THE UNIVERSITY OF HULL

Living in Flux: Risk, Protective Factors, and Meaning-Making in

Transmasculine Experiences of Substance Use

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Abstract

Transgender individuals are particularly vulnerable to issues such as poor mental health, social isolation, and gender-related discrimination and violence which may contribute to developing and sustaining substance use disorders (SUD). The problems faced by transmasculine individuals are compounded by a poor understanding of factors which contribute to SUD in this population. This thesis is a mixed-methods, longitudinal study which examines factors associated with high-risk substance use in the transmasculine community and explores their lived experiences of SUD.

The main study adopted a sequential, longitudinal, mixed-methods design. 105 transmasculine individuals participated and 13 individuals were invited for interviews. Correlational and multiple regression analyses were performed on variables of SUD, quality of life, gender minority stress, gender role conflict, psychopathological symptoms, and personality traits. ANOVAs were performed to explore change over time.

Quantitative analyses revealed that over half of the sample engaged in high-risk substance use, and this increased over time. Gender minority stress, psychopathological symptoms, and personality traits were all major contributors to high-risk substance use. Qualitative analyses indicated that difficulties accessing transition-related healthcare, transphobia, distress (in)tolerance, and navigating masculinities and social expectations were all associated with increased distress that led to increased substance use.

The impact of COVID-19 on transmasculine individuals was substantial, and substance use significantly increased during the pandemic. Participants felt anxious, isolated, and distressed by poor access to healthcare and reported using substances to cope with these issues.

Overall, the results imply that SUD is a critical issue in the transmasculine community. Factors which protect against SUD, psychological interventions to improve mental health and reduce substance use, and limitations of this study are discussed, and topics of future study are suggested.

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6. TESUP-2

Acronyms

AFAB – assigned female at birth

ANX - anxiety

ASD – autism spectrum disorder

AUDIT – alcohol use disorders identification test

BIPOC – Black, Indigenous, and people of colour

CBWFR – conflict between work and family relations

CC – community connectedness

CO – cooperativeness

D – gender-related discrimination

DEP - depression

DUDIT – drug use disorders identification test

GIS – gender identity services

GMS – gender minority stress

GMSR – gender minority stress and resilience measure

GRC – gender role conflict

GRCS – gender role conflict scale

GSI – global severity index

HA – harm avoidance

HOS – hostility

HRT – hormone replacement therapy

INS – interpersonal sensitivity

IPA – interpretative phenomenological analysis

IT – internalised transphobia

LGBTQ – lesbian, gay, bisexual, trans, queer

NA – non-affirmation

ND – non-disclosure

NE – negative expectations for future events

NICE – national institute for health and care excellence

NS – novelty seeking

NSSI – non-suicidal self-injury

OBC – obsessive-compulsive symptoms

P – identity pride

PAR – paranoid ideation

PHO – phobic anxiety

PS – persistence

PSDI – positive symptom distress index

PST – positive symptom total

PSY – psychoticism

QOL – quality of life

R – gender-related rejection

RABBM – restrictive affectionate behaviour between men

RD – reward dependence

RE – restricted emotionality

SCL – symptom checklist

SD – self-directedness

SOM – somatic symptoms

SPC – success, power, and competition

ST – self-transcendence

SUD – substance use disorder

TA – thematic analysis

TCI – temperament and character inventory

TERF – trans exclusionary radical feminist/feminism

TESUP – transmasculine experiences of substance use project

TRIM – transgender resilience intervention model

V – gender-related victimisation

WHO – world health organisation

1. Introduction

1.1. Overview and Background

This thesis is designed to address major deficits in knowledge regarding substance use and substance use disorders (SUD) in the transmasculine population. Current research regarding substance use and SUD in this vulnerable population is severely lacking. Lived experiences of substance use in transmasculine individuals are rarely examined and there is little longitudinal research into the factors which may be related to how SUD are developed and sustained. The research literature shows that the transgender community is subject to a number of health, economic, and social disparities which leave its members particularly vulnerable to negative outcomes. These include poor physical and mental health (Newfield et al., 2006), social isolation and familial rejection (Budge et al., 2013a), and gender-related discrimination and violence (Miller & Grollman, 2015). Additionally, the daily problems faced by transmasculine people are exacerbated by difficulties accessing adequate healthcare; the poor understanding of the healthcare services regarding the development and maintenance of SUD within the transgender community; in addition to a distinct gap in the knowledge surrounding the transmasculine population's specific treatment needs in regard to SUD (Keuroghlian et al., 2015).

Individual responses to adversity and stress are influenced by the personality traits and related neuropsychological mechanisms of the individual (George & Koob, 2017). Yet research is lacking regarding the personality style and traits of transmasculine individuals who experience SUD. An individual's personal response to challenging and novel situations can be informative regarding formulation of interventions to address mental health and substance use difficulties (Vassileva & Conrod, 2019). LGBTQ experiences of substance use are different from that of cisgender and heterosexual individuals, and there is a consistently reported disparity in prevalence of SUD and related negative outcomes (Hunt, 2012). Furthermore,

sexual minority identities and transgender identities have typically been conflated in previous literature, despite research which demonstrates that the transgender community differs from LGB individuals in their experiences of discrimination, stigmatisation, and the uniquely gendered challenges they face on a daily basis (Shelton, 2017). Therefore, it is crucial that efforts to understand the issues facing the transgender community are focused on their lived experiences and take a gender-affirmative and intersectional approach.

There exists a multitude of biopsychosocial factors which affect if and how an individual may develop a SUD (Connolly & Gilchrist, 2020) – all these factors take place in the context of transmasculine individuals' attempts to navigate the complexities and bureaucracy of the medico-legal system in the UK. This is combined with unique stress-inducing daily life events which transmasculine individuals must tackle such as: the disclosure or non-disclosure of one's transgender identity (each of which presents unique challenges to one's safety and sense of self); gender minority stress (such as discrimination, rejection, and negative expectations for future events); and gender dysphoria. It is vital that the personal and socio-cultural contexts that an individual is situated within during their transition is taken into consideration, in order to fully understand the complicated interplay of factors which may contribute to the development and maintenance of a SUD.

1.2. Aims and Research Questions

This thesis is an investigation of the correlates and experiences of substance use in transmasculine individuals. The aim of this research is to explore gaps in knowledge related to how gender minority stress, masculinities, quality of life, psychopathological symptoms, and personality traits may contribute to the development and maintenance of SUD in this population. By using a longitudinal mixed-methods approach this research aims to identify

factors associated with high-risk substance use and explore protective factors associated with low-risk substance use. By relating quantitative findings to the lived experiences of transmasculine individuals, this thesis will provide a holistic and in-depth exploration of substance use in the context of change over time. The central research question is:

What are the factors that contribute to the development and maintenance of substance use in transmasculine individuals?

The quantitative aspects of this study aim to address the following research questions:

1. Is stage of transition related to substance use?

2. Is low quality of life associated with high-risk substance use?

3. Does increased gender role conflict correlate with higher substance use?

4. Does increased gender minority stress correlate with higher substance use?

5. Is resilience a protective factor against issues with substance use?

6. Are psychopathological symptoms associated with substance use?

7. Is there a specific personality profile for individuals who engage in high-risk substance use?

Additionally, the qualitative aspects of this study aim to explore the following research questions:

8. What is the impact of transitioning and masculinities on substance use?

9. What contexts and situations are associated with substance use and what do these mean to the participants?

10. What factors contribute to a cessation or reduction of substance use?

Finally, this project originally aimed to explore factors which may contribute to changes to substance use *over time*. However, due to the COVID-19 pandemic occurring between the phase one and phase two time points, the longitudinal analysis was inherently

affected by this event. Therefore, the longitudinal analyses changed focus in order to explore the impact of the pandemic and aimed to answer the following question:

11. What was the impact of the COVID-19 pandemic on substance use within the transmasculine community?

1.3. Layout of the Thesis

Chapter one begins with a broad overview of substance use within the transgender community. It introduces the particular areas of concern which this thesis will investigate in relation to their impact on substance use and provides a rationale for their inclusion within the research. This chapter highlights the aims of this thesis and the research questions that this study will explore and concludes by outlining the layout of this thesis.

Chapter two is an in-depth review of the literature that relates to transmasculine substance use. It begins with an overview of substance use and substance use disorders and explores how these issues affect the transmasculine community. This is followed by a full discussion of relevant literature regarding gender minority stress and resilience, gender role conflict and masculinities, quality of life, mental health and psychopathological symptoms, and personality traits. This chapter concludes with a summary of salient literature and its relevance to the present thesis.

Chapter three provides an overview of the methodology and methods used to collect data in this study. The chapter begins by outlining the research design and rationale for choosing a longitudinal, mixed-methods approach. This is followed by a consideration of my own positionality in relation to the research topic and a discussion of reflexivity. The following sub-sections of the chapter outline the specific steps taken to collect and analyse

data in the pilot study, and in both phases of the central research project (named the Transmasculine Experiences of Substance Use Project; TESUP).

Chapter four presents the main findings of the pilot study. This chapter begins with a consideration of the relevant literature and offers a rationale for conducting a pilot study. The key themes are discussed and the contributions that the pilot study made to the TESUP are highlighted.

Chapter five presents the quantitative and qualitative findings of the first phase of research (TESUP-1) and offers an in-depth discussion which integrates all of the results and connects them to the research questions.

Chapter six presents the quantitative and qualitative findings of the second phase of research (TESUP-2) and discusses these results in a longitudinal context, with particular attention paid to the influence of COVID-19 in this phase of study.

The thesis concludes with chapter seven. This chapter summarises the findings of the thesis in the context of the initial research questions, draws together recommendations for future study, identifies the key contributions to theory and practice, and ends with a discussion of the limitations of this research.

2. Literature Review

2.1. Introduction

This study is designed to address major deficits in knowledge regarding substance use and substance use disorders (SUD) in the transmasculine population. In this study, transmasculine is used to refer to individuals who are transgender, were assigned female at birth (AFAB), and align with a masculine gender role. This may include identifying as male, masculine, non-binary, genderfluid, or a variant of this nature. The term transgender is used as an umbrella term to refer to all individuals who do not identify with the gender they were assigned at birth. Cisgender, therefore, is anyone who continues to identify with the gender they were assigned at birth.

This chapter will illustrate why investigating substance use and SUD in transmasculine individuals is of critical importance, particularly in the current socio-political context of the UK. This chapter includes a review of all the factors that this study proposes are integral to understanding the experiences of transmasculine individuals in the context of transition and substance use/SUD. These factors include experiences of gender minority stress and resilience; masculinities and gender-role conflict; quality of life and social support; mental health and psychopathological symptoms; and personality traits.

2.2. Substance Use and Substance Use Disorders

2.2.1. Defining Substance Use and Substance Use Disorders.

To discuss substance use, substance misuse, and substance use disorders (SUD) it is first necessary to delineate the meaning of these terms. In this study, substance misuse is defined as the use of tobacco, alcohol, illegal drugs, and legal drugs taken in an illicit manner (e.g., taking too many prescribed drugs or taking prescribed drugs that were not prescribed to

you). I will define substance use disorder (SUD) based on recommendations from DSM-5 (American Psychiatric Association, 2013). The DSM-5 reports that the "essential feature of a substance use disorder is a cluster of cognitive, behavioural, and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems" (American Psychiatric Association, 2013, p.483). SUD can be classified as mild (2-3 symptom criteria), moderate (4-5 symptom criteria), or severe (6 or more symptom criteria). There are 11 symptom criteria which can be categorised within the themes of (A) impaired control (4 symptom criteria); (B) social impairment (3 symptom criteria); (C) risky use (2 symptom criteria); and (D) pharmacological symptoms (2 symptom criteria). The 11 symptoms criteria are: (1) increasing amount or frequency of substance used (*impaired control*); (2) unsuccessful efforts to cut down or stop substance use (*impaired control*); (3) spending a lot of time obtaining, using, or recovering from substance use (*impaired control*); (4) strong urges or cravings for the substance (*impaired control*); (5) failure to fulfil responsibilities at home, work, or school due to substance use (*social impairment*); (6) continued use despite social and interpersonal issues due to substance use (*social impairment*); (7) giving up or reducing recreational, occupational, and social activities due to substance use (*social impairment*); (8) repeated substance use even when it is physically hazardous (*risky use*); (9) continued substance use despite knowledge of a physical or psychological problem which is made worse by substance use (*risky use*); (10) tolerance – needing increasingly more amounts of the substance to reach the desired effect (*pharmacological*); and (11) withdrawal symptoms which are relieved by taking more of the substance (*pharmacological*).

The substances discussed in this study may be legal (e.g., alcohol and tobacco), illegal (e.g., cannabis, ecstasy), or controlled substances (e.g., pain-controlling medication such as tramadol, prescribed by medical professionals) and all can be misused or develop into a SUD. These types of substances can be further categorised into seven sections according to their

behavioural, psychological, and pharmacological effects: Nicotine (e.g., chewing tobacco, vaping, cigarettes); Alcohol (e.g. beer, wine, spirits); Cannabinoids (e.g. marijuana, hashish); Opioids (e.g. heroin, Tramadol, Oxycodone); Depressants (e.g. benzodiazepines, barbiturates); Stimulants (e.g. cocaine, methamphetamine, amphetamines); and Hallucinogens (e.g. LSD, MDMA) (McLellan, 2017).

2.2.2. LGBTQ Substance Use and SUD

The UK Trans Mental Health Study (McNeil et al., 2012) explored areas of transgender individual's lives, for example employment, housing, medical care, mental health, and substance use. McNeil et al. (2012) state that just over half of the sample of transgender individuals had smoked tobacco at some point, with 19% identifying as current smokers (N=583). This statistic is somewhat higher than that of the general population in the UK, with 14.7% being current smokers (ONS, July 2019). The ONS (2019) publication also examined figures relating to LGB individuals; this demonstrated that (in 2017) smoking prevalence in the lesbian and gay (23.1%) and bi (23.3%) population were significantly higher than that of straight people (15.9%). Though there is a clear lack of up-to-date information regarding smoking behaviours of transgender individuals in the UK, one can likely assume from the figures regarding LGB individuals that rates may be similarly increased, however the mechanisms by which substance abuse is developed and maintained is highly variable between L, G, B, and T groups (Shelton, 2017).

Early studies into LGBTQ substance use and SUD began in the 1970s and tended only to focus on lesbian and gay identities while neglecting to examine the experiences of bisexual and transgender individuals (Shelton, 2017, p.12). This can be seen as reflecting the attitudes of the time; while gay and lesbian liberation movements gained momentum throughout the 70s

and 80s, knowledge of bisexual identities was only just beginning to expand (Taylor, 2018) and the Harry Benjamin International Gender Dysphoria Association (now known as the World Professional Association for Transgender Health; WPATH) had just published the first iteration of the Standards of Care (Walker et al., 1979) setting the stage for increasing visibility and acceptance of transgender identities. In 2011, the Institute of Medicine (IOM) released a report which examined the disparities in physical and psychological health between LGBTQ communities and cisgender, heterosexual populations. This report revealed the lack of research which focused on bisexual and transgender identities, highlighting that much of the limited existing research was based on convenience sampling and could not be reliably generalised to the larger population, and was also lacking insights into intersectional identities, such as people of colour, people with disabilities, and transgender people who identify as LGBQ.

