集的資料極為珍貴，並同意所有匿名化的資料將作永久保存以用於未來研究。

* 如同意，請在方格內打勾。

參與者簽名

日期

APPENDIX B

DEBRIEFING NOTE

研究解說

我在此感謝您參與是次研究。夢一直被許多人視為神秘的領域，然而，夢的研究其實有著源遠流長的歷史。在心理學領域，早於 1899 年弗洛伊德出版的《夢的解釋》被視為一部有關夢的研究的先驅巨著，而當代有關夢的研究亦有了巨大的變化。本研究目的是瞭解跨性別人士的性別角色特質 (sex role orientation)、性別一致度 (transgender congruence)、性別小眾壓力與心理韌性 (gender minority stress and resilience) 等與夢境的互維關係。此研究可望有助心理學界更深入了解跨性別人士的獨特情況，以至夢境對跨性別人士的生活的影響。

如研究過程令您的情緒被牽動，而若您希望尋求心理輔導，您可以考慮以下機構：

香港樹仁大學輔導暨研究中心 Counselling and Research Centre of Hong Kong Shue Yan University	網站： https://www.hksyu.edu/counpsy/crc 電話：2806 7333 電郵： crc2@hksyu.edu
--	--

如對本研究有任何查詢，請聯絡宋均傑先生（電郵：

20p701d@hksyu.edu.hk）、本研究督導余啟程教授（電郵：kcyu@hksyu.edu）

或香港樹仁大學研究倫理（人類對象）委員會（電話號碼：2804 8438，電郵：

ro@hksyu.edu）。

若您對此研究有興趣作更深入了解，可參考以下文獻：

Domhoff, G. W. (1996). *Finding meaning in dreams: A quantitative approach*.

Springer Science & Business Media.

Yu, C. K.-C. (2010). Dream intensity profile as an indicator of the hysterical

tendencies to dissociation and conversion. *Dreaming*, 20(3), 184–198.

<https://doi.org/10.1037/a0020421>

APPENDIX C

DREAM RECALL INSTRUCTIONS

夢境回憶說明

這裡有一些提示，可以令您更容易記住您的夢境。

當入睡時：

1. 告訴自己，「我想記住我的夢境，而我將會能夠記住它們。」

當醒來時：

2. 盡量保持您的睡姿，躺著不動，同時複習您的夢境。
3. 集中注意力在您剛從做夢的睡眠中醒來時的第一種感覺或情緒上（例如，歡快、悲傷、興奮、平靜等）。
4. 思考您夢中的主要主題（事件、人物、環境、時間等）*。
5. 思考您夢境的具體情節和細節（包括您看到的、聽到的、聞到的、說的、做的、身體的感覺等）*。
6. 想著您在每個具體情節中的感受（例如，歡快、悲傷、興奮、平靜等）。
7. 起床後，立即填寫所提供的夢境記錄表。

*如果您記不起任何主要的主题或故事，那也沒關係。請試著感受您在夢中的感覺和情緒，同時，記住任何出現在您腦海中的圖像或片段。當您記起一個部分時，將注意力集中在這部分一段時間，把這部分的畫面固定在您的腦海中，然

後集中注意力在您的感覺和情緒上，嘗試產生另一個畫面或片段，直至沒有更多的畫面出現。然後重複再想想所有出現過在您腦中的圖像，把它們翻譯成文字並記錄下來。

APPENDIX D

DEMOGRAPHICS

基本背景資料

以下部份涉及與您的性別相關的問題，例如您認同自己是甚麼性別、是否正使用荷爾蒙、或已 / 將進行性別肯定手術（亦稱性別重置手術）等等。為保障您的私隱，整個研究過程所蒐集的資料只會以代號作為識別，而不會使用您的名字。此外，所有資料將以電子方式存儲，並以多重要素驗證（MFA; Multi-Factor Authentication）加強保護，以確保只有研究人員能夠查閱記錄。如您對此有任何疑問，可隨時向研究員查詢。

研究員提供給您的代號：_____

年齡：_____

原生性別（亦稱「出生時被指定的性別」）：男 / 女 / 其他

我自己所認同的性別：男 / 女 / 非二元 / 其他

APPENDIX E

DREAM INTENSITY SCALE (DIS)

請選擇最合適的數字去作答下列問題：

- 0- 從未
- 1- 少於每年一次
- 2- 約每年一次
- 3- 每年兩至六次
- 4- 每年七至十一次
- 5- 約每月一次
- 6- 每月兩至三次
- 7- 約每星期一次
- 8- 每星期兩至六次
- 9- 差不多每晚