There has been a recent increase in more methodologically rigorous studies into LGBTQ substance use; internet-based methods have improved the sampling issues of the past, and meta-analyses and longitudinal studies offer a better understanding of the development of SUD and which interventions are most useful in this population (Shelton, 2017, p.14). However, there still exists a tendency to treat gender identity and sexual orientation as one and the same, and the conflation of these two identities often leads to a lack of exploration of the intersection between the two or the differences between them (Galupo et al., 2014). Research into transgender individuals' experiences of sexual orientation often indicate that it is conceptualised as dynamic and fluid, and that shifts in gender identity can prompt changes in sexual orientation (Auer et al., 2014). This type of research emphasises that transgender individuals experience uniquely gendered forms of discrimination (transphobia) and often experience more stigmatisation than LGBQ individuals (Nadal et al., 2012). This indicates that to fully understand transgender experiences they should be discussed separately from the experiences of LGBQ individuals.

Research consistently indicates the increased prevalence of SUD in the transgender community. A large-scale cross-sectional study comparing prevalence rates of transgender SUD in US adults demonstrated that, compared to cisgender people, transgender adults had significantly higher prevalence of nicotine SUD (16.6% vs 5.4%), alcohol SUD (2.6% vs 0.9%), drug SUD (4.3% vs 1.2%), and polysubstance SUD (2% vs 0.5%) (Hughto et al., 2021). A systemic review of literature relating to substance use in the transgender community indicated that correlates of substance use support the minority stress theory; transphobia discrimination or violence, visible gender non-conformity, and intersectional minority status (e.g., being transgender and Black) were all connected to substance use in this population (Connolly & Gilchrist, 2020). The authors also state that additional research into transmasculine and non-binary experiences of substance use and SUD are necessary due to the over-representation of transfeminine identities in the literature.

Where studies have focused on exploring the experiences of transmasculine individuals in relation to substance use they have often demonstrated differences in substances used and rates of use between transmasculine people and other sub-groups of the transgender community. Barger et al. (2021) reported that transmasculine participants and queer participants were more likely to have reported marijuana use in the past year, compared to cisgender women and lesbian women, respectively. Another study reported that 17% of trans women and 33% of trans men self-reported past problems with alcohol use (Testa et al., 2012). Schweizer and Mowen's (2020) research provided similar results, with trans men having significantly higher levels of substance use than trans women – a potential explanation offered by Schweizer and Mowen is that in an effort to enact a masculine identity, trans men more heavily endorse stereotypical masculine behaviours such as greater substance use.

LGBTQ people experience the same risk factors for engaging in substance use as cisgender/heterosexual people. These risk factors can include efforts to feel good or feel better (Sinha, 2008), peer pressure or to fit in with one's peer group (Keyzers et al., 2020); or to enhance performance at work, school, or in sports (McDuff & Baron, 2005; Schelle et al., 2015). However, transgender people are faced with additional, compounding risk factors which may increase the likelihood of problematic substance use or the development of a SUD. Reisner et al. (2015) reported that enacted and anticipated discrimination within healthcare settings was significantly associated with substance use in transmasculine adults; substance use to cope with enacted discrimination (such as refusal of care) was frequently reported and participants also reported delaying necessary medical care when unwell or injured due to the anticipation of discrimination based on past experiences. Further research has indicated that the process of 'coming out' as LGBTQ is a particularly high-risk period for engaging in substance use, potentially because this is an anxiety inducing and socially isolating event which may cause individuals to self-medicate with substances (Shelton, 2017, p.44). Additionally, Hunt's (2012) report into why the LGBTQ community are facing disparities in SUD highlighted that because bars and clubs are traditionally safe spaces for this community to socialise and reduce stress, LGBTQ people who frequent bars and clubs are at higher risk of being exposed to risky alcohol and drug use, and for it to become a normal aspect of socialising, leading to increased rates of SUD in this community.

2.2.3. SUD Interventions: Barriers and Best Practice

Interventions for SUD vary depending on the type of substance used and the personal, social, and medical characteristics of the individual (Shelton, 2017, pp.54). In the UK, the National Institute for Health and Care Excellence (NICE) has published guidelines on best

practices for addressing both alcohol use and drug use disorders. In their principles for all intervention (NICE, 2011) a comprehensive assessment is recommended to understand the severity of the SUD, co-occurring health and social problems (such as mental illness or homelessness), and cognitive function testing. Meaningful service user involvement is also recommended whereby the service user is involved in their own care and development of their treatment plan, in addition to becoming involved in delivering peer mentoring and developing service user-led services (NICE, 2011). The aim of service user involvement is to increase confidence and trust in the interventions that are offered, to increase commitment on behalf of the service users, and offer the ability to make meaningful and informed decisions about healthcare (Schulte et al., 2007).

Interventions for SUD can range from acute care (e.g., pharmaceutical interventions for the management of alcohol withdrawal) to self-help mutual aid groups (e.g., Self-Management and Recovery Training; SMART Recovery), to formal psychosocial interventions within the community or as an inpatient (NICE, 2007). The basic principles of SUD interventions are the same for all people, however assessment and interventions for transgender individuals involve additional considerations, in part because this community faces additional difficulties which may contribute to their SUD such as poor access to healthcare (Reisner et al., 2015), discrimination and stigma (Connolly & Gilchrist, 2020), family and social problems (Klein & Golub, 2016) and increased levels of psychopathological symptoms (Keuroghlian et al., 2015). Gaining an understanding of social, psychological, and cultural influences which may affect LGBTQ service users, and using this information to develop appropriate interventions for this diverse cultural group, is known as *cultural competency* (Boroughs et al., 2015).

The concept of cultural competency, as applied to the LGBTQ community, involves building awareness of one's own beliefs and biases and how these aspects may shape

interactions with service users, and the ability to employ skills and tools to provide culturally sensitive assessment and interventions (Sue et al., 2009). Treatment facilities are typically ill-equipped to meet the unique needs of transgender service users; Nuttbrock (2012) reports that conventional substance use interventions display a lack of cultural competence at the outset with intake and referral procedures usually being organised according to binary and heteronormative assumptions. Questions about sexual and gender identity are not the norm and inpatient facilities are generally segregated based on gender (male or female) with no consideration for transgender identities or identities outside of this binary (Lombardi, 2007).

Considering the unique treatment needs of the transgender population, specialised SUD intervention programs are frequently recommended, in particular, multiple studies recommend that utilising a Minority Stress framework in SUD interventions for transgender people would be highly beneficial (Wolf & Dew, 2012; Connolly & Gilchrist, 2020). In Glynn and van den Berg's (2017) review of interventions aimed at reducing SUD among transgender individuals, they state that service-user involvement in SUD interventions is paramount in order to promote greater rapport and ease of communication between everyone involved.

One limitation to much of the research on the topic of transgender experiences of SUD is that the transmasculine community is under-represented and poorly understood, as previously mentioned by Connolly and Gilchrist (2020). It can be argued that due to the masculine identity of transmasculine individuals they may be at further risk of factors which would encourage engaging in substance use and developing a SUD. Research that has focused on cisgender men has consistently demonstrated that strong endorsement of traditional masculine ideals can be linked to poor health outcomes (Courtenay, 2009) and increased substance use and SUD (Vogel & Heath, 2016). Schrock and Schwalbe (2009) argue that the social and public performance of masculinity is key to solidification and validation of one's

masculine (and male) identity. They argue that conformity to masculine norms through performing traditional acts of manhood in social and interpersonal contexts is key to gaining recognition as masculine and therefore, as male.

In relation to substance use, Darcy's (2018) exploration of masculinities and men's illicit drug use illustrated how the use of illicit drugs can be a symbolic act, a vehicle to communicate the drug taker's gender identity and social role, in addition to being a socially approved manner to perform masculinities. Furthermore, in the context of transmasculine substance use, these individuals can be seen to be enacting a form of *compensatory masculinity*. In the pursuit of social recognition of their masculine or male identity, transmasculine individuals may adopt hyper-masculine traits to communicate their masculine identity to others and to make up for a perceived lack of masculinity or maleness (Vegter, 2013). This theory is supported by recent research into transgender substance use. As mentioned previously, Schweizer and Mowen (2020) theorised that the significantly higher levels of transmasculine substance use in their own research could be partially explained by the trans male participants in their study heavily endorsing conventional masculine behaviours (such as increased substance use) in order to communicate a masculine identity or to 'pass' as male in social settings.

Considerations of the role of masculinities in transmasculine lives is important when assessing for SUD and planning interventions. Cisgender men are less likely to both seek help and accept help for physical and mental healthcare problems (Courtenay, 2009); therefore, it is possible that transmasculine individuals face these same barriers. In addition to this, the transgender community are already hesitant to approach healthcare services due to negative experiences of discrimination and stigma, as previously mentioned (Reisner et al., 2015). Therefore, it is crucial to explore the potential for increased difficulties when these barriers to

treatment co-occur within the transmasculine community, particularly when exploring experiences of SUD and potential barriers to receiving culturally competent assessment and interventions.

2.3. Gender Minority Stress and Resilience

2.3.1. Gender Minority Stress

The Gender Minority Stress (GMS) framework is a conceptualisation of the impact of multiple social stressors which are specific to transgender and gender diverse individuals and negatively impacts their mental health and wellbeing (Testa et al., 2015). The concept of GMS is built upon Meyer's (1995, 2003) minority stress theory, which states that individuals who belong to a stigmatised minority group face increased exposure to unique social stressors such as discrimination and prejudice which cause chronically high levels of stress in an individual and lead to poor physical and mental health. Meyer's theory was developed to provide explanations for the disparate mental health outcomes of lesbian, gay, and bisexual (LGB) people compared to heterosexual people, and multiple studies have confirmed the value of using minority stress theory to understand the health disparities faced by the LGB community (Pascoe & Smart Richman, 2009; Frost et al., 2015). However, the utility of Meyer's theory when applied to transgender and gender diverse individuals was inadequate; research has demonstrated that the stressors faced by transgender people, and the coping methods available to them, are different from those of LGB people (Su et al., 2016; Tan et al., 2019). Therefore, Testa et al. (2015) subsequently developed the GMS framework to better represent the range of stressors which are specific to the transgender community.

Similar to Meyer's (2003) minority stress theory, Testa et al.'s (2015) framework proposes that stressors are divided into two types: distal stressors and proximal stressors. Distal

stressors are those which originate from an external source and includes discrimination, rejection, victimisation, and non-affirmation of gender identity. Proximal stressors are internal processes and subjective experiences which are presumed to occur as a result of repeated exposure to distal stressors, this includes internalised transphobia, negative expectations for future events, and non-disclosure of transgender identity. Additionally, consistent with minority stress theory, the GMS framework suggests that coping strategies, or protective factors, exist to buffer the negative impact of GMS. These protective factors (called resilience in the GMS framework) can be divided into the community-level and individual-level. Within the GMS framework community connectedness (i.e., strong peer support networks and engagement with the trans community) is a community-level protective factor, and identity pride (i.e., acceptance of one's own transgender identity and embracing one's self-worth) is an individual-level protective factor. Figure 2.1 depicts Testa et al.'s (2015) proposed structure of the GMS framework.
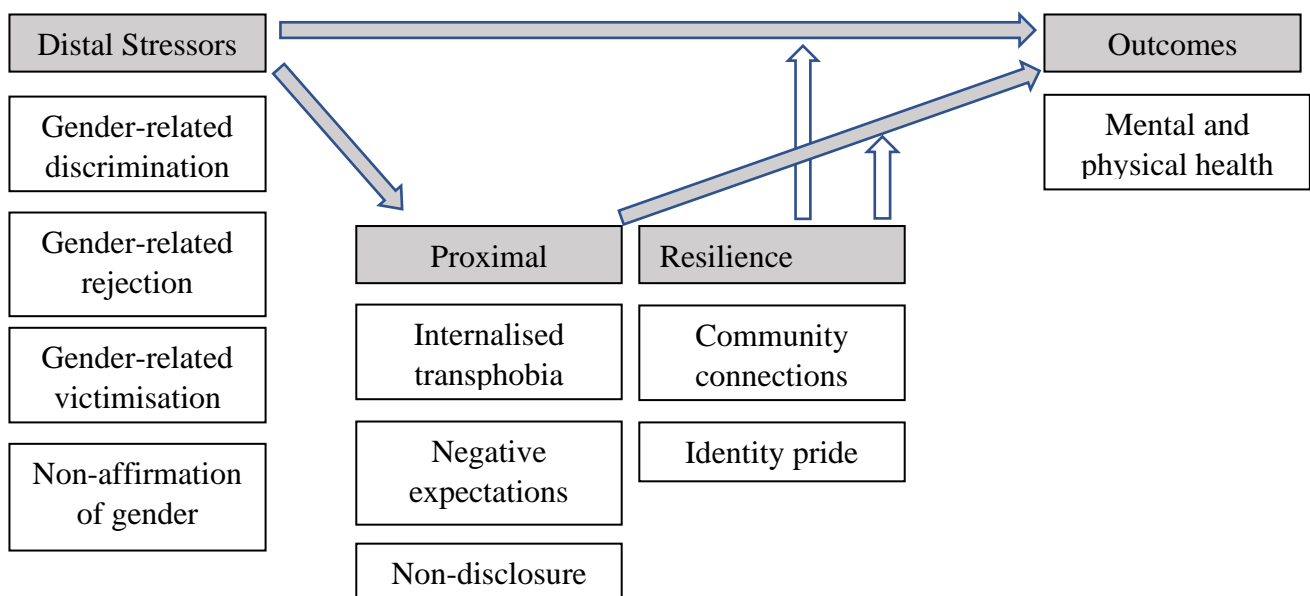
Figure 2.1. Testa et al.'s (2015) proposed structure of the gender minority stress framework. Grey arrows indicate a negative effect. Distal stressors have a negative effect on outcomes and on proximal stressors. Resilience factors buffer the negative effect of distal and proximal stressors on mental and physical health outcomes.

2.3.2. Gender Minority Stress, Health, and the Role of Resilience.

The GMS framework has been applied to explore various outcomes related to the physical and mental health of transgender people. Multiple studies have demonstrated how experiences of GMS can lead to negative health outcomes such as increased depression (Jaggi et al., 2018), increased suicidal ideation (Testa et al., 2017), and increased levels of bodily inflammation (McQuillan et al., 2021). However, although the effects of GMS on transgender people have been widely examined using Testa et al.'s theoretical framework, very few studies utilise the complete model (four distal stressors, three proximal stressors, two resilience factors) when exploring health outcomes. Instead, numerous studies choose only one distal stressor to measure the overall effect of distal stressors, or one proximal stressor to measure the overall effect of proximal stressors (e.g., Scandurra et al., 2017; Rood et al., 2016, respectively). Additionally, some studies (Timmins et al., 2017; Austin & Goodman, 2017) have adapted measures of LGB minority stress for use with transgender participants which lack the reliability or validity that have been established with Testa et al.'s (2015) gender minority stress and resilience measure (GMSR). This presents a challenge in drawing conclusions from the range of studies which use the GMS framework in differing ways, therefore the following findings are discussed with these limitations in mind.

The majority of studies which use the GMS framework have focused on exploring the impact of distal and/or proximal stressors on mental health and psychological wellbeing. One of the most comprehensive studies to date which utilises the complete GMS framework explored associations between GMS and depressive symptoms in 143 transitioned[1] Swiss

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[1] This study defines 'transitioned' individuals as 1) not currently attending trans-specific therapy; 2) not having taken hormone therapy for at least one year; 3) no plans for surgical interventions within the next year. The criterion of not currently taking hormone therapy is questionable because this is usually a life-long requirement, especially for those who have had hysterectomy or orchidectomy. Additionally, the concept of having completed medical transition is complicated, with many trans individuals feeling that their transition is never fully 'complete' and with others feeling that their transition is 'complete' without ever undertaking medical transition (see Tatum et al. [2020] for further discussion of this concept).

transgender people (Jaggi et al., 2018). The results of this study largely support the proposed GMS framework as the multivariate analyses identified that distal stressors had a significant direct effect on depressive symptoms and proximal stressors had a significant indirect effect on depressive symptoms. However, the study failed to support the assumed moderating effect of resilience factors between GMS stressors and depressive symptoms; the authors suggest a refinement of definitions of resilience factors, and in particular, improvements in the operationalisation of the concepts of 'identity pride' and 'community connectedness'. The lack of significance of resilience factors in the GMS framework has also been noted in other studies, which leads one to question the appropriateness of how resilience in the GMS framework is operationalised. Puckett et al. (2019) examined how different types of social support are associated with resilience and with symptoms of depression and anxiety. Their results suggest that good community connections are less important than strong familial support or support from friends, and the authors question whether community *support* may be more applicable to resilience than the individual simply having connections to the trans community. One overlooked aspect that may contribute to a better understanding of community connectedness is access to community-level resources and institutional support that may be gained from sexual health services and psychotherapy which is specifically aimed at transgender and gender diverse individuals (Meyer & Frost, 2013). Such gender-affirming resources may have the effect of not only establishing connections to other members of the transgender community but may also decrease GMS through addressing negative health outcomes and strengthening individual-level resilience, such as identity pride, and building positive coping strategies.

When exploring the nature of the relationship between resilience factors and GMS, the literature is conflicting. For example, Breslow et al.'s (2015) examination of individual and group level resilience factors (personal resilience and collective action, respectively) revealed that the relationship between psychological distress and community connections or collective

action is more complex than the GMS framework suggests. Breslow et al.'s study indicated that contrary to previous studies which found that engaging in collective action (i.e., community participation in social activism) is an effective protective factor against GMS (Velez & Moradi, 2016), high levels of collective action actually increased the association between the proximal stressor of internalised transphobia and psychological distress. Breslow et al. (2015) suggest that high levels of activism may expose individuals to increased levels of transphobia and consequently may be associated with fatigue and depression. It should be noted that previous studies into the buffering effect of collective action against minority stress and psychological distress have mainly focused on sexual minority groups. It could be argued that transgender and gender diverse groups have less control over disclosure of their gender identity or transgender status, making them more vulnerable to being exposed to direct and indirect transphobia. Whereas LGB individuals are often able to conceal their sexual orientation if they wish, potentially limiting their exposure to homophobia and turning the public demonstration of identity pride into an active process. In this way, community connections, in the form of collective action, has a unique interaction with identity pride; further studies which take the complex relation of the two into account are necessary to delineate more precise definitions and operationalisations of resilience factors.

As mentioned previously, various distal and proximal stressors have been found to have significant associations to psychological distress and poor mental wellbeing. Timmins et al. (2019) used Meyer's (2003) framework of minority stress to comprehensively examine, through structural equation modelling, the relationship between minority stress and psychological distress, including rumination. This study indicated that prejudice events, expectations of rejection, and self-stigma (regarding sexual orientation and gender identity) were all significantly associated with psychological distress and the full model could account for 54.5% of variance in psychological distress. While this study did not use the GMSR

framework and elected instead to adapt existing LGB minority stress measures to use with transgender participants, which calls into question the validity of the measures used, it nevertheless provides support for Testa et al.'s (2017) study which had similar results. Testa et al.'s (2017) research used path analysis to explore the relationship between GMSR and suicidal ideation; although the model fit was only adequate, GMSR factors could explain 20% of variance in current suicidal ideation, and the model supported the hypothesised mediation role of proximal stressors between distal stressors and suicidal ideation. Furthermore, trans men and transmasculine individuals scored significantly higher in measures of discrimination than trans women, trans feminine, and genderqueer groups, however there was no significant difference between groups in suicidal ideation. These studies provide good initial data on the effect that GMS has on mental wellbeing for transmasculine individuals and demonstrates support for the GMS framework.

2.3.3. Gender Minority Stress and Substance Use

Emerging research is beginning to explore the relationship between GMS and substance use, particularly exploring substance use as a reaction to, or method of coping with, experiences of GMS. As stated previously in the subsection *'LGBTQ Substance Use and SUD'*, there are associations between GMS and substance use which support the GMS framework (Connolly & Gilchrist, 2020), and one study indicated that 28% of adult transgender men engage in substance use to cope with negative expectations and previous experiences of discrimination in healthcare settings (Reisner et al., 2015). While few studies which explore this topic elect to use the GMSR measure, those which situate their research within the GMS framework have described the relationship between specific distal or proximal stressors and substance use in detail. Rood et al. (2016) adopted a qualitative approach to understanding lived experiences of

the expectation of rejection among 30 transgender adults. The results of their study indicated that substance use was a 'typical' coping strategy in response to managing the expectation of rejection ('typical' was defined as applying to 16 to 28 participants; this strategy was described by 17 participants).

One recent meta-analysis indicated that of 97 studies which focused on minority stress and substance use in youths, adolescents, and young adults, only nine articles (9.3%) included findings which were specific to transgender and gender diverse individuals (Kidd et al., 2018). In addition to the lack of focus on gender minority stress and substance use, there is also a lack of longitudinal research in this area. Those few studies that exist have demonstrated longitudinal connections between gender-related victimisation and subsequent increases in binge-drinking (Dermondy et al., 2016). Similarly, one experience sampling survey which monitored experiences of discrimination and substance use six times daily for 14 days, found that individuals were more likely to engage in substance use in the hours following an experience of discrimination (Livingstone et al., 2017). Dyar et al.'s (2020) longitudinal research into associations between GMS and substance use in transgender individuals assigned female at birth demonstrated that participants who reported more microaggressions and gender-related victimisation were more likely to have concurrent alcohol and cannabis use, but there was no association between these experiences and future substance use. However, this study only utilised the distal stressor of victimisation, therefore it is difficult to draw conclusions about the relationship between the full model of GMS and substance use.

2.3.4. (Trans)Masculinities and Gender Minority Stress

Transgender men and transmasculine individuals are uniquely situated in experiencing GMS (i.e., chronic stress from inhabiting a minority identity) and identifying as male and/or

masculine, which, in the GRC framework, can include a desire to conform to traditional or stereotypic conventions of masculinity (O'Neill, 2013). This leads one to question the relationship between inhabiting these two identities, and related needs and desires. To date there has been no investigations into the relationship between gender minority stress and masculinities in transgender people. Due to the lack of any studies on this topic, the following subsection will explore what is known about sexual minority cisgender men in relation to masculinities and minority stress and how these findings could be applied to transmasculine individuals.

Previous studies have highlighted that some gay men who identify as 'feminine' or 'androgynous' have less GRC than those who identify as 'masculine' (Choi et al., 2011), or those who desire public conformity to masculine ideals (Sánchez et al., 2010). In regard to this, Kimmel and Mahalik's (2005) study focused on the roles of minority stress and conformity to masculine norms in relation to the body image concerns of gay men. This research found that both a desire to conform to masculine norms and minority stress factors were associated with masculine body ideal distress (i.e., distress arising from the failure to meet the social expectations of a masculine body, such as being muscular). Additionally, Parker and Harringer's (2020) research indicates that a desire of conformity to masculine norms and high levels of gender role conflict can contribute to disordered eating in gay men. This is a finding which may also exist in transgender men and transmasculine individuals; McGuire et al.'s (2016) qualitative exploration of transgender young adult's body satisfaction revealed that bodily distress is related to gender dysphoria and that both reflect cultural expectations of what a male or masculine body should look and act like. This study suggests that for transmasculine individuals who desire to be perceived as male and/or masculine, the pursuit of the ideal male/masculine body can include restricted eating in order to reduce bodily dysphoria and suppress secondary sex characteristics (such as body fat distribution around the hips and breast

tissue). Additionally, Watt et al. (2018) reported that transgender men whose voices sounded more congruent with their gender (i.e., voices that sounded more masculine) reported better psychological wellbeing and quality of life than those whose voices were less gender congruent. This finding has important implications for understanding the relationship between masculinity and gender minority stress in transmasculine individuals. It is possible that those who have a more gender congruent voice may have more control over disclosure of their trans identity, and therefore may have less exposure to, or experiences of, discrimination and victimisation due to being transgender; as previous studies have demonstrated that individuals who experience more GMS have worse psychological wellbeing (Testa et al., 2017; Jaggi et al., 2018). However, the relationship between masculinities or gender role conflict, and gender minority stress in transmasculine individuals is currently only theoretical, as no studies have yet explored these potential associations.

2.4. Gender Role Conflict and Masculinities

2.4.1. Conceptualising Gender Role Conflict

Gender role conflict (GRC) refers to "a psychological state in which socialized gender roles have negative consequences for the person or others. GRC occurs when rigid, sexist, or restrictive gender roles result in restriction, devaluation, or violation of others or self… The ultimate outcome of GRC is the restriction of a person's human potential or the restriction of another person's potential" (O'Neil, 2008, p. 362). GRC is a construct that has been put forward to help explain how and why people experience conflicts during what O'Neil refers to as the 'gender role socialization process'. The emphasis of almost all of the research in this area is the GRC of cisgender males. One of the early influential papers regarding the restrictiveness of the male gender role was O'Neil's (1981a) article, which described 40 patterns of gender

role conflict which males are taught during gender role socialisation. According to O'Neil (1981a) GRC is best conceptualised in the context of early gender role socialization. This occurs between 18 months and 3 years when infants become aware of their own gender identity and the gendered behaviours of those around them (Newman & Newman, 2017). Children of this age also demonstrate a preference for gender-stereotyped toys (e.g., boys play with cars, girls play with dolls) (Zosuls et al., 2009) and gendered preferences for play-types (e.g., boys play rough, girls play cooperatively) (Miller, Trautner, & Ruble, 2006). However, research has also demonstrated that in preschool settings, the beliefs and perceptions of gender stereotypes of the educators' influence that of the children in their care, which contributes to the gendered separation of play preferences (Chapman, 2016). Additionally, Kollmayer et. al. (2018) demonstrated that parents preferred their child to play with same-gender-typed toys or gender-neutral toys as opposed to cross-gender toys, which in turn diminished their play repertoire and limited the development of varied cognitive skills.

Gender-role socialisation can be a dangerous concept for those who do not, or cannot, adhere to the gender binary. Conformity to gender roles is enforced throughout society in Western cultures, at all stages of life, which sometimes means that when children express gender non-conformity their parents and families attempt to force that child's gender role to align with their sex assigned at birth (Stieglitz, 2010). In one of the few studies regarding gender socialisation of transgender individuals Dietert and Dentice (2013) explored the early socialisation experiences of 37 transgender individuals and concluded that when participants failed to enact normative gender roles and expression they were confronted with numerous challenges by their family, peers, and schools. These challenges included demands for conformity, harassment and even violence.

GRC is operationally defined over four psychological domains. These are the *cognitive* domain which refers to thoughts and questions one has about gender roles. For example, simply

thinking that one does not meet society's strict standards of masculinity can cause GRC. Next, there is the *affective* domain, which pertains to the emotions felt about gender roles; in this case, negative emotions can result in GRC. There is also the *unconscious* aspect which covers how gender roles affect one's actions beyond one's own awareness. For example, O'Neil (2015) claims that early pioneers of psychoanalysis, such as Freud and Jung, were discussing GRC in the context of the individual's unconscious conflict with gender roles as manifested through their unconscious actions and what they have said. There is then the *behavioural* domain which refers to how one acts and interacts with others due to gender roles, specifically behaviours and interactions that produce negative intra- and inter-personal problems (O'Neil, 2008). GRC is also defined over numerous situational contexts, for example, one could experience GRC in the context of a gender-role transition, such as becoming a father, or when a man deviates from gender-role norms such as wearing make-up.
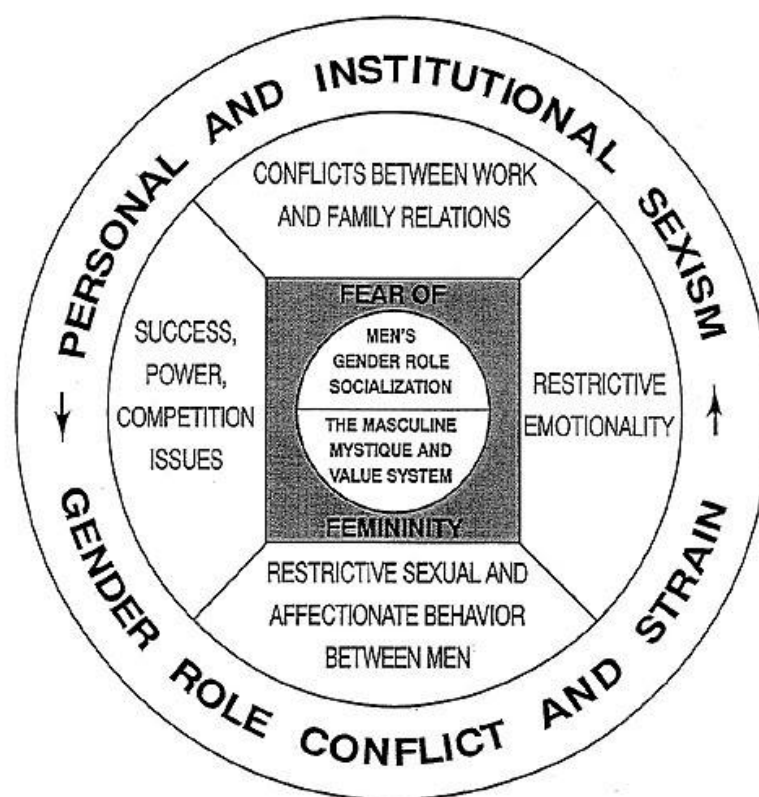
Figure 2.2. A visual depiction of the major concepts included in the GRC paradigm

To help illustrate the major concepts included within the GRC paradigm and how these concepts connect to the four empirically derived patterns within the Gender Role Conflict Scale (GRCS) refer to figure 2.2. O'Neil (1981a) listed 40 patterns of male GRC which are linked to male gender role socialization. These include limited emotional intimacy among men, difficulties in interpersonal communication, and experiencing work-related burn-out and fatigue which can result in serious threats to one's health. Similarly, Levant and Richmond's (2008) review of research on masculinity ideologies indicated that endorsing restrictive masculine norms was significantly correlated with interpersonal conflict and psychological problems such as depression and increased stress. The male socialisation and masculine norms which are core ideas of GRC are both conceptually related to a rejection of all that is perceived as feminine (e.g., homosexuality).

Figure 2.2 also demonstrates the four empirically derived patterns of GRC, as measured by the Gender Role Conflict Scale (O'Neil et al., 1986). These include restrictive emotionality (RE); restrictive affectionate behaviour between men (RABBM); success, power, and competition issues (SPC); and conflicts between work and family relations (CBWFR) (O'Neil, 2013). RE is defined as experiencing difficulties and fears regarding expressing emotion, as well as struggling to find the words to express basic emotions. RABBM is defined as having difficulties discussing one's own feelings and thoughts with other men. SPC represents personal beliefs, thoughts, and attitudes about achieving success through means of competition and gaining power. CBWFR describes the conflict of attempting to balance work and home life. Over 85 psychological problems have been correlated with men's GRC which include depression, anxiety, stress, and addiction/substance use (O'Neil, 2013).