1. 有些人在睡醒時雖然忘記了夢的仔細內容，卻會知道自己曾經做夢。不論您是否能記得夢的實際內容，在過去幾年您平均做夢的次數是多少？

從未 0 1 2 3 4 5 6 7 8 9 差不多每晚

2. 平均來說，您在早上剛醒來時有多能記得夢的主要內容？

從未 0 1 2 3 4 5 6 7 8 9 差不多每個早上

3. 您發惡夢的次數是多少？

從未 0 1 2 3 4 5 6 7 8 9 差不多每晚

4. 您發惡夢驚嚇至醒、惡夢在醒後仍歷歷在目的次數是多少？

從未 0 1 2 3 4 5 6 7 8 9 差不多每晚

5. 您曾否在同一晚裏發夢兩次或以上？

從未 0 1 2 3 4 5 6 7 8 9 差不多每晚

6. 您曾否試過在發夢時察覺到或知道「自己正在發夢」？

從未 0 1 2 3 4 5 6 7 8 9 差不多每晚

7. 曾否試過在發夢時操控發夢的內容，使夢境中的事情如您所想般發生？

從未 0 1 2 3 4 5 6 7 8 9 差不多每晚

8. 您是否曾遇到以下情況：您夢醒後有「希望可以繼續連接該夢」的感覺，在您嘗試再入夢後，真的如您所願接連該夢境？

從未 0 1 2 3 4 5 6 7 8 9 差不多每晚

9. 您是否曾遇到以下情況：您發過一些令您有「希望可以再發一次」之感的夢，日後這些夢境真的再次出現？

從未 0 1 2 3 4 5 6 7 8 9 差不多每晚

請選擇最合適的答題去作答下列問題：

0 - 差不多每個夢都是無顏色的

1 - 多數的夢是無顏色的

2 - 兩者的次數相若

3 - 多數的夢是有顏色的

4 - 差不多每個夢都是有顏色的

10. 於夢中，您是否看到顏色？

差不多每個夢都是無顏色的 0 1 2 3 4 差不多每個夢都是有顏色的

請選擇最合適的答題去作答下列問題：

0 - 差不多每個夢都是無聲音的

- 1- 多數的夢是無聲音的
- 2- 兩者的次數相若
- 3- 多數的夢是有聲音的
- 4- 差不多每個夢都是有聲音的

11. 於夢中，您是否聽到聲音？

差不多每個夢都是無聲音的 0 1 2 3 4 差不多每個夢都是有聲音的

請選擇最合適的答題去作答下列問題：

- 0- 差不多每個夢都是無氣味的
- 1- 多數的夢是無氣味的
- 2- 兩者的次數相若
- 3- 多數的夢是有氣味的
- 4- 差不多每個夢都是有氣味的

12. 於夢中，您是否聞到氣味？

差不多每個夢都是無氣味的 0 1 2 3 4 差不多每個夢都是有氣味的

請選擇最合適的答題去作答下列問題：

- 0- 差不多每個夢都是無味道的
- 1- 多數的夢是無味道的
- 2- 兩者的次數相若
- 3- 多數的夢是有味道的
- 4- 差不多每個夢都是有味道的

13. 於夢中，您是否嘗到味道？

差不多每個夢都是無味道的 0 1 2 3 4 差不多每個夢都是有味道的

請選擇最合適的答題去作答下列問題：

- 0 - 差不多在每個夢中都無感覺到情緒
- 1 - 多數在夢中無感覺到情緒
- 2 - 兩者的次數相若
- 3 - 多數在夢中有感覺到情緒
- 4 - 差不多在每個夢中都有感覺到情緒

14. 於夢中，您是否感覺到情緒？

差不多每個夢中都無感覺到情緒 0 1 2 3 4 差不多每個夢中都有感覺到情緒

請選擇最合適的答題去作答下列問題：

- 0 - 差不多每個夢都不愉快的
- 1 - 多數的夢是不愉快的
- 2 - 兩者的次數相若
- 3 - 多數的夢是愉快的
- 4 - 差不多每個夢都是愉快的

15. 您所發的夢通常是愉快的、不愉快的、還是兩種類型的夢出現次數相若？

差不多每個夢都不愉快的 0 1 2 3 4 差不多每個夢都是愉快的

請選擇最合適的答題去作答下列問題：

- 0 - 差不多每個夢都零碎的
- 1 - 多數的夢是零碎的
- 2 - 兩者的次數相若
- 3 - 多數的夢是連貫的
- 4 - 差不多每個夢都是連貫的

16. 您於夢中的經歷通常是否連貫的(像故事形式的)、零碎的、還是兩種類型的夢出現次數相若？

差不多每個夢都是零碎的 0 1 2 3 4 差不多每個夢都是連貫的

請選擇最合適的答題去作答下列問題：

- 0 - 差不多每個夢都無出現這情況
- 1 - 多數的夢都無出現這情況
- 2 - 兩者的次數相若
- 3 - 多數的夢都有出現這情況
- 4 - 差不多每個夢都有出現這情況