Important critiques have been made by various authors regarding the GRC model and the GRCS. Numerous authors (Good et al., 2004; Tokar et al., 2000) have concluded that the GRC model is too simplistic, and a more complex and robust model is necessary to capture the lived experiences of GRC. In addition to this, the GRC research programme has been criticised for lacking empirical studies which assess GRC longitudinally, these would provide GRC researchers with much-needed information regarding the development and maintenance of GRC over time. Furthermore, multiple authors (Jome & Tokar, 1997; Tokar et al., 2000; Walker et al., 2000) have expressed concerns regarding the validity of the CBWFR domain within the GRC model, specifically stating that the low correlations between this factor and measures of masculinity indicate that it may not be theoretically connected to the male gender role. O'Neil (2008) addresses some of these concerns, stating that the CBWFR domain has been empirically linked to increased stress, shame, and anxiety in men; however, he also states that predictive and discriminate validity studies are recommended to assess whether the CBWFR sub-scale truly measures men's experiences of GRC.

2.4.2. GRC, Behaviour, and Psychological Distress

Male GRC has been repeatedly linked to the experience of psychological distress such as struggling with social interactions and personal relationships, mental illnesses such as depression or anxiety, aggression, and a reduced likelihood of seeking help for these issues. Research utilising various groups of men have indicated that all four domains of GRC correlate with increased depression (Good & Mintz, 1990; Yang, 2015); anxiety (Sharpe & Heppner, 1991); sexual and physical aggression (Schwartz et al., 2005; Cohn & Zeichner, 2006); and homophobia (Kassing et al., 2005; McDermott et al., 2014). Furthermore, all four domains of male GRC correlate with decreased help-seeking attitudes and behaviours (Good & Wood,

1995; Vogel et al., 2014); self-esteem (Mahalik, et al., 2001; Schartz et al., 2005); and marital satisfaction (Campbell & Snow, 1992).

Wester et al.'s (2007) study into male GRC, psychological distress, and social support demonstrated that social support acts as a mediator between both RE and RABBM. This result suggests that men who score highly in these domains have decreased levels of social support. Furthermore, social support acted as a moderator only between RABBM and psychological distress; this demonstrates that the nature and severity of psychological distress was dependent on the man's social support network. Overall, these findings suggest that social support plays an important role in reducing the negative effects of male GRC, particularly in the context of RE and RABBM. However, it should be noted that the sample used in the study was mainly white (89%) and only consisted of young university students. In a similar study, Osbourne (2004) found that perceived available social support partially mediated the effect between male GRC and psychological help-seeking; this indicated that men with high GRC *and* high perceived social support experienced more willingness to seek and accept psychological help. These studies illustrate that social support plays an important role in reducing the negative psychological effects of male GRC. However, it is clear that further studies are needed, with more diverse samples, to fully comprehend the function of social support in relation to male GRC.

According to O'Neil (2013) addiction and substance abuse in the context of male GRC is classified as one of the various negative outcomes that are associated with GRC. Eleven studies have investigated the connection between male GRC and substance abuse – seven of them found statistically significant associations (O'Neil, 2008). Peterson (1999) suggests that high GRC is a risk-factor for certain addictive behaviours, including smoking cigarettes; however, Sloan et al.'s (2015) study into masculinities and health behaviours found no significant link between masculinities and smoking. In Blazina and Watkin's (1996) study into

male university students' substance use, psychological well-being and help-seeking attitudes, a significant correlation between the SPC factor and increased alcohol intake was noted. Furthermore, a significant correlation between RE and negative attitudes towards help-seeking was also found. Additionally, Monk and Ricciardelli (2003) demonstrated that higher scores on the RE dimension predicted increased alcohol and cannabis use in adolescent boys. These findings suggested that male GRC is connected to increased addiction and substance use. However, the majority of these studies were based solely on university students, and it is therefore hard to apply these findings to the general population.

2.4.3. GRC and Personality

Eleven studies have been conducted in the area of GRC and personality (O'Neil, 2008). Overall, these studies indicated that male GRC is significantly correlated to personality, though it has been linked to both positive and negative personality attributes and styles. Cortese's (2004) research into GRC, personality style and help-seeking revealed that high GRC was associated with an "introversive personality style" whereas low GRC was linked to a "sociable personality style" indicating that high GRC results in unfavourable intra-personal outcomes, and potentially, worse social skills. Furthermore, Chamberlin's (1993) study into GRC, leadership, and personality attributes found that high GRC significantly correlates with an authoritarian personality style, which fosters poor leadership. However, GRC has also been significantly correlated to personality styles of neuroticism, openness, and agreeableness (Fischer, 2007), which indicates that GRC is not only related to negative attributes of men's personality but also positive attributes.

Five of the eleven studies into GRC and personality have focused on the five-factor model of personality (Tokar et al., 2000; Kratzner, 2003; Serna, 2004; Sipes, 2005; Fischer,

2007). In two of the five studies, personality was indicated as a mediator variable between GRC and parental relationship quality (Fischer, 2007) and counselling-related variables (Tokar et al. 2000). The research into GRC and personality is limited and while the majority of studies indicate a link between GRC and personality, the nature of this relationship is still unclear.

2.4.4. GRC, LGB Health, and Trans Lives

GRC has been explored in numerous studies with gay and bisexual men and women; however, there has only been one paper concerning transgender women, and none regarding transgender men. One early study conducted by Simonsen et al. (2000) examined GRC and psychological distress in gay men and found that male GRC was significantly negatively correlated with psychological well-being. In particular, men who scored lower in the RABBM domain reported fewer symptoms of depression, anxiety, and anger. This study suggests that GRC is a concept that is not exclusive to heterosexual males. Findings of another paper exploring GRC in relation to gay men indicated that high GRC is most strongly associated with 'masculine' gay men rather than 'feminine' or 'androgynous' gay men (Choi et al., 2011). Further, gay men in this study who scored highly in the SPC domain also scored highly in the negative aspect of masculinity, indicating that the more 'traditional' or stereotypically masculine gay men encountered struggles due to being highly competitive and striving for power.

Wester et al. (2010) applied a GRC theoretical perspective to transgender women's lived experiences of transitioning, specifically in a counselling context. The authors claimed that counselling for trans women based on GRC theory is uniquely appropriate as it addresses the conflicts that arise between situational demands of transitioning and male gender-role socialisation. In this paper, GRC theory is applied to Lev's (2004) theory of the transition

process which includes non-linear developmental 'stages': awareness, seeking information, exploration, disclosure, and integration. Wester et al. (2010) hypothesized that different GRC domains will become problematic throughout the transition process. For example, they suggest that, for trans women in the awareness stage, the most common patterns of GRC will be in the domains of RE and RABBM. Whereas for trans women in the later stage of disclosure, SPC and CBWFR may be the more problematic domains, as the individual's public identity shifts from male to female, and successful career achievement in the context of family relations becomes salient. Research into GRC and the LGBT population is vast, and still growing, however, a glaring limitation is the lack of empirical studies including transgender individuals; to date there has been none.

2.5. Quality of Life

2.5.1. The Concept of Quality of Life

The concept of quality of life (QoL) has historically been difficult to define and can be conceptualised in multiple ways. It is generally agreed upon that QoL is a multidimensional concept which is informed by cultural, social, and environmental contexts (Felce & Perry, 1995). For example, the subjective experience of QoL can vary within different patient groups (e.g., severe mental illness, chronic health conditions, cancer, etc.) in addition to differing between healthy populations and those with health-related conditions (Karimi & Brazier, 2016). The World Health Organisation (WHO) have developed one of the most popular and widely used measures of QoL (WHOQOL) which measures QoL over four domains: (1) physical health; (2) psychological health; (3) social relationships; and (4) environment. They define QoL as "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns" (WHOQOL Group, 1997, p.1). In this project, QoL is based on the WHO definition

of QoL and is defined as an individual's perception of their own health, wellbeing, resources, safety, and ability to participate in or enjoy life events, in the context of their own culture and value systems and in relation to their goals, expectations, standards, and concerns.

2.5.2. The Quality of Life of Transgender People

Numerous studies on the quality of life of transgender people have consistently found that transgender people have lower quality of life, independent of the domain investigated, when compared to the general population (Bockting et al., 2016). A recent systematic review and meta-analysis of the QoL of treatment seeking transgender adults (Nobili et al., 2018) revealed that transgender people reported significantly lower QoL than cisgender people, particularly in the domain of mental health. However, participants on hormone-replacement therapy (HRT) and who had received any type of gender-affirming surgery reported higher QoL scores than those who had not yet received any transition-related medical interventions. The possibility that transition-related treatment is associated with improvements in QoL is supported by longitudinal studies and further meta-analyses, which also suggest that transition-related treatment is associated with lower depression and anxiety among the transgender population (Manieri et al., 2014; Baker et al., 2021). It is difficult to understand the changes to an individual's QoL as they progress through transition-related treatment because very few of the studies included in the meta-analyses assessed individuals prior to the commencement of any transition-related treatment. Furthermore, all of these studies are focused on the QoL of treatment-seeking individuals and there is a lack of research regarding transgender people who cannot, or do not want to, seek transition-related treatment.

As previously stated in the *'Gender Minority Stress and Resilience'* section, GMS is associated with psychological distress, which in turn impacts an individual's QoL.

Surprisingly, QoL and GMS is an under-studied area of research in transgender health, however, while the use of the complete GMSR model in empirical research is lacking, some studies have explored various aspects of GMS in relation to QoL. Başar et al. (2016) investigated how perceived discrimination can impact the QoL of transgender individuals. This study revealed that perceived discrimination was significantly associated with worse QoL in the social and environmental domains of the WHOQOL. Additionally, trans men reported worse psychological QoL than trans women, though this was not significantly associated with perceived discrimination. Furthermore, a narrative review of discrimination and resilience in transgender people indicated that resilience, in the form of strong social support and enhanced coping skills, can improve the quality of life of transgender people (McCann & Brown, 2017).

2.5.3. Quality of Life, Health, and Substance Use

When considering aspects which influence quality of life, psychological and physical health are among the most frequently studied factors. Downing and Przedworski (2018) examined the health of transgender adults in the US and report that compared with cisgender men, trans men had higher odds of having a diagnosis of arthritis and multiple chronic conditions, and compared to cisgender women and cisgender men, they also had higher odds of having diagnosed depression. Additionally, in one study which examined health, disability, and QoL in Swedish transgender adults, over half of the participants in the study self-reported having a disability, and previous negative healthcare experiences were associated with poor self-rated health and lower QoL (Zeluf et al., 2016). Furthermore, the authors report that illicit drug use was also associated with worse self-rated health and lower QoL.

There is a lack of research into QoL in transgender adults who have a SUD. However, studies which have explored the relationship between QoL and substance use in cisgender

adults have reported that unhealthy alcohol use has a negative impact on health-related QoL (Tiffany et al., 2012). Despite this, further research has revealed that other correlates of poor QoL such as mental wellbeing and social support have more influence on QoL than SUD-specific factors, such as type of substance used or frequency of use (Muller et al., 2016). These contradictory findings reveal that the impact of substance use on QoL is complex, and it is difficult to extend these results to apply to transgender adults. Previous research has demonstrated that factors such as negative experiences of healthcare and perceived discrimination are associated with worse QoL, and QoL often increases as transgender people access more transition-related healthcare. So, taking into consideration Muller et al.'s (2016) research, it is likely that factors such as these are more influential than SUD-specific factors in how one rates their QoL. Therefore, further research is necessary to delineate the contributions of each of these factors in the overall QoL of transgender adults.

2.6. Mental Health and Psychopathological Symptoms

2.6.1. Mental Health in the Trans Community

It is well documented that the transgender community often report increased psychological distress and it is generally accepted that the higher rates of mental health issues in this community are largely due to gender minority stress (Valentine & Shipherd, 2018). This disparity in mental health and psychological wellbeing between transgender and cisgender populations is further exacerbated by barriers to healthcare which are typically experienced by the transgender community (Wright et al., 2021). Furthermore, transgender people also experience inequality in other areas of life which are established as contributing to poorer mental and physical health. For example, the LGBT in Britain: Trans Report (Stonewall, 2018) found that 51% of trans employees hide their transgender identity at work out of fear of

discrimination, 41% of transgender people had experienced a hate crime, and 25% had experienced homelessness.

Some of the most frequently researched health outcomes in the transgender community are depression, anxiety, and suicidality. One study (Witcomb et al., 2018) which examined depression in transgender people found that individuals who desired transition-related medical interventions, but had not yet received any, were four times more likely to have depression in comparison to a cisgender control group. However, the prevalence of depression decreased in transgender individuals who had accessed medical interventions such as HRT. This is a consistent finding in the literature; however, there is a lack of research which includes transgender people who do not wish to have any medical interventions, or which focuses on non-binary individuals. Suicidality in the transgender population has been described as a "public health crisis" (Dickey & Budge, 2020); among marginalised groups, transgender people report one of the highest rates of suicide attempts and it has been estimated to be between 30% and 81% (Narang et al., 2018). One study (Lefevor et al., 2019) found significant differences between transgender and cisgender participants in current suicidal ideation (57% trans, 36% cis women, 37% cis men) and lifetime suicide attempts (45% trans, 21% cis women, 13% cis men). This study drew from a sample of university students; therefore, it is not clear how suicidal behaviour might affect older transgender people, or those who cannot access higher education.

An important factor which relates to increased psychopathological symptoms is the greater prevalence of non-suicidal self-injury (NSSI) in transgender people compared to cisgender people. NSSI is defined as direct and intentional injury to one's own body, in the absence of suicidal intent (Nock & Prinstein, 2004). According to a recent systematic review (Cipriano et al., 2019), some common functions of NSSI are to regulate negative emotions, or to inflict self-punishment. In relation to transgender individuals, Claes et al. (2015) explored

the prevalence of NSSI and its associations with psychopathological symptoms. This study revealed that although psychopathological symptoms were increased in trans women when compared to trans men, NSSI was still more frequent among trans men, with 57.7% of the trans men in this study reporting a history of NSSI compared to 26.2% of trans women. Furthermore, individuals who reported engaging in NSSI had significantly higher scores in all psychopathological symptoms than participants without NSSI.

It is important to understand the prevalence and characteristics of psychiatric and neurodevelopmental diagnoses in the transgender population. One large cross-sectional study combined samples of five datasets of non-clinical cohorts (overall, this included 641,860 cisgender and transgender individuals) to investigate rates of neurodevelopmental and psychiatric diagnoses, by comparing the transgender sample to the cisgender sample (Warrier et al., 2020). This study revealed that across all datasets, transgender individuals were 3.03 to 6.36 times more likely to have a diagnosis of autism spectrum disorder (ASD). In addition to this, the transgender sample scored significantly higher than the cisgender sample on traits of ASD, such as sensory sensitivity and lower empathy, and the transgender sample were more likely to report that they suspected they had undiagnosed ASD and other psychiatric diagnoses, compared to the cisgender sample.

It should be noted that the measurement of empathy used in Warrier et al.'s paper rests on shaky theoretical foundations; the Empathy Quotient (EQ; Lawrence et al., 2004) was developed from Baron-Cohen's controversial 'extreme male brain' theory. Briefly, this theory argues that because males score lower on measures of empathy and higher on measures of systemising (i.e., a tendency to be analytical and to easily recognise patterns), similar to the cognitive features of ASD, that individuals with ASD have an 'extreme male brain' regardless of the gender or sex of the individual (Baron-Cohen & Hammer, 1997). Not only does this theory uphold a biologically essentialist view of gender and behaviour, but it also ignores the

evidence that historically, women have been systematically underdiagnosed with ASD, and often present with a different clinical symptomatology in comparison to men (Perrykkad & Hohwy, 2019). Therefore, measures of ASD traits which are frequently used (such as the EQ) have been designed and validated to fit with stereotypically male presentations of ASD, and as such, inherently support the 'extreme male brain' theory. It is clear how this biological essentialism in the measurement of autistic traits could be complicated for transgender individuals and calls into question the validity of these measures when used in such samples.

Cross-sectional studies of existing databases have revealed the increased frequency of psychiatric diagnoses in transgender individuals. Wanta et al. (2019) explored the prevalence of psychiatric diagnoses in a sample of 10,270 transgender patients in the US healthcare system. Compared to cisgender patients (n = 53,499,400), the transgender sample had increased prevalence of all psychiatric diagnoses which were investigated (including mood disorders, anxiety disorders, eating disorders, personality disorders, and substance use disorders, among others). Approximately 58% of all transgender patients had at least one DSM-5 diagnosis, compared to 13.6% of cisgender patients. Furthermore, 10% of transgender patients had a SUD, compared to just 2.6% of the cisgender sample. The authors note that prevalence of diagnoses in the sample of transgender patients may be inflated, due to the necessity of a psychiatric assessment before starting any transition-related medical interventions. These studies demonstrate the importance of understanding transgender mental health in order to improve mental health outcomes and support transgender people throughout their lives.

Studies into characteristics of people diagnosed with a SUD have demonstrated that comorbid mental health difficulties are frequent (Alsuhaibani et al., 2021); when substance use and psychiatric disorders present together this is commonly termed 'multimorbidity' (Bhalla & Rosenheck, 2018). There is a lack of research into multimorbidity in transgender individuals -- what does exist typically focuses on the impact of human immunodeficiency virus (HIV) in

this population. One study (Rich, 2021) which does include both transgender people with and without HIV, highlights that transgender people overall have higher prevalence of chronic physical and mental health conditions, including SUD, and this rate is increased for transgender people living with HIV. The co-existence of a SUD and a psychiatric diagnosis is an important factor when assessing an individual and planning interventions; these disorders often mutually exacerbate one another and the interaction between the two dictates treatment options. This can be further complicated when an individual is transgender because healthcare services often lack cultural competency. This can include ignorance of transgender-specific risk factors and treatment facilities being segregated by gender and being inherently cis/heteronormative.

2.7. Personality

2.7.1. Personality – An Overview

Personality psychology aims to investigate individual differences and similarities between people, which are thought to be patterns of cognition, behaviours, and motivations which can influence how an individual relates to others (Corr & Matthews, 2009). Allport (1937) described two major approaches to investigating personality: the nomothetic (general principles and traits which can be applied to most people and can be measured or categorised), and the idiographic (a focus on the unique aspects of an individual as a whole which cannot be suitably measured or compared). Historically these approaches have been conceptualised as an oppositional dyad, however more recently they are beginning to be thought of as complementary and interdependent approaches which can be used together to better understand both individual differences and similarities between people (Salvatore & Valsiner, 2010).

2.7.2. Understanding the Temperament and Character Model of Personality

Currently, the five-factor model dominates the field of research into personality (Aluja & Blanch, 2011). This can be measured by the Big Five Inventory (BFI; John et al., 1991), among others. The five-factor model consists of: Neuroticism, Extraversion, Conscientiousness, Agreeableness, and Openness (John et al., 1991). However, this approach is criticised due to the ambiguous nature of the descriptions of traits and because there may exist social bias in the description of words such as 'neuroticism' (negative bias) and 'extraversion' (positive bias) (Trofimova, 2014).

Differing from the five-factor model, which offers no underlying biological or causative aspects to personality traits, Cloninger (1986) proposed a unified psychobiological model of personality based on two components which represent traits associated with biology (Temperament) and traits related to learning and culture (Character). Cloninger proposes that personality is a complex and dynamic expression of neurobiological mechanisms within an individual, which change and develop over time as adaptive processes and situational interactions inform components of personality (for more detail on this see Cloninger, 2015). Within this Temperament and Character model, Cloninger et al. (1993) proposed various dimensions which constitute Temperament and Character in order to measure personality traits. Within the third iteration of the Temperament and Character Inventory (TCI-R; Cloninger et al., 1999), there are four multi-faceted dimensions of Temperament and three multi-faceted dimensions of Character which I will now cover briefly[2].

The Temperament dimensions include Novelty Seeking (NS), which is defined as impulsive exploratory activity in response to novel stimulation and efforts to avoid

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[2] A discussion of the full complexities of the genetic and psychobiological foundations of Temperament and its relationship to aspects of Character is beyond the scope of the current literature review, for more information please see Cloninger et al., 2019.

frustration. It is thought to be associated with dopaminergic activity, specifically the D4 dopamine receptor gene (D4DR; Ebstein et al., 1996). Harm Avoidance (HA) is characterised by excessive worry and fear, and the tendency to avoid potentially aversive stimuli. It is thought to be associated with high serotonergic activity (Koller et al., 2008). Reward Dependence (RD) is characterised by a strong tendency to sustain behaviour in response to signals of reward, such as social approval. It is thought to be related to noradrenergic activity, specifically, low norepinephrine (Ham et al., 2005). Persistence (PS) is defined as the tendency to persevere despite fatigue and frustration. It has been associated with increased blood flow in the ventral striatum, anterior cingulate cortex, and orbitofrontal cortex, which relate to behavioural persistence despite frustrative non-reward (Gusnard et al., 2003).

The Character dimensions are proposed to be rooted in one's culture and informed by social and personal experiences (Cloninger et al., 1993). The Character dimensions are: Self-Directedness (SD), which refers to an individual's ability to adapt behaviour and regulate oneself according to the needs of a situation. Cooperativeness (CO), which is defined as one's ability to identify with and accept other people. Finally, Self-Transcendence (ST) is defined as conceptualising oneself, the world and everything in it as interrelated parts of a unitive whole.

2.7.3. Personality and Transmasculinity

The TCI is a well-suited instrument to examine personality traits in both nonclinical and clinical populations (Cloninger, 2015) and has been utilised to explore differences between genders (typically men vs. women) and cross-culturally (Brändström et al., 2001). Furthermore, the TCI has consistently been used to investigate the relationship between personality traits and various mental health conditions (Joyce et al., 2003; Pelissolo et al.,

2015). Therefore, it seems uniquely situated to examine personality traits in transgender people.

One of the first studies to examine personality traits in transgender people using the TCI was conducted by Gomez-Gil et al. (2013) and focused on profiling and comparing the personality traits of transgender people to cisgender people. This study found that the personality profile of transgender individuals was more similar to that of others who shared their gender identity, rather than that of others who shared their sex assigned at birth (i.e., trans men were more similar to cis men than cis women). Additionally, this study reported that transgender participants scored lower than cisgender participants in RD and CO, suggesting that the transgender individuals in this sample were more independent and more self-concerned than the cisgender sample. The authors speculate that these differences might be indicative of the impact of the disproportionate personal and social difficulties that the transgender community faces. This implies a connection between GMS and personality traits, though GMS is not directly discussed by the authors.

A similar study which aimed to compare personality profiles of Japanese trans men and trans women to Japanese cis men and cis women (Miyajima et al., 2014) has reported differing results from that of Gomez-Gil et al.'s (2013) research. Miyajima et al.'s research found that trans men had higher RD than cis men, which is the opposite finding to that of Gomez-Gil et al., perhaps indicating different personality profiles in Eastern and Western populations. Miyajima et al.'s research also indicated that that CO was higher, and ST was lower in the trans male sample, the authors argue that these results together potentially indicate better social functioning and lower psychopathological symptoms for transgender men, in comparison to transgender women.

These studies demonstrate differences in personality traits between trans individuals and cis individuals, in addition to between trans men and trans women. However, as these studies have employed cross-sectional designs it is unclear whether these differences exist prior to medical transition or develop during/after medical transition. One study which explored the effect of testosterone therapy on the personality traits of trans men did use a longitudinal design to assess these differences (Metzger & Boettger, 2019). This research used the five-factor model of personality, as opposed to the psychobiological model which was used in the previous studies presented in this section. However, a comparison study demonstrated that all of the TCI dimensions are significantly related to dimensions within the five-factor model. For example, HA is positively associated with neuroticism, CO is positively associated with agreeableness, and NS is positively associated with extraversion and openness to experience (De Fruyt et al., 2000). Metzger & Boettger (2019) demonstrated that during the first three months of testosterone therapy, trans men showed a decrease in neuroticism and an increase in extraversion and agreeableness in comparison to controls, and this difference persisted after six months of treatment. The authors suggest that testosterone therapy in trans men impacts personality traits, and also increases psychological wellbeing and social functioning.

2.7.4. Personality and Substance Use

It is generally agreed that one aspect that might influence the development and maintenance of a SUD is personality, and in particular, the psychobiological predisposition to develop a problematic relationship with substances (Kotov et al., 2010). It is for this reason that the TCI has often been used to explore the relationship between personality traits and different types of SUD. One study examined the predictive utility of the TCI for SUD

diagnoses in a cross-sectional and longitudinal design (Sher et al., 2000). The results of this study indicated that the NS dimension was the most significant element of the TCI in predicting tobacco use and drug use disorders over a seven-year period, however it did not reliably predict alcohol use disorders. That the NS dimension is substantially related to substance use, particularly illicit drug use, is a finding that has been replicated over numerous studies and is suggested to be a causal factor in the development of SUD (Foulds et al., 2017; Hashemi et al., 2019).

Sher at al.'s research raises some interesting questions about potential differences between personality profiles of individuals who use different substances, for example, why might some people use alcohol rather than illicit substances, and *vice versa*, and can this be explained by personality differences? One study which explored the differences in personality traits between people with heroin dependence, alcohol dependence, and a control group (Le Bon et al., 2004). In this study, the heroin-use group had significantly higher NS, especially exploratory excitability, in comparison to the alcohol-use group and the control group. Additionally, HA was higher in both substance use groups compared to the controls, but the alcohol-use group showed significantly more fear of uncertainty and anticipatory worry than the heroin-use group. However, this study is limited in its conclusions as the alcohol-use group took the TCI test up to 3 weeks after detoxification, whereas the heroin-use group were still actively using heroin. Therefore, there may be differences between active alcohol dependent people and people like those in Le Bon et al.'s study who had gone through a detoxification programme. Furthermore, there is a lack of literature which explores differences between treatment-seeking individuals with SUD and those who are not seeking treatment or presenting to detoxification/rehabilitation services.

2.7.5. *Personality and Mental Health*

Cloninger (2006) has argued that overall psychological wellbeing is largely dependent on dimensions of Character which are essential for enhancing overall wellbeing and perceiving oneself as 'happy'. Some studies have supported this hypothesis; Cloninger and Zohar (2011) report that SD was strongly associated with all aspects of wellbeing (such as good health, social support, and happiness). Additionally, they reported that personality traits could account for almost half of the variance in self-reported levels of happiness in this sample.

The psychobiological model has often been used to explore impulsivity-related disorders such as sex addiction and gambling disorders (Farre et al., 2015), bipolar disorder (Harley et al., 2011) and ADHD (Perroud et al., 2016). One study (del Pino-Gutierrez et al., 2017) aimed to explore the personality profile of three groups of diagnoses (SUD, gambling disorder, and bulimia nervosa) and two groups of dual diagnosis (gambling disorder + SUD and bulimia nervosa + SUD). The results of this study indicate that NS was significantly associated with all diagnosis groups and was most strongly related to both of the dual diagnosis groups. Additionally, high scores on ST were most strongly related to a diagnosis of SUD, followed by associations with both dual diagnosis groups. This research supports previous studies which consistently indicate that NS and ST are strongly associated with SUD (Kotov et al., 2010; Foulds et al., 2017; Hashemi et al., 2019).

One particular strength of the psychobiological model of the TCI is that it demonstrates good predictive validity of the diagnosis of personality disorders (Dell'Orco et al., 2018), and has often been used to explore the personality profiles of individuals with various personality disorders. However, although the TCI has often been used to identify potential personality disorders, it frequently is unable to differentiate between disorders. A

recent study (Paolini, 2016) found that personality disorders were most consistently identified by SD (described in this study as 'impairment of the self') and CO (described in this study as 'impairment of interpersonal functioning'). In both of these studies, however, they were unable to differentiate between personality disorders, lending credibility to the earlier suggestion that the TCI is unable to specify a particular personality disorder even though it can correctly identify the existence of one. Though it should be noted that the categorical, descriptive approach to personality disorder diagnosis (and the practice of medical diagnosis a whole within psychology) has often been criticised for not being sufficiently empirically grounded (Herpetz et al., 2017) and for pathologizing normal variations of human behaviour, emotion, and functioning (Ratnayake, 2022).

Though there is a scarcity of information about identification of psychiatric symptoms and personality disorders using the TCI in transgender people, there are some studies which indicate that Cluster B personality disorders (antisocial, emotionally unstable/borderline, histrionic, and narcissistic) are the most frequently diagnosed in this population (Madeddu et al., 2009). The consideration of personality disorders in the transgender community is of high importance because SUD are prevalent in both personality disorder populations and transgender populations (Grant et al., 2011). There is a potentially increased risk that transgender people may struggle with a SUD and might present to medical services with dual diagnosis of personality disorder and SUD. Therefore, it is of utmost importance that a gender-affirming framework considers the impact of gender minority stress when assessing transgender individuals for personality disorders (Goldhammer et al., 2019).

2.8. Summary and Conclusion

This chapter has provided an overview of the most important literature that relates to SUD in the transgender community. In particular, this chapter has highlighted the lack of research into transgender substance use. A review of the literature within this chapter has emphasised the importance of using the gender minority stress framework when considering issues which affect the transgender community, particularly in relation to psychopathological symptoms.

It has been demonstrated that transmasculine individuals face unique stressors in their lives, such as experiences of gender minority stress and issues surrounding masculinities, and in particular, how this community faces unique struggles with SUD and faces many barriers when attempting to access healthcare for SUD, mental health, or physical health.

This chapter has explored how various factors such as quality of life, psychopathological symptoms, gender minority stress, gender role conflict, and personality traits may all relate to substance use in transmasculine individuals. However, to date no study has included all of these factors in one research project, and no studies at all have focused on GRC in transmasculine individuals.

3. Method

3.1. Research Design

This study uses a mixed-methods approach; this design incorporates quantitative and qualitative data collection, analysis, and reporting of results. A mixed-methods design was chosen to capture the intricacies and complexities of understanding the nature of substance use in the transmasculine community. Qualitative analysis is focused on understanding phenomena from the perspective of the participants; where quantitative analysis focuses on measurable facets of the phenomenon studied, qualitative approaches focus on lived experiences and meaning-making of the participants as it relates to the phenomenon (Hayes, 2013). Within a mixed-methods design, quantitative and qualitative approaches can be considered complementary, and each can build on the overall understanding of the studied phenomenon and allow for a more complete and holistic analysis.