17. 在您的夢境裏，是否有出現幾個現實世界的人合併為一的情況？

差不多每個夢都無出現這情況 0 1 2 3 4 差不多每個夢都有出現這情況

18. 在您的夢境裏，是否有出現以其他人代表某個現實世界的人的情況？

差不多每個夢都無出現這情況 0 1 2 3 4 差不多每個夢都有出現這情況

19. 在您的夢境裏，是否有出現不屬於現實世界的人或從沒見過的人？

差不多每個夢都無出現這情況 0 1 2 3 4 差不多每個夢都有出現這情況

- a) 如有 (在上題答 1 至 4)，您通常是否對這些不屬於現實世界的人或從沒見過的人有種熟悉的感覺？

沒有 / 有

20. 在您的夢境裏，曾否出現過會說話或思考的動物？

差不多每個夢都無出現這情況 0 1 2 3 4 差不多每個夢都有出現這情況

- b) 如有 (在以上問題答 1 至 4)，您通常是否對這些會說話或思考的動物有種熟悉的感覺？

沒有 / 有

21. 在您的夢境裡曾否出現過會說話或思考的物件 (例如：樹木、石頭等)？

差不多每個夢都無出現這情況 0 1 2 3 4 差不多每個夢都有出現這情況

c) 如有 (在以上問題答 1 至 4) , 您通常是否對這些會說話或思考的物件有種熟悉的感覺？

沒有 / 有

請選擇最合適的答題去作答下列問題:

0 - 從未

1 - 少於每年一次

2 - 約每年一次

3 - 每年兩至六次

4 - 每年七至十一次

5 - 約每月一次

6 - 每月兩至三次

7 - 約每星期一次

8 - 每星期兩至六次

9 - 差不多每天

22. 您曾否出現過一些情況：當您回想到某段記憶，您感到它們就好像現實生活中發生過的真事一樣，但您心底裏知道它們僅在夢裏出現過？

從未 0 1 2 3 4 5 6 7 8 9 差不多每天

23. 您曾否出現過一些情況：當您回想到某段記憶，您弄不清它們到底是現實生活中發生過的真事、還是它們僅在夢境中出現過？

從未 0 1 2 3 4 5 6 7 8 9 差不多每天

APPENDIX F

ATTITUDE TOWARD DREAMS SCALE (ATD-R)

以下為有關夢的一些問題，目的在瞭解您對夢的經驗，請您圈擇最能描述您的選擇。

1. 我相信夢是了解我自己的最重要方法之一。	不 同 意 1 2 3 4 5 同 意
2. 我不會注意我自己的夢。	不 同 意 1 2 3 4 5 同 意
3. 夢是有意義的。	不 同 意 1 2 3 4 5 同 意
4. 對我而言，夢太混亂了，沒有什麼意義。	不 同 意 1 2 3 4 5 同 意
5. 我不喜歡夢境意義的一些啟示。	不 同 意 1 2 3 4 5 同 意
6. 我很重視我的夢。	不 同 意 1 2 3 4 5 同 意
7. 實際的日常生活對我而言太重要了，我沒有辦法再注意夢。	不 同 意 1 2 3 4 5 同 意
8. 您多久會思考一次夢的可能意義？	從 不 1 2 3 4 5 經 常
9. 對於夢的意義，您有任何的想法或理論嗎？	否 1 2 3 4 5 是

APPENDIX G

BEM SEX ROLE INVENTORY (BSRI)

請仔細思考以下每一項，並誠實的回答，每一個項形容有多能準確地形容您。請以平時的您來作基準，而並非以您應該怎麼辦來評分。

	完全不正確							極正確
1. 自力更生的	1	2	3	4	5	6	7	
2. 順從的	1	2	3	4	5	6	7	
3. 樂於助人	1	2	3	4	5	6	7	
4. 捍衛自己信念的	1	2	3	4	5	6	7	
5. 開朗	1	2	3	4	5	6	7	
6. 喜怒無常	1	2	3	4	5	6	7	
7. 獨立	1	2	3	4	5	6	7	
8. 害羞	1	2	3	4	5	6	7	
9. 認真	1	2	3	4	5	6	7	
10. 行動敏捷的	1	2	3	4	5	6	7	
11. 充滿深情的	1	2	3	4	5	6	7	
12. 戲劇性	1	2	3	4	5	6	7	
13. 堅定自信	1	2	3	4	5	6	7	
14. 諂媚的	1	2	3	4	5	6	7	
15. 快樂	1	2	3	4	5	6	7	
16. 有強烈個性的	1	2	3	4	5	6	7	
17. 忠誠	1	2	3	4	5	6	7	
18. 不可預測的	1	2	3	4	5	6	7	
19. 有說服力的	1	2	3	4	5	6	7	
20. 女性化	1	2	3	4	5	6	7	
21. 可靠	1	2	3	4	5	6	7	
22. 善于分析的	1	2	3	4	5	6	7	
23. 有同情心	1	2	3	4	5	6	7	
24. 嫉妒	1	2	3	4	5	6	7	