This study adopts an explanatory, sequential mixed-methods, and longitudinal design. Within an explanatory, sequential design quantitative measures are employed first to gather initial broad information about the sample. This design is well suited for this study as it enables qualitative analysis to explain significant or surprising results and allows a more in-depth analysis of substance use in this community. Additionally, by first exploring the quantitative characteristics of the sample, it was possible to use the data and information gathered to guide purposive sampling for the qualitative data collection and explore the experiences of those at low-risk and high-risk for substance use. In this study, equal emphasis was placed on the quantitative and qualitative components. The inherent strength of quantitative analysis is to be able to provide measurable change over time within the longitudinal analysis in this study and has an increased likelihood of generating generalisable results (Carr, 1994). On the other hand, qualitative research enables a deeper, idiographic understanding of the phenomenon from the perspective of the participant, as well as allowing

for participants to raise issues which might not have been included in a more rigid, quantitative design (Choy, 2014). Quantitative and qualitative data were integrated through an overarching narrative which involved writing-up and interpreting both quantitative and qualitative findings on a concept-by-concept basis.

3.2. Researcher position and Reflexivity

As a methodology, IPA seeks to interpret what participants say in order to make sense of lived experiences, and as such, researchers using IPA consequently adopt an 'insider perspective' to interpret how individuals make sense of their experiences (Shaw, 2010). By engaging reflexively with one's own preconceptions, biases, and beliefs throughout an experiential qualitative inquiry, the researcher is able to enter a double hermeneutic with rigour and clarity, conscious of their own preconceptions and perspectives as they arise and understanding how this may affect the interpretation and analysis of their results (Clancy, 2013).

On commencing this research project, I felt confident about my ability to understand the lives of transmasculine individuals. I occupy both an 'insider' and 'outsider' perspective; being a member of the transmasculine community I share an identity with my participants, however being a researcher, I knew I must take an observational, neutral position while exploring the very real and often distressing lives of my participants. My 'insider' position was, at first, extremely beneficial; I shared knowledge and language with participants which made communication easy, and I was often quick to build rapport. However, in collecting data I began to realise where my biases lay. Participants would sometimes say, in response to a question, something like "obviously the waiting times are long, it's difficult, you know how it is", and without question I would agree ('*yes, I know how it is, it's very frustrating and*

difficult'), and move on from this exchange in the belief that I had understood them and correctly interpreted what they had told me.

Through reflexivity, I began to identify areas of bias and assumptions that I was making. One of which was that I often presumed that I understood my participants' experiences easier because of my insider status. I had to adjust this assumption; I reflected on how each participant I had interviewed had different life experiences which had led them to the point of being interviewed by myself. They had different motivations not just for using/not using substances but also for wanting to take part in this project. By attempting to honestly acknowledge how my past experiences and identity as a trans man were influencing my assumptions about what my participants told me, I was able to address this in the data collection, and subsequent analysis. In the instances where I identified with what a participant disclosed, I took extra care to explore their entire interview and build up 'evidence' that supported my interpretation of a statement that previously I would have presumed to understand.

While working on building my reflexivity skills and acknowledging the dual position I inhabited of 'insider/outsider', I began to notice that where I disagreed with a participant's opinion, I was able to put my personal beliefs to one side and approach those statements with empathy and academic curiosity. In particular the interactions and analysis of one participant, Darren, highlighted my own biases, but also demonstrated my growing abilities to employ reflexivity during and after textual interpretation. Darren and myself built rapport while discussing our own histories of studying Psychology at university, and I think this initial development of rapport and mutual understanding aided in the conversation which happened soon after. Darren began a discussion about perceived rifts in the transmasculine community; namely the difference between those who believe you *must* have gender dysphoria to be trans, and those who think that gender dysphoria is *unnecessary* to identify as trans. Darren was in

the former group and his comments forced me to examine my own position as it related to this issue. One extract which was particularly impactful was his discussion of his own experiences of rejection from the trans community.

> *"D: trying to find a group where people are **actually** trans … trying to find that is really hard and it makes me feel really angry because I can't find a community that supports me being in it (...) they all get annoyed with me and are like "why can't you just believe in this?" and it's like because I just don't*
> *T: yeah you can't force yourself to change your beliefs*
> *D: yeah … like I'm born with this condition and that doesn't mean I have to have certain beliefs about things … and that's a big problem in this community is that you **have** to have a certain perspective otherwise you get very badly rejected and that makes everything to do with being trans even worse"*

This exchange with Darren forced me to face some uncomfortable truths that were becoming apparent in my research and challenged my perspective as an insider. This conversation made me reflect on how I, personally, had contributed to people feeling the way that Darren felt – rejected from his own community. At this point in the research the importance of trans community connections was becoming clear, and rejection from your own community, from the people who should understand you the most, was very obviously having a negative effect on Darren and people like him. My interview with Darren forced me to address biases I took for facts such as 'the trans community is accepting and inclusive' – that is not Darren's experience and responding with empathy and working to truly understand Darren's perspective in context of his lifeworld, I could see how the trans community at large had failed him.

This experience was integral to my development as a reflexive researcher; I brought forward the enhanced skills of reflection, empathy, and interpretation to my future interviews and was able to adopt a more gentle, self-interrogative approach to interpreting participants' experiences. It allowed me to see subtle hints that other participants had not found the acceptance they desired within the trans community, and I was able to respond and interpret these from my dual position of insider/outsider. I was able to bracket my assumptions while learning about the ways I may still hold biases and how to mitigate these in the analysis. I took extra care to centre the voice of *all* participants, no matter if I personally agreed or disagreed with their sentiment and was careful not to over-represent participants that I felt more connected with or with whom I shared commonalities.

My initial focus when writing this reflexive statement was about my shared identity with the participants of being transgender. However, another shared experience, which has been neglected in this section, is that of substance use. When I ask myself "why leave out my own experiences of substance use when that is the main focus of this research?", the answer is largely my own desire for professionalism. I wanted to appear to the participants as competent and trustworthy, but by avoiding discussions of my own experiences with substance use, the implication is that any experience with substance use and being competent or trustworthy are mutually exclusive, which is not my belief. Despite my hesitance to discuss my own experiences in this thesis, when my participants asked about my own history of substance use, I discussed it honestly, and it brought a level of trust and openness that enhanced the interviews. One conversation with a participant, Simon, demonstrates the impact on participants that researcher authenticity can have.

> *"S: Can I ask you, have you ever done anything like this [substance use] before?*
>
> *T: Yeah … when I was younger, yeah*

S: But you stopped?

T: Yeah, I did ... this was years ago like I said, but I did take steps to stop

*S: ah ... it gives me hope you've said that ... because then it makes me think that **I** can stop too"*

This exchange taught me that participants aren't necessarily looking for professionalism, they're often looking for honesty, understanding, and connection on a human level. It brought to the forefront of my mind the conflicting emotions that surround substance use, for both me and the participants, and offered me a deeper appreciation of the double hermeneutic inherent in IPA methodology.

I hope this personal reflexive journey has produced a more considered and empathetic interpretation of *all* of the collected data, along with an analysis with increased reliability and credibility due to the steps I took to actively engage with reflexivity and put into practice what I learned from my own reflexive accounts, and the experiences of participants.

3.3. Pilot study - Method

The aim of conducting a pilot study was first to understand the appropriate terminology regarding transgender and transmasculine individuals. Though I am myself transgender, it is crucial to use the language of the population sample and to not project prior assumptions of preferred language onto the community. The second aim was to investigate how the transgender community conceptualises the process of transition, to best operationalise this concept quantitatively within the main project (Transmasculine Experiences of Substance Use Project; TESUP). Ethical approval was granted for both the pilot study and the main study (TESUP) by the Faculty of Health Sciences Research Ethics Committee at the University of Hull (REF: FHS128). The pilot study was conducted in two

phases. The first phase involved three interviews with transgender men; this was to explore the area of study initially and to narrow down questions for the more limited context of a focus group. The second phase consisted of a focus group attended by nine transmasculine individuals.

3.3.1. Participants

Participants had to be 18 years or older, live in the UK, and be able to give full informed consent. They had to be assigned female at birth and no longer identify this way; most of the participants identified their gender as male, non-binary, or transmasculine. There were no exclusionary criteria relating to identification within a binary gender system, length, route, or destination of transition, or sexual orientation. The participants for the interviews were recruited from my personal Facebook account. Participants were made aware of the participation opportunity through a public Facebook post in a transmasculine-specific support group and were not contacted directly. The participants for the focus group were recruited from a trans-led voluntary organisation which coordinated a weekend retreat for transgender individuals. Participants were made aware of the participation opportunity through a leaflet that was given to all attendees of the retreat and were not contacted directly. All attendees were invited to attend the focus group with a limit of nine participants on a first-come first-served basis.

The total number of participants in the pilot study was 12. This consisted of three in the interview phase and nine in the focus group phase. All three of the participants in the pilot interviews identified as male and as white British. The ages of participants ranged from 24 to 27 (see Table 3.1). The individuals in the focus group identified their gender in a variety of ways, their ages ranged from 23 to 44 (see Table 3.2).

Table 3.1. *Pilot Study - Demographics of Interview Participants.*

Name	Age	Gender	Ethnicity	Sexuality	Annual income (£)	Education	Stage of transition
Romeo	25	Male	White British	Heterosexual	10,000	GCSE	Waiting for hormones
Charlie	24	Male	White British	Mostly straight	16,000	A-Level	On hormones, waiting for top surgery
Mike	27	Male	White British	Bisexual	10,000	A-level	On hormones, waiting for top surgery

Table 3.2. *Pilot Study - Focus Group Participant Demographics*

Name	Age	Gender	Ethnicity	Sexuality	Annual income (£)	Education	Stage of transition
Elliot	26	Non-binary	White British	Bisexual	N/A	BSc	Finished top surgery
Francis	44	Genderqueer	White	Straight	N/A	Post-grad	Testosterone
Greg	36	Non-binary	White British	Bisexual	N/A	MSc	Finished phalloplasty
Raj	23	Transmasculine	British	Queer	20,000	PGDip	Waiting for hormones
Paul	27	Non-binary, demi-boy	White British	Queer	0	N/A	Late-ish - hormones and top
Martin	N/A	N/A	N/A	N/A	N/A	Post-grad	I don't know how to answer this
Amit	24	Non-binary	Indian	N/A	10,000	University	Mid-transition
Terry	33	Male	Slavic	Queer	N/A	University	Phalloplasty
Alex	28	Non-binary	White British	Queer	20,000	A-Level	Testosterone, top surgery

3.3.2. Materials

A semi-structured interview schedule (SSIS) was created to align with the research aims of the pilot study. A SSIS was chosen in line with recommendations from Smith, Flowers, & Larkin (2009); it was designed to elicit detailed responses with open-ended, non-leading questions relating to the phenomenon being investigated. The focus of the interviews was on the process of transition in the UK for transmasculine individuals, in addition to language preferences in the community. The SSIS for the interviews (see Appendix A) consisted of eight discussion prompts which included questions such as "How would you describe your method of transition?" A separate SSIS was created for the focus group (see Appendix B) having been narrowed in focus and informed by the initial interviews. The SSIS

for the focus group consisted of questions such as "What role has medical care played in your transition?".

3.3.3. Procedure

Data Collection. For the interviews, a public post on my personal Facebook page briefly summarised the research and people were invited to send me a private message indicating their interest in taking part. Individuals who contacted me were provided with a copy of a Participant Information Sheet which outlined the aims of the research and what it would entail, in addition to possible risks, confidentiality agreements, and ethical considerations which were in place.

All three participants were interviewed in a private room in a library. The interviews lasted between 56 and 94 minutes and were audio recorded. I transcribed the interviews verbatim, and ensured they were fully anonymised. Participants were reminded that they were able to withdraw from the study at any point, without having to provide a reason. If they agreed to continue, they were asked to sign a consent form and fill out a demographic information sheet. Immediately following the interview, the participants were debriefed and were provided with further information regarding the study and contact details for the research team and external support agencies should they feel distressed or have any concerns. They were also given the opportunity to ask any questions they may have had.

For the focus group, I contacted a trans-led transgender support group and requested permission to attend a private retreat aimed at transgender and transmasculine individuals in the UK. The focus group was then advertised to attendees of the weekend retreat in the form of a leaflet, and they were requested to sign up as spaces were limited to nine. Individuals who were interested in taking part were provided with information sheets on their arrival

which outlined confidentiality agreements, ethical considerations, and the aims and process of the research.

The focus group was held in a private room that had been booked for the retreat. Participant information sheets were given out and each participant who wished to continue was asked to sign a consent form and fill out a demographic information sheet. The focus group lasted for 118 minutes. Following the focus group, the participants were given further information about the project in addition to being provided with contact information for the research team and for external support agencies. The participants were provided with time at the end of the focus group to ask any questions or raise any concerns about the project.

Data Analysis. Interpretative Phenomenological Analysis (IPA) was used to analyse the data. The analytic process was largely informed by published IPA guidelines (Smith et al., 2009) and peer-reviewed papers related to IPA in a focus-group context (Palmer, Larkin, de Visser, & Fadden, 2010; Tomkins & Eatough, 2010). IPA was chosen as an appropriate analytic framework for both the pilot interviews and focus group due to its suitability to conceptualise phenomenological experiences, particularly from a social constructionist background (Shinebourne, 2011).

In line with the idiographic nature of IPA, each interview was analysed in-depth and was re-read at least twice, then initial impressions were noted. Exploratory comments, indicating analytic commentary regarding descriptive content, language use, and more abstract, conceptual concepts were noted in a separate margin (Pietkiewicz and Smith, 2014). The next stage involved using post-it notes to indicate themes which emerged from both the transcript and the commentary. A list of emergent themes was then constructed in chronological order; this list was printed, and each emergent theme was cut out. After this, the emergent themes were moved around to generate clusters of related themes, named super-

ordinate themes. The final stage of analysis involved investigating connections across the three cases. This stage consisted of clustering super-ordinate themes to create overarching themes, according to their shared higher-order qualities, ultimately representing the most salient and interesting themes within the data set.

The focus group analysis necessitated a somewhat different approach; given the complex interactional context of focus groups they have not often been used within the IPA approach. While focus groups are inherently less phenomenological, as the experiential claims and concerns are embedded in the social and environmental interactions within the group setting, they have also been demonstrated to bring additional elements which add to the richness of the data (Palmer et al., 2010). In line with the IPA focus group framework outlined in Palmer, Larkin, de Visser, and Fadden's (2010) article the first round of analysis consisted of identifying experiential claims and concerns central to the transcript. I then went through the transcript once again for each stage of analysis in which I examined positionality (how both myself and the participants were approaching the questions posed); roles and relationships within the group, organisations and systems present in the lives of participants, use of stories and the language used by participants. I completed the analysis of the focus group data by following the framework for emergent and super-ordinate theme identification as laid out by Smith, Flower, and Larkin (2009).

3.4. Transmasculine Experiences of Substance Use Project

The main study of this thesis, named The Transmasculine Experiences of Substance Use Project (TESUP), aims to investigate the various factors which contribute to the development and maintenance of substance use (tobacco, alcohol, drugs) and substance use disorders in the transmasculine population. The factors investigated included stage of

transition, quality of life, male gender role conflict, gender minority stress and resilience,

psychopathological symptoms, and personality traits. This is a mixed-methods study which

adopted an explanatory, sequential design; quantitative data was first collected and analysed,

this then informed the qualitative data collection. It is also a longitudinal study; the same

measures were repeated by the same participants one year after completion of the original

questionnaire and interviews (See Figure 3.1). Henceforth, the first stage of quantitative and

qualitative analysis shall be called TESUP-1 and the second stage of quantitative and

qualitative analysis shall be called TESUP-2.