	完全不正確						極正確
25. 具有領導能力的	1	2	3	4	5	6	7
26. 對他人的需要很敏感	1	2	3	4	5	6	7
27. 坦率	1	2	3	4	5	6	7
28. 願意承擔風險的	1	2	3	4	5	6	7
29. 通情達理	1	2	3	4	5	6	7
30. 神秘的	1	2	3	4	5	6	7
31. 能夠輕鬆做出決定	1	2	3	4	5	6	7
32. 有慈悲心	1	2	3	4	5	6	7
33. 真誠	1	2	3	4	5	6	7
34. 自給自足的	1	2	3	4	5	6	7
35. 熱衷於撫慰別人受傷的感情	1	2	3	4	5	6	7
36. 自負	1	2	3	4	5	6	7
37. 主導的	1	2	3	4	5	6	7
38. 說話溫和的	1	2	3	4	5	6	7
39. 討人喜歡	1	2	3	4	5	6	7
40. 男子氣概的	1	2	3	4	5	6	7
41. 暖和的	1	2	3	4	5	6	7
42. 莊嚴的	1	2	3	4	5	6	7
43. 願意表明立場的	1	2	3	4	5	6	7
44. 溫柔的	1	2	3	4	5	6	7
45. 友好的	1	2	3	4	5	6	7
46. 挑釁的	1	2	3	4	5	6	7
47. 容易受騙	1	2	3	4	5	6	7
48. 低效的	1	2	3	4	5	6	7
49. 擔當領導者的角色	1	2	3	4	5	6	7
50. 稚氣的	1	2	3	4	5	6	7
51. 適應性強	1	2	3	4	5	6	7
52. 個人主義的	1	2	3	4	5	6	7
53. 不使用苛刻的語言	1	2	3	4	5	6	7
54. 雜亂無章的	1	2	3	4	5	6	7

	完全不正確						極正確
55. 競爭心強的	1	2	3	4	5	6	7
56. 喜愛孩子	1	2	3	4	5	6	7
57. 圓滑的	1	2	3	4	5	6	7
58. 雄心勃勃的	1	2	3	4	5	6	7
59. 溫和的	1	2	3	4	5	6	7
60. 傳統的	1	2	3	4	5	6	7

APPENDIX H

TRADITIONAL MASCULINITY-FEMININITY SCALE (TMF)

請針對每個問題仔細思考，並盡可能誠實的回答。將最能描述您的反應的數字圈起來。

	非常男性化						非常女性化
1. 我認為自己是……	1	2	3	4	5	6	7
2. 在理想的情況下，我希望自己是……	1	2	3	4	5	6	7
3. 在傳統看法上，我的興趣會被認為是……	1	2	3	4	5	6	7
4. 在傳統看法上，我的態度和信念會被認為是……	1	2	3	4	5	6	7
5. 在傳統看法上，我的行為會被認為是……	1	2	3	4	5	6	7
6. 在傳統看法上，我的外觀會被認為是……	1	2	3	4	5	6	7

APPENDIX I

TRANSGENDER CONGRUENCE SCALE (TCS)

性別認同被定義為您所體驗到的性別，它不一定與您出生時指定的性別有關。對於以下項目，請圈出最能描述您在過去 2 星期內的經歷。

- 1 - 非常不同意
- 2 - 有點不同意
- 3 - 既不同意也不反對
- 4 - 有點同意
- 5 - 非常同意

	非常不同意			非常同意	
1. 我的外表代表了我自己所認同的性別。	1	2	3	4	5
2. 我覺得我自己所認同的性別，和我的身體之間有一種一致性的感覺。	1	2	3	4	5
3. 我的身體外貌充分表達了我自己所認同的性別。	1	2	3	4	5
4. 對於他人看到我時覺得我是甚麼性別，我總體上感到舒適。	1	2	3	4	5
5. 我的身體代表我自己所認同的性別。	1	2	3	4	5
6. 我的身體目前的樣子並不代表我自己所認同的性別。	1	2	3	4	5
7. 對於我的外表怎樣表達我自己所認同的性別，我感到滿意。	1	2	3	4	5
8. 我不覺得我的外表反映了我自己所認同的性別。	1	2	3	4	5
9. 我覺得我的身心是一致的。	1	2	3	4	5
10. 我對自己所認同的性別而並不自豪。	1	2	3	4	5
11. 我對我自己現在所認同的性別感到高興。	1	2	3	4	5
12. 我已接受我自己所認同的性別。	1	2	3	4	5

APPENDIX J

GENDER MINORITY STRESS AND RESILIENCE MEASURE (GMSR)