Phase 1 (TESUP-1)

QUAN data collection	QUAN data analysis	Identify results for QUAL follow-up	QUAL data collection	QUAL data analysis	QUAN + QUAL Interpretation

Phase 2 (TESUP-2)

QUAN data collection	QUAN data analysis	Contact prior participants for QUAL follow-	QUAL data collection	QUAL data analysis	QUAN + QUAL Interpretation

Longitudinal method

TESUP-1 + TESUP-2 Longitudinal Analysis and Interpretation

Figure 3.1. Explanatory, sequential mixed-methods, and longitudinal design model

3.4.1. Participants

In the first quantitative stage (Figure 3.1), 105 transgender individuals who identified as male, masculine, or non-binary were recruited to take part in an online questionnaire in November 2019. The ages of participants ranged from 18 to 52 years (M = 25, SD = 5.84) (see Table 3.3 for TESUP-1 demographic information; see Table 3.4 for TESUP-1 ages and substance use scores). Participants had to be living in the UK to take part. All participants received a £10 Amazon voucher on completion of the questionnaire. In the first qualitative stage (Figure 3.1), 13 participants were invited to take part from those who had completed the quantitative stage, these participants comprised 7 of the highest scoring and 6 of the lowest scoring on the measures of alcohol and drug use. For reference, the highest possible score on AUDIT is 40 points and on DUDIT is 44 points. The ages of participants ranged from 19 to 34 years (M = 25.62, SD = 5.347) (see Table 3.5 for qualitative TESUP-1 demographic information with substance use scores). Participants who took part in the interviews each received a £20 Amazon voucher.

Table 3.3. *Questionnaire demographic information in both TESUP-1 and TESUP-2 of the questionnaire. Count totals and percentages.*

	TESUP-1 (N = 105)		TESUP-2 (N = 82)	
	N	%	N	%
Gender Identity				
Binary (Male)	74	70.5	54	65.9
Non-binary	31	29.5	28	34.1
Race/Ethnicity				
White	98	93	75	91.5
Mixed Race	4	4	4	4.9
Black	3	3	2	2.4
Indian	1	1	1	1.2
Sexual Identity				
Bisexual	29	28	27	32.9
Queer	20	19	16	19.5
Heterosexual	17	16	6	7.3
Gay	16	15	19	23.2
Pansexual	9	9	4	4.9
Asexual	7	7	9	11
Other	6	6	1	2.1
Disability Status				
No disability	-	-	61	74.4
Disability	-	-	21	25.6
Employment				
Employed	66	62.9	56	68.3
Student	26	24.7	15	18.3
Unemployed	13	12.4	11	13.4
Education (Qualification Levels)				
No qualifications	1	1	1	1.2
Level 2 (GCSE)	13	12.4	6	7.3
Level 3 (A level)	20	19.1	15	18.3
Level 4 (CertHE/NVQ)	12	11.4	5	6.1
Level 5 (Foundation degree)	7	6.7	4	4.9
Level 6 (Degree with honours)	41	39	41	50
Level 7 (Postgraduate/MA/MSc)	11	10.4	10	12.2
Stage of Transition				
Pre-transition	4	3.8	2	2.4
Early transition	20	19	10	12.2
Mid-transition	41	39	32	39
Late transition	28	26.7	29	35.5
Post-transition	12	11.5	7	8.5
Current Tobacco Use				
Daily	12	11.4	10	12.2
Less than daily	33	31.4	33	40.2
None	60	57.1	39	47.6

Table 3.4. *Age and AUDIT and DUDIT scores in TESUP-1 and TESUP-2. Means and standard deviations.*

	TESUP-1		TESUP-2	
	MEAN	SD	MEAN	SD
Age	25	2.84	26	6.21
AUDIT	7.49	5.9	11.96	8.81
DUDIT	5.7	6.57	10.98	11.55

Table 3.5. *Interview Demographic Information in TESUP-1. Including tobacco, AUDIT, and DUDIT scores. Group split by low/high substance use.*

Pseudonyms	Age	Gender	Ethnicity	Sexuality	Group ID	Current Tobacco	AUDIT score	DUDIT score
Aaron	26	Male/trans/genderqueer	White (Slavic)	Bisexual	Low	Not at all	2	0
Darren	21	Male	White (British)	Unspecified	Low	Not at all	4	0
Jeremy	31	Male	White (British)	Uncertain	Low	Not at all	2	0
Cody	19	Transmasculine	White (British)	Bisexual	Low	Not at all	6	0
Bailey	34	Transmasculine	White	Pansexual	Low	Not at all	2	0
Ezra	28	Transmasc	White	Bisexual	Low	Not at all	2	2
Mean [SD]	26.5[5.75]	-	-	-	-	-	3[1.67]	.33[.82]
Owen	21	Male	White (European)	Bisexual	High	Not at all	13	3
Rowan	20	Male (transgender)	Mixed race: Black and Indian	Pansexual	High	Not at all	8	1
Parker	28	Non-binary/transmasc	White (British)	Pansexual	High	Not at all	3	10
Zack	19	Trans male	White (British)	Bisexual	High	Daily	8	9
Simon	26	Male	White (British)	Straight	High	Daily	13	0
Gale	34	None	White	Queer	High	Less than daily	12	7
Logan	26	Male	White (Scottish)	Gay	High	Daily	10	17
Mean [SD]	24.86[5.31]						9.57[3.59]	6.71[5.96]

In the second quantitative stage (Figure 3.1), all 105 of the original participants were invited to take the same questionnaire again one year later in November 2020. Of those invited, 82 completed the questionnaire. The ages of participants ranged from 18 to 53 (M = 26, SD = 3.28) (see Table 3.3 for quantitative TESUP-2 demographic information; see Table 3.4 for TESUP-2 ages and substance use scores). All participants received a £10 Amazon voucher on completion of the questionnaire. In the second qualitative stage (Figure 3.1), all

of the original 13 participants were invited to be interviewed. Of those invited, nine took part
in the follow-up interview. The ages of participants ranged from 20 to 35 years (M = 25.56,
SD = 5.725) (see Table 3.6 for qualitative TESUP-2 demographic information with substance
use scores). Participants who took part in the interviews each received a £20 Amazon
voucher.

Table 3.6. *Interview Demographic Information in TESUP-2. Including tobacco, AUDIT, and DUDIT scores. Group split by low/high substance use as in TESUP-1*

Pseudonym	Age	Gender	Ethnicity	Sexuality	Group ID (TEP1)	Current Tobacco	AUDIT score	DUDIT score
Darren	22	Male	White (British)	Bisexual	Low	Not at all	8	0
Jeremy	32	Male	White (British)	Queer	Low	Not at all	4	0
Cody	20	Transmasculine	White (British)	Bisexual Ace	Low	Less than daily	15	6
Bailey	35	Transmasculine	White	Bisexual Demisexual	Low	Not at all	4	1
Ezra	29	Transmasc	White	Bisexual (male pref)	Low	Not at all	3	0
Mean [SD]	27.6[6.43]	-	-	-	-	-	6.8[4.97]	1.4[2.61]
Owen	22	Male	White (European)	Bisexual	High	Less than daily	24	27
Rowan	21	Male (transgender)	Mixed race: Black and Indian	Bisexual	High	Less than daily	12	6
Parker	29	Non-binary/transmasc	White (British)	Bi/Pan	High	Not at all	15	14
Zack	20	Trans male	White (British)	Bisexual	High	Daily	24	14
Mean [SD]	23[4.08]						18.75[6.185]	15.25[8.694]

3.4.2. Materials

Interviews. A semi-structured interview schedule (SSIS) was designed for use in the
TESUP-1 interviews. The SSIS consisted of 12 open-ended questions, such as "In what
situations do you typically use substances?" and "What do you do to cope if you have the
urge to use substances but are unable?" (See Appendix C). A separate SSIS was created for
the TESUP-2 follow-up interviews. This SSIS consisted of 10 open-ended questions such as

"Can you tell me about what may have changed in your life since we spoke one year ago?" and "Can you describe to me a time in the past year where you have taken drugs or drank alcohol?" (See Appendix D). This SSIS also included time for topics specific to each individual to be raised, based on issues they had emphasised in their previous TESUP-1 interview.

Demographics. In TESUP-1, questions regarding age, sexuality, gender identity, ethnicity, and SES were included. To measure 'stage of transition' participants were asked to place themselves on a 1 – 5 scale of self-defined transition stages (1 = pre-transition, 2 = early transition, 3 = mid-transition, 4 = late transition, 5 = post-transition). In TESUP-2 these same questions were retained and additional questions regarding disability status were added.

Substance Use. Tobacco use was measured by three questions relating to quantity and frequency of current and past use. Alcohol use was assessed using the 10-item Alcohol Use Disorders Identification Test (AUDIT; Babor et al., 1992). Scores range from 0 – 40 and a cut-off value of 8 or more points indicates hazardous alcohol use. The internal consistency of the AUDIT is reported as acceptable (Cronbach alpha = .86) and test-retest reliability is .90 (Rubio et al., 1998). Drug use was assessed using the 11-item Drug Use Disorders Identification Test (DUDIT; Berman et al., 2005). Scores range from 0 – 44 and a cut-off value of 6 or more points indicates harmful drug use. Internal consistency of the DUDIT is reported by the authors as .80. In TESUP-2 an open question was added to assess the participants perceptions of change in substance use since TESUP-1.

Quality of Life. Quality of life was measured using the WHOQOL-BREF scale (World Health Organisation, 1996). The WHOQOL-BREF is a 26-item assessment that evaluates quality of life over four domains: physical heath, psychological health, social relationships, and environment. Higher scores indicate increased endorsement of items within

that domain. The internal consistencies range from .66 (social relationships) to .84 (physical health) (WHOQOL group, 1998). In TESUP-2 an open question was added to assess the participants perceptions of change in quality of life since TESUP-1.

Gender Minority Stress and Resilience. Gender Minority Stress and related protective factors were measured using the Gender Minority Stress and Resilience measure (GMSR; Testa et al., 2015). The GMSR includes 58-items and nine subscales: Gender-related Discrimination (D), Gender-related Rejection (R), Gender-related Victimisation (V), Non-affirmation of Gender Identity (NA), Internalised Transphobia (IT), Pride (P), Negative Expectations for the Future (NE), Non-disclosure (ND), and Community Connectedness (CC). Higher scores indicate increased experiences and attitudes specific to that subscale. All subscales had adequate internal consistencies, and good divergent and convergent validity has been demonstrated among transgender adults (Testa et al., 2015). In TESUP-2 an open question was added to assess the participants perceptions of change in gender minority stress (e.g., experiences of discrimination, rejection, victimisation, etc.) since TESUP-1.

Gender Role Conflict. Gender Role Conflict was measured using the Gender Role Conflict Scale (GRCS; O'Neil, et al., 1986). The GRCS is a 37-item scale which includes four factors: Success, Power, and Control (SPC), Restricted Emotionality (RE), Restricted Affectionate Behaviour Between Men (RABBM), and Conflict Between Work and Family Relations (CBWFR). Higher scores indicate increased endorsement of items in that factor. The authors report that all factors had adequate internal consistencies (SPC = .85, RE = .82, RABBM = .83, CBFWR = .75). In TESUP-2 an open question was added to assess the participants perceptions of change in their own masculinity (e.g., thoughts, feelings about themselves or other men, restricted emotionality, etc.) since TESUP-1.

Psychopathological Symptoms. Psychopathological symptoms were measured using the Symptom Checklist 90 – Revised (SCL-90-R Derogatis et al., 1994). The SCL-90-R is a 90-item assessment which contains nine symptom dimensions: Somatisation (SOM), Obsessive-compulsive (OBC), Interpersonal Sensitivity (INS), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHO), Paranoid Ideation (PAR), and Psychoticism (PSY). It also includes three global measures of distress: Global Severity Index (GSI; severity of distress and number of symptoms endorsed), Positive Symptom Total (PST; number of symptoms endorsed), and Positive Symptom Distress Index (PSDI; average severity of distress reported). Higher scores indicate increased experiences of symptoms within that dimension. Internal consistencies have been reported to range from .79 (PAR) to .90 (DEP) (Horowitz et al., 1988). In TESUP-2 an open question was added to assess the participants perceptions of change in mental health symptoms since TESUP-1.

Personality. Personality traits were measured using the Temperament and Character Inventory – 140 (TCI-140; Cloninger et al., 1994). The TCI-140 is a 140-item inventory which includes 7 personality dimensions. There are four temperament dimensions: Novelty Seeking (NS), Harm Avoidance (HA), Reward Dependence (RD), and Persistence (PS), and there are three character dimensions: Self-Directedness (SD), Cooperativeness (CO), and Self-Transcendence (ST). Higher scores indicate increased agreement of statements that are specific to that domain. Internal consistencies are reported as ranging from .78 (NS) to .89 (HA, PS, ST) (Farmer & Goldberg, 2008). In TESUP-2 an open question was added to assess the participants' perceptions of change in personality traits since TESUP-1.

COVID-19. Due to the COVID-19 pandemic beginning between TESUP-1 and TESUP-2, open-ended questions relating to whether the participants perceived the pandemic to have had an impact on any of the variables measured were added. This included questions

such as "Has COVID-19 affected your use of substances such as tobacco, alcohol, and drugs?" and "Has COVID-19 affected your transition?".

3.4.3. Data Collection

Participants for the TESUP-1 questionnaire were recruited via posting on private Facebook groups for transgender people in the UK and a public advertisement on the Gender Identity Research & Education Society (GIRES) website. Interested individuals could click on a link which directed them to a Participant Information Sheet which outlined the purpose of the study, ethical considerations, and confidentiality. If they wished to proceed with the questionnaire, they then gave informed consent before taking part. At the end of the questionnaire, participants were provided with further information about the study and contact information for any questions and support. Participants also had the opportunity to indicate if they would like to be contacted to participate in an interview at a future date. The questionnaire was conducted and analysed prior to qualitative data collection.

A nested sample of 13 participants were invited to take part in the semi-structured interview for TESUP-1. Individuals who indicated they would like to participate in further research were contacted via email and were provided with a Participant Information Sheet which outlined the purpose of the interviews, ethical considerations, and confidentiality. If they chose to participate, they gave informed consent prior to the interviews. The interviews lasted between 46 and 87 minutes and on completion the participants were provided with further information about the study and the contact details of organisations if they required any support. The interviews were audio recorded, transcribed verbatim, and anonymised.

One year after initially participating in TESUP-1 questionnaire, all participants who indicated they would like to take part in future research ($N = 101$) were sent an email inviting them to take part in the TESUP-2 questionnaire. Interested individuals could click on a

personal link which had been generated for them to anonymously take part. This allowed me to match responses to their personal ID number from TESUP-1 without their contact details being connected to the response. On following their personal link, participants were directed to a Participant Information Sheet which outlined the purpose and aims of the study, ethical considerations, and confidentiality. If the participants continued, they had the opportunity to give their informed consent before starting the questionnaire. On completion of the questionnaire, participants were provided with more information about the aims and possible findings of the study, in addition to being given contact details for support organisations should they require additional support. Overall, 82 participants took part in TESUP-2, with an attrition rate of 18.6%. The TESUP-2 questionnaire was conducted and analysed prior to TESUP-2 interview data collection.

One year after initially participating in TESUP-1 interviews, all 13 participants were contacted via email inviting them to take part in another interview. Nine participants agreed to another interview, one participant declined, and three did not respond. The email invitation included a participant information sheet which outlined the purpose of the interview, potential risks and benefits of participation and confidentiality. Individuals who took part gave informed consent prior to the interview. The interviews lasted between 52 and 76 minutes and on completion the participants were provided with contact details of relevant support organisations and further information about the study. Interviews were audio recorded, transcribed verbatim, and anonymised.