請揀選所有適用的選項，例如，您可以選擇「有，於 18 歲以後」和「有，於過去一年」的選項。在此問卷中，性別表達是指一個人於生活上表現出有多男性化 / 女性化 / 中性化，而這受着許多因素影響，如舉止、衣著裝、個性等。

	完全沒有	有， 於 18 歲以 前	有， 於 18 歲以 後	有， 於過 去一 年
1. 由於我的性別認同或表達，我在獲取醫療或心理健康治療（與性別過渡相關或不相關）上遇到過困難。				
2. 由於我的性別認同或表達，當在公共場合時，我在尋找洗手間上遇到過困難。				
3. 我在獲得符合我性別認同的身份證明文件上遇到過困難。				
4. 由於我的性別認同或表達，我在找住屋或居住方面遇到過困難。				
5. 由於我的性別認同或表達，我找工作或維持工作上遇到個困難，或者因此而被拒晉升。				
6. 由於我的性別認同或表達，我在找尋伴侶上遇到困難，或者試過因此而結束一段關係。				
7. 由於我的性別認同或表達，我被宗教團體拒絕過或令我感到不受歡迎。				
8. 由於我的性別認同或表達，我在我的種族社區中被拒絕過或有過不被歡迎的遭遇。				
9. 由於我的性別認同或表達，我試過被拒絕或被朋友疏遠。				
10. 由於我的性別認同或表達，我試過在學校或工作中被拒絕。				
11. 由於我的性別認同或表達，我試過被家人拒絕或疏遠。				
12. 由於我的性別認同或表達，我曾受到口頭騷擾或被取笑。（例如，被稱為一樣死物）				
13. 由於我的性別認同或表達，我曾被威脅會被出櫃或被敲				

詐。				
14. 由於我的性別認同或表達，我的個人財產曾經受損。				
15. 由於我的性別認同或表達，我曾受到身體傷害的威脅。				
16. 由於我的性別認同或表達，我遭遇過被推、撞、打或向我扔東西。				
17. 由於我的性別認同或表達，我曾試過違背了自己的意願而與人有了性接觸。				

請以現在的您對於以下項目作出評分。

	非常不同意					非常同意				
1. 我必須反復向其他人解釋我的性別認同或糾正他們使用的代名詞。	0	1	2	3	4	0	1	2	3	4
2. 我很難被人視作我的性別。	0	1	2	3	4	0	1	2	3	4
3. 我必須努力讓人們準確地看到我的性別。	0	1	2	3	4	0	1	2	3	4
4. 我必須「超男性化」或「超女性化」才能讓人們接受我的性別。	0	1	2	3	4	0	1	2	3	4
5. 人們因為我的外表或身體而不尊重我的性別認同。	0	1	2	3	4	0	1	2	3	4
6. 人們不理解我，因為他們不像我那樣看待我的性別。	0	1	2	3	4	0	1	2	3	4
7. 我討厭我的性別認同或表達。	0	1	2	3	4	0	1	2	3	4
8. 我的性別認同或表達讓我覺得自己像個怪胎。	0	1	2	3	4	0	1	2	3	4
9. 當我想到我的性別認同或表達時，我感到沮喪。	0	1	2	3	4	0	1	2	3	4
10. 當我想到我的性別認同或表達時，我感到不快樂。	0	1	2	3	4	0	1	2	3	4
11. 因為我的性別認同或表達，我覺得自己像個被拋棄的人。	0	1	2	3	4	0	1	2	3	4
12. 我經常問自己：為什麼我的性別認同或表達不能是正常的？	0	1	2	3	4	0	1	2	3	4
13. 我覺得我的性別認同或表達很尷尬。	0	1	2	3	4	0	1	2	3	4
14. 我羨慕那些沒有像我一樣的性別認同或表達的人。	0	1	2	3	4	0	1	2	3	4
15. 我的性別認同或表達讓我感到特別和獨特。	0	1	2	3	4	0	1	2	3	4

	非常不同意					非常同意				
16. 讓人們知道我的性別認同與我出生時分配的性別不同，對我來說是沒問題的。	0	1	2	3	4	0	1	2	3	4
17. 我的性別認同與我出生時分配的性別不同，這是一份禮物。	0	1	2	3	4	0	1	2	3	4
18. 我和其他人一樣，但我亦很特別，因為我的性別認同與我出生時分配的性別不同。	0	1	2	3	4	0	1	2	3	4
19. 我為自己的性別認同與我出生時分配的性別不同而感到自豪。	0	1	2	3	4	0	1	2	3	4
20. 我能舒適地向他人透露我的性別認同與我出生時指定的性別不同。	0	1	2	3	4	0	1	2	3	4
21. 我寧願讓人們知道一切，並接受我的性別認同和性別歷史。	0	1	2	3	4	0	1	2	3	4

請以現在的您對於以下項目作出評分。

	非常不同意					非常同意				
1. 如果我表達我的性別身份/歷史，其他人不會接受我。	0	1	2	3	4	0	1	2	3	4
2. 如果我表達我的性別認同/歷史，僱主不會僱用我。	0	1	2	3	4	0	1	2	3	4
3. 如果我表達我的性別認同/歷史，人們會認為我有精神病或“瘋了”。	0	1	2	3	4	0	1	2	3	4
4. 如果我表達我的性別身份/歷史，人們會認為我很噁心或有罪。	0	1	2	3	4	0	1	2	3	4
5. 如果我表達我的性別身份/歷史，大多數人會小看我。	0	1	2	3	4	0	1	2	3	4
6. 如果我表達我的性別身份/歷史，大多數人會看不起我。	0	1	2	3	4	0	1	2	3	4
7. 如果我表達我的性別認同/歷史，我可能成為犯罪活動或暴力的受害者。	0	1	2	3	4	0	1	2	3	4
8. 如果我表達我的性別身份/歷史，我可能會被警察逮捕或騷擾。	0	1	2	3	4	0	1	2	3	4
9. 如果我表達我的性別身份/歷史，我可能會被拒絕給予良好的醫療護理。	0	1	2	3	4	0	1	2	3	4
10. 因為我不想讓別人知道我的性別身份/歷史，所	0	1	2	3	4	0	1	2	3	4

	非常不同意				非常同意
以我不會談論我過去的某些經歷，或我會改變將告訴人們的部分內容。					
11. 因為我不想讓別人知道我的性別身份/歷史，所以我改變我的說話方式。	0	1	2	3	4
12. 因為我不想讓別人知道我的性別身份/歷史，所以我特別注意我自己的穿著或打扮方式。	0	1	2	3	4
13. 因為我不想讓別人知道我的性別身份/歷史，所以我避免暴露我的身體，比如穿著泳衣或在更衣室內裸露。	0	1	2	3	4
14. 因為我不想讓別人知道我的性別身份/歷史，所以我改變了走路、手勢、坐姿或站立的方式。	0	1	2	3	4
15. 在與我有相同性別認同的人的社區中，我覺得自己是它的一部分。	0	1	2	3	4
16. 我覺得與其他跟我有相同性別認同的人有聯繫。	0	1	2	3	4
17. 當與跟我有相同性別認同的社群人士互動時，我覺得有歸屬感。	0	1	2	3	4
18. 我與其他跟我有相同性別認同的人不一樣。	0	1	2	3	4
19. 與其他跟我有相同性別認同的人，我覺得我是孤立和分離的。	0	1	2	3	4

APPENDIX K

SHORT WARWICK-EDINBURGH MENTAL WELL-BEING SCALE

(SWEMWBS)

請針對每個問題仔細思考，並盡可能誠實的回答，請選擇最合適的答題去作答下列問題。

	從來無	好少有	有時有	好多時有	不停有
1. 對未來感到樂觀					
2. 覺得自己有用					
3. 感覺輕鬆					
4. 能夠妥善處理問題					
5. 能夠清晰思考					
6. 覺得同身邊嘅人好親近					
7. 能夠對事情做決定					

* This scale was fully adopted from the validated Hong Kong Chinese version by Sun et al. (2019), which may seem colloquial on this scale.

APPENDIX L

HOME NIGHTLY DREAM DIARY

夢境記錄表

研究員提供給您的代號：_____

日期（今天）：_____

請寫下您昨晚發過的所有夢境。

請盡能力準確而完整地描述整個夢境，縱使可能夢境內的情節荒誕並且無稽。

- 在描述夢境時，請包含（但不局限於）以下內容：
 - 對情境的描述，無論您是否熟悉那情境
 - 人物的描述，例如他們的年齡、性別以及與您的關係
 - 其他動物或物件的描述
- 另外，請務必描述您在夢中的感受，以及說明這個夢整體上是令您愉快還是不安。請只需準確地描述夢中發生的細節，而不用作修改或過濾。

以下為整個夢境的完整描述：

APPENDIX M

SELF-GUIDED DREAM INTERPRETATION

夢境記錄表

研究員提供給您的代號： _____

第 1 步：寫下您的夢境

在下面提供的空間中，以當前時態寫下您的夢境，就像它正在發生一樣。確保盡可能詳細描述細節，包括在寫夢境時出現的任何感覺。

例子：

「我在一片黑暗的森林中奔跑。我感到樹枝撕開了我的衣服。我上氣不接下氣和害怕，但我不知道為什麼要奔跑。」

第 2 步：在夢境元素下劃線

既然您已經寫下了您的夢，那麼現在是時候確定夢中重要的元素了。在此步驟中，從第 1 步的夢中找出對您而言最多 14 個重要的元素，並在它們下面劃線。這步驟的重點是找出對您最突出的元素。

例子：

「我在一片黑暗的森林中奔跑。我感到樹枝 撕開了我的衣服。我上氣不接下氣和害怕，但我不知道為什麼要奔跑。」

--

第 3 步：提供關於夢境元素的更多描述

下方提供了表格，以幫助您組織夢境元素。

- 首先，順序從夢中的第一個劃下線的要素到最後一個要素寫在表中。
- 請嘗試回憶在夢境有關每一個要素的所有細節，並將其寫在標有「其他細節」欄中。
- 這些額外的細節可能是顏色或氣味之類的東西，可以更完整地描述夢境的要素。
- 寫下您在考慮每一要素時遇到的任何感覺或反應。將這些感覺或反應寫在「感覺」欄中。

例子：

夢境元素	其他細節	感覺
1. ……		
2. 奔跑	努力奔跑，卻一事無成。出汗。 聞到清新的空氣	害怕，有點頭暈
3. 樹枝	……	……
4. 撕開	……	……
……		

現在請您填上下面表格，寫出已下劃線的「夢境元素」（最多為 14 個），並且提供「其他細節」以及「感覺」。

夢境元素	其他細節	感覺
1.		
.....		
14.		

第 4 步:夢的要素的聯想

找出與您夢中的每個要素相關聯的思想、感覺和記憶。在此步驟中，我們希望您列出想到每個要素時**最先想起的 5 件事或東西**。迅速寫下您的聯想，並嘗試不批評自

己任何想法。例如：跑步會讓您想起什麼？當您想到跑步時您有什麼感覺？

例子：

夢境元素	聯想
1.	
2. 奔跑	1) 試圖逃脫；2) 體育課；3) 走得更有勁、更迅速；4) 戰車；5) 疲倦
3. 樹枝

夢境元素	聯想
4. 撕開
.....	

現在請您填上下面表格，寫出已下劃線的「夢境元素」，並且提供您的**五個**「聯想」。

夢境元素	聯想
1.	
.....	

第 5 步：與生活息息相關

夢境元素

我們日常生活中的事件可以觸發我們夢境中某些元素的出現。這些醒著的生活事件很重要，因為它們可以為觸發夢境元素的出現提供線索、幫助理解夢境元素的重要性和意義。

最近的生活事件

夢境元素的細節、感覺和聯想令您想起一些**最近**的生活事件嗎？這些生活事件可能在昨天或幾天前發生。這些生活事件和夢境元素給您某些相似的感覺嗎？

過去事件的記憶

夢境元素的細節、感覺和聯想令您想起一些**過去**的事件或經歷嗎？這些經歷可能在幾個星期或更久以前發生。這些事件經歷和夢境元素給您某些相似的感覺嗎？

例子：

夢境元素	最近的生活事件	過去事件的記憶
1.		
2. 奔跑	昨天在體育課中我跑步，沿著我跑的路上有低垂的樹枝。	兩年前，我被一隻擺脫皮帶束縛的大狗追趕。我跑得很辛苦才能逃脫。
3. 樹枝
4. 撕開
.....		

現在請您填上下面表格，寫出已下劃線的「夢境元素」，並且提供「最近的生活事件」以及「過去事件的記憶」。

夢境元素	最近的生活事件	過去事件的記憶
1.		
.....		

第 6 步：解釋您的夢境

夢境經歷

夢境就像清醒時的事件一樣，是對我們有一定影響的經歷，也對我們具有一定 的意義。夢可能告訴我們最深處的願望、慾望、恐懼、創造力和潛能。經歷了這個夢，您從中知道了或發現了自己什麼東西嗎？夢中的自己與您平時的自己有什麼不同嗎？

最近的生活事件

您從觸發您夢境的現實生活事件中學到了什麼嗎？您是否發現您的夢境反映了在醒著時的任何東西嗎？您從那些生活事件中對自己學到了或發現了什麼？

過去的經歷

根據自己的夢，您從過去的經驗中學到了什麼嗎？您過去的生活事件如何影響您的夢？這些過去的經歷如何彼此關聯或與最近發生的事件有何關係？

您自己的部分

我們夢中的不同元素有時代表我們自己的不同部分。例如，跑步可能代表勤奮的自己，黑暗的森林可能代表您不想讓別人知道的東西。如果我們將夢中的不同元素視為自己各個部分，就可以了解更多有關自己的信息。夢中的各種元素與您自己有何相似之處嗎？

例子：

夢境經歷	在現實生活中，我不擅長奔跑。在某種程度上，在夢中奔跑的經歷非常舒服。我沒有意識到我有那麼多的耐力穿過森林。從某種意義上說，我在夢中感到很堅強。我實際上開始跑步了。也許我比我想像的更身體健康。
最近的現實生活事件	我想我很氣惱，因為有太多令我分心的小事，就像那個樹枝阻止了我一樣。我覺得自己很努力，但一直要為那些小事而停下來。我怕無法取得成功。我一直都會被困在這裡。
過去的經歷	我以前真的很害怕森林，因為我曾經在森林裡迷路過。我認為現在每當感到焦慮時，我都會感覺自己像在森林中。當我嘗試奔跑並離開而不是從容地試圖找出最佳解決方案時，我感到被困住了。
您自己的部分	我認為，撕裂衣服的樹枝代表了自己的一部分，是我的驕傲和被接受的需要，這使我無法對別人開放我自己。森林代表了我更不為人知的一面，我傾向於將所有東西放在心中，抑制自己的情緒，而不釋放我的憤怒。

現在請您填上下面表格，寫出已下劃線的「夢境元素」，並且提供「最近的生活事件」以及「過去事件的記憶」。

在進行此步驟時，可以想一想以下問題：

- 您的夢境如何反映您的想法、感受和擔憂？
- 這個夢境帶給您的訊息是什麼？
- 從探索這個夢境的過程中，您對自己、他人、或世界有什麼新看法？

從 4 個解夢方法中選擇至少 2 個方法來解釋您的夢境，然後在空白處寫下您的解釋。

夢境經歷	
最近的現實生活事件	
過去的經歷	
您自己的部分	

第 7 步：將您的夢境解釋付諸實踐

當您發現更多關於您的夢對您的意義時，您可以考慮如何改變夢境或如何改變現實生活中的某些事情。選擇以下兩個選項之一，然後按照為該選項提供的說明填寫有關部份。

改變夢境

如果您能改變您的夢境，您會如何改變它？您可以用它做任何您想做的事情。

- 描述一下如果您能改變您想要的任何部分，您將如何改變您的夢境？
- 您認為您 幫我改變的部份揭示了什麼？

請在下面寫下您的答案：

改變現實生活中的某些事情

您的夢境是否表明您需要在生活中做不同的事情？根據您從夢中學到的關於自己的知識，寫下您想在現實生活中改變的事情。

例子：

想在現實生活中改變的事情	要怎樣做才能達成改變
停止拖延學業功課	<ol style="list-style-type: none">1. 為自己制定一個每日時程表進行學習。2. 找一個安靜的地方學習，減少分心。3. 如果我每天按照我的日程安排完成學習，獎勵自己與朋友交往和看電視。4. 如果我不遵守我的日程安排或沒有完成學習，我就無法在那天看電視或社交。

現在請您填上下面表格，寫出「想在現實生活中改變的事情」以及「要怎樣做才能達成改變」。

想在現實生活中改變的事情	要怎樣做才能達成改變
.....	

第 8 步：繼續好好利用您的夢境

有很多方法可以讓您在接下來的幾天和幾周內繼續好好利用您的夢境。各人有不同的方法，您又有什麼想法呢？請在下方分享一兩種方法能使您繼續好好利用您的夢境。

APPENDIX N

GAINS FROM DREAM INTERPRETATION (GDI)

請針對每個問題仔細思考，並盡可能誠實的回答。將最能描述您的反應的數字圈起來。

	非常不同意	非常同意
1. 在自導解夢期間，我能夠徹底探索我的夢。	1	2 3 4 5 6 7 8 9
2. 在自導解夢期間，我更清楚這些夢對我個人而言的意義。	1	2 3 4 5 6 7 8 9
3. 在自導解夢當中，我能夠再次經驗我在夢裡的感覺。	1	2 3 4 5 6 7 8 9
4. 因為這次自導解夢，我比較能意識到可怕的或糟糕的夢是可以改變的。	1	2 3 4 5 6 7 8 9
5. 在自導解夢中，我得到一些關於如何改變自己某個部分或改變個人生活的一些想法。	1	2 3 4 5 6 7 8 9
6. 透過自導解夢，我比較知道過去的事件如何影響我現在的生活。	1	2 3 4 5 6 7 8 9
7. 透過夢的分析，我比較清楚清醒時候生活中的一些重要議題。	1	2 3 4 5 6 7 8 9
8. 在自導解夢裡，我覺得自己非常投入夢的工作。	1	2 3 4 5 6 7 8 9
9. 在自導解夢中，我覺得我確實再次體驗了這些夢。	1	2 3 4 5 6 7 8 9
10. 我找到了一個新方法來思考我自己以及我的問題。	1	2 3 4 5 6 7 8 9
11. 我會在日常生活中使用這次解夢所學到的東西。	1	2 3 4 5 6 7 8 9
12. 我學到了一些東西，這些東西靠自己是想不到的。	1	2 3 4 5 6 7 8 9
13. 我可以讓夢中印象和現實生活議題做聯結，這些聯結是我以前沒想過的。	1	2 3 4 5 6 7 8 9
14. 在這次自導解夢後，我覺得能再次確信自己或是自己的夢。	1	2 3 4 5 6 7 8 9

APPENDIX O

SCREENSHOTS OF IMPLICIT ASSOCIATION TEST (IAT)