3.4.4. Data Analysis

Quantitative Analysis. Descriptive statistics and inferential statistics, such as correlations, ANOVAs, binary logistic regression, and multiple regression analysis were

performed using SPSS version 27. All statistical tests were conducted at the 95% confidence level.

      Qualitative Analysis. Thematic Analysis (TA; Braun & Clarke, 2006) was used to analyse the textual data from the questionnaire. The responses were collated and from these, emergent themes were generated which reflected the important issues and concerns reported by participants. This method allows for the emergence of topics that were not anticipated or directly prompted by the survey questions.

      Interpretative Phenomenological Analysis (IPA) was used to analyse the interview data (Smith et al., 2009). All data analysis was performed using NVIVO version 12. After reading each transcript multiple times, initial observations were noted regarding the descriptive content, linguistic style, and conceptual aspects of the data. From these notes, a chronological list of emergent themes was created for each case, before exploring connections across multiple cases. The low-risk substance use group and high-risk substance use group were first analysed separately to allow for a more nuanced analysis of responses, followed by an overall analysis of the super-ordinate themes in both groups and bringing them together. By clustering important super-ordinate themes across all cases, overarching themes were created; these represent the most relevant and interesting themes throughout all cases.

4. Pilot Study

This pilot study arose from the need to understand current best practice of language use within the transmasculine community in the UK, in addition to attempting to understand how the process of transitioning is conceptualised within a UK context. This research aimed to understand the currently accepted nomenclature regarding trans experiences. This study also explored how transmasculine individuals conceptualise the process of transition, with a focus on access to healthcare.

4.1. Literature Review

In the UK the term transgender is most often used as an umbrella term to encompass all individuals whose personal experience and conceptualisation of their own gender differs from the sex they were assigned at birth (usually assigned along binary lines of male or female) (Ellis et al., 2015). The term transmasculine, in this paper, is used to refer to individuals who are transgender, were assigned female at birth, and align with a masculine gender role, they may identify themselves as male, masculine, non-binary, genderfluid, or a variant of this nature. Not all transmasculine people desire medical interventions and many will not engage with any gender-related services (Austin & Goodman, 2018); this is one reason that it is difficult to determine the true population of the trans community. Some transmasculine people will transition socially by changing their name, pronouns, and appearance, whereas others will also decide to engage with private or NHS GIS. Similarly, the extent to which medical interventions are desired differs between individuals. For example, one study indicated that transmasculine people more frequently seek "top surgery" (i.e., chest

masculinisation/mastectomy) than "bottom surgery" (i.e., surgically constructing a penis) (Yerke & Mitchell, 2011).

For adults wishing to seek medical interventions or support for transitioning there are seven NHS funded GIS in the UK, and an additional one which caters to under 18s (GIRES, 2015). According to new figures, over 13,500 individuals are on a waiting list for their first appointment with an NHS GIS in the UK (BBC, 2020). The current NHS guidelines state that the maximum wait between GP referral and first appointment should be 18 weeks; however, the reality is that some people face waits of up to 8 times as long, meaning that the wait for their first appointment can be nearly 3 years (NHS, 2019). For adults approaching the NHS for diagnosis and treatment of gender dysphoria, the World Professional Association for Transgender Health (WPATH) Standards of Care (SOC), version 6, recommended a triadic therapy approach which consists of 12-24 months of 'real life experience', hormone therapy, and sex reassignment surgery (WPATH, 2001). The updated SOC -7 (WPATH, 2012) now recommends "continuous months of living in a gender role that is congruent with a person's gender identity"; here WPATH does not refer to this requirement as 'real life experience' but effectively creates the same stipulation without a specific period of time. The vagueness in guidance allows considerable space for subjective interpretation of clinicians for how and when a person has met the aforementioned SOC-7 criteria. In spite of the removal of the term 'real life experience' this remains a dominant idea within clinical practice, as is demonstrated in multiple publications released after the SOC-7 (Collazo, et al., 2013; Austin & Craig, 2015).

The interpretation of WPATH guidelines in the UK is variable, as there are no NICE guidelines for transition-related interventions. Though the WPATH Standards of Care (SOC-7) state that "treatment is individualised" (WPATH, 2012, p.5), the NHS service specifications for transition-related treatment pathways imply a linear model of social transition, hormonal interventions, then surgical interventions (NHS England, 2019). Extant literature regarding

transgender service-user attitudes to this approach depict dissatisfaction and demonstrates how it is perceived as a barrier to autonomy and individualised care (Ellis et al., 2015; Harrison et al., 2020).

Additionally, to access NHS GIS, individuals must first meet the criteria for a diagnosis of Gender Dysphoria (GD), as outlined in the DSM-5 (APA, 2013). However, many trans activists and researchers have disputed the necessity of a GD diagnosis, claiming that this diagnostic model pathologizes the lived experiences of trans individuals and overlooks the possibility that the distress reported is not arising from an underlying psychological impairment, but is instead as a result of society's negative response to gender nonconformity (Ashley, 2019; Schulz, 2018). Transgender individuals face discrimination and stigma in many forms, from increased rates of homelessness and unemployment (Spicer, 2010) and to being the victims of abuse, assaults, and violence (Whittle et al., 2007). Despite this, it has been argued that the diagnostic/medical model overlooks these societal sources of distress and instead situates it as arising *only* from internal emotional distress and severe bodily dysphoria (Schulz, 2018).

The diagnostic/medical model of transgender identities, as advocated by the DSM and WPATH, promotes a view of the transgender experience based on distress and dysphoria, which has led some transgender activists and academics to view this model as a dehumanising barrier to transition-related healthcare (Ashley, 2019). This is due in part to disparate definitions between service-users and clinicians regarding the route and goals of transition; those seeking transition often view clinicians as 'gatekeepers' and, in anticipation of encountering barriers, can feel forced into adopting the 'distress narrative' to access diagnosis and treatment (Waszkiewicz, 2006). Likewise, the diagnostic/medical model, as is utilised by the NHS, is perceived by transgender service-users to place additional barriers to transition-related treatment for those who do not fit into the discrete binary categories of 'male' or

'female', which may lead to non-binary or agender people to feel forced into hiding their identity in order to access necessary medical services (Green, 2004). This is in spite of NHS publications which emphasise their commitment to meet the healthcare needs of non-binary service-users (NHS England, 2019). Research which focuses on understanding the lived experiences of non-binary individuals to best provide healthcare treatment emphasises an affirmative and intersectional approach (Taylor, et al., 2018). This approach encourages and supports individuals to explore and articulate their gender identity, while considering the cultural and social context the individual exists within. This would necessitate careful consideration of aspects of intersecting identities, such as religion, sexuality, class, and ethnicity, and may also challenge the assumptions and beliefs of the service provider (Eyssel et al., 2017).

Building on this approach, and in response to the barriers experienced by transgender individuals, further research suggests abandoning the diagnostic/medical model in favour of the 'Informed Consent Model' (Informed Consent for Access to Trans Health, n.d., Cavanaugh, Hopwood, & Lambert, 2016). This model attempts to ameliorate the 'gatekeeping' aspect of accessing transgender healthcare services by removing the necessity of a GD diagnosis. Instead of being assessed by a mental health professional who then grants access to transition services, transgender service users are given the power to decide if they are ready to access transition-related healthcare through the routes and methods they would prefer (Schulz, 2018). Here, the role of the health practitioner is to support and collaborate with the service user to come to an informed decision by providing information regarding the social, psychological, physical, and financial aspects of receiving transition-related healthcare. In this way, the Informed Consent Model works to de-pathologize and destigmatise transgender experiences. The Informed Consent Model has been increasingly practiced in trans healthcare in various countries worldwide but has not yet been used within NHS services. A review of the clinical practices of

USA non-profit, private, and academic clinics which adopted the Informed Consent Model demonstrated that within 12 clinics representing a total of 1,944 patients there were only three cases of 'regret' (0.1%) resulting in reversal of transition-related treatment (Deutsch, 2012). In comparison to this, research into WPATH surgeons' experiences of patient regret of transition-related treatment (Danker et al., 2018) found that within approximately 22,725 patients 62 (0.28%) expressed a desire for 'reversal' of their transition. This result provides support that the Informed Consent Model does not increase cases of transition-related 'regret'.

At the same time as seeking and navigating medical healthcare services, a transgender individual will also be undergoing a process of identity development as they come to understand themselves and their gender identity. Various theories of transgender identity development have been put forward, the majority of which are 'stage' models, which often emphasise the role of distress and medical interventions (Kuper et al., 2018). These stage models (Devor, 2004; Hiestand & Levitt, 2005) follow similar themes: early stages are often characterised by confusion and distress; after the initial discovery of their transgender identity the individual often seeks out relationships with LGBTQ people and conducts their own research; with this new information, the individual begins to identify with a transgender identity, now exploring labels and gender enactments more intensely, in relation to their own sense of authenticity; having accepted their status as transgender, the individual must decide if they want to transition; following transitioning, the individual learns to accept and develop pride in their transgender identity, manage stigma and discrimination, and ultimately engage in advocacy. Despite the popularity of stage models of transgender identity development, there are concerns that such models overlook generational, cultural, and geographical differences (Bilodeau & Renn, 2005). Furthermore, they indicate that identity develops along a linear developmental trajectory and do not allow for diversity and flexibility of gender expression, gender identities, goals, and methods that the transgender community expresses and celebrates.

When the participants in this study were given a space to speak openly and honestly about their experiences, they took this opportunity to detail the difficulties of accessing trans-specific healthcare and the struggles they face when consolidating their needs with the reality of what is available to them.

4.2. Results

This study used IPA methodology to analyse three interviews and a focus group (for a full discussion of methods and participants please see Chapter 3; 3.3). Three super-ordinate themes arose throughout the interviews and focus group: (1) conceptualising the process of transition; (2) NHS communication and support; and (3) medicalisation, power, and non-disclosure. Several participant extracts are provided to illustrate each theme following Smith's (2004) recommendations.

4.2.1. Conceptualising the Process of Transition

While many of the individuals conceptualised their transition as a physical and personal "journey" toward the authentic and true self, it was simultaneously conceptualised in terms of what was made accessible to them through GIS. It was made clear by the participants that while this was a personal and individualised odyssey, it was only truly accessible within the strict confines of NHS funding and GIS protocol. The participants perceived considerable inflexibility in the chronology of the process of transition as recommended by GIS. When discussing his transition "route", one of the interviewees, Romeo, described how he had "always been told, it's hormones, then top surgery, then bottom surgery" and while he agreed this was the route for him, he also acknowledged that this is not the case for all those seeking GIS intervention (see Box 4.1; 1.1). The way that GIS dictate and control the process of

transition was noted as being "strict" and was given as a motivation for opting for private care (1.2).

Most participants conceptualised their transition as marked by various "processes" or "stages". Within the focus group there was a consensus that transition begins with a necessary period of introspection. It was emphasised by multiple members of the group that this process of identity discovery is highly individualised, yet they did not believe that GIS see it this way and reported instead that GIS promote a narrow and stereotypical trans narrative (1.3). The order of the entire transition process was debated amongst the focus group who concluded that while transitioning is non-linear and unique to each individual, it can be described as an overarching process marked by various stages, and that undertaking one's own external research and searching for community was an integral aspect of initial identity discovery (1.4).

The entire transition 'journey' was conceptualised in multiple ways, but all had threads of commonality. The major theme among the descriptions was a sense of having to convince or persuade healthcare professionals at GIS of the authenticity of their transgender identity (1.5). It was often framed as a series of arbitrary and intrusive challenges set by GIS which were to be defeated; all who mentioned this process alluded to the huge amount of time and the element of luck required (1.6).

Box 4.1. Representative quotes for "Conceptualising the Process of Transition". Quotes are from Focus Group (FG) or interviews if not FG

1.1. "I know for some people this route just isn't for them because maybe they want chest surgery first or something, but I know the gender clinic told me that this is the best route" (Romeo)

1.2. "They [GIS] tell you that you'll get a better outcome if you're taking testosterone [before top surgery], I dunno if that's medically verified or just their opinions" (Alex, FG)

1.3. "It's important to note that this [identity discovery] can happen at any age, and it's the gender clinics that are pushing the narrative that we were all tomboys, we all knew as a little kid and that we hated dresses" (Raj, FG)

1.4. "For me, and a lot of men and women, there was a prolonged searching phase where you search for answers, and proof that you're not alone" (Amit, FG)

1.5. "I'd say the first stage is the convincing stage, then admin, then testosterone, then more admin, then top surgery" (Charlie)

1.6. "Once you've made it past the waiting lists you're ready to face the first boss, the gender clinic (…) they're gonna make you jump through hoops and will ask a million intrusive questions about your body and your sex life, and if you're lucky, they're gonna prescribe you hormones and maybe two years after that you level up and **bang** you hit the second boss, it's top surgery" (Greg, FG)

4.2.2. NHS Communication and Support

Whether seeking support and treatment for gender dysphoria, mental health, or sexual and reproductive health, navigating NHS services was an emotionally draining and convoluted process. All participants believed their transgender status negatively affected their access to NHS services. When approaching their general practitioner (GP) for information or seeking a referral, participants anticipated that the GP would lack the knowledge to help or would be unsupportive. This apprehension to approach their GP was compounded by the belief that a smooth transition is dependent on a supportive and well-informed GP (Box 4.2; 2.1). Participants in both individual interviews and the focus group discussed the necessity of being well prepared and the impact of GP expectations of a well-informed patient; one man described himself as "lucky" because he had done prior research and his GP was "ignorant of the process" (2.2).

Participants also discussed how a lack of GP support was a barrier to accessing mental health services; the focus group in particular voiced concerns that accessing mental health services would risk stopping their referral to GIS (2.3). Participants who did seek help from their GP for mental health reasons reported feeling dismissed and suspicious of GP motives (2.4); GPs were viewed as not taking trans mental health seriously and placing the onus of responsibility on GIS for the participants' mental health care. Previous negative experiences with a GP served as reinforcement for participant's avoidance of seeking help for any issue with their GP, not just mental health (2.5). Additionally, participants who had accessed NHS mental health services expressed the belief that their transgender identity negatively impacted the care that they received (2.6).

Only two participants reflected positively on their referral process for their initial GIS appointment. One participant, Alex, reported that his experience was "actually okay" though he felt he had been let down by his GP. The other participant, Charlie, sought private medical care when he found that NHS waiting times far exceeded NHS guidelines. The remaining ten participants reported various complaints about the GIS referral process.

Multiple participants expressed significant discomfort and anxiety around the lack of communication from GIS once they had been referred (2.7), which led many to feel isolated and ignored by the healthcare system. This feeling was compounded by the excessively long waiting times the participants were subject to, which led some participants to the conclusion that GIS are ignorant of the true impact that waiting lists have on the lives of trans individuals (2.8).

Box 4.2. Representative quotes for "NHS Communication and Support"

2.1. "[I had] a difficult GP and it's so important when you're beginning your transition that your GP is on your side, if they're not you're gonna have a hard time of it" (Mike)

2.2. "You could just see that they didn't really want to be having this conversation (…) they were really unprepared and ignorant of the process" (Charlie)

2.3. "I'd just been referred [to GIS] … my mental health wasn't great but I didn't wanna go and access my GP for medication for mental health because I'd risk the implications of having that referral [not] put through (noises of agreement) and so I thought okay I'll deal with my mental health problems, but first this referral needs to be put through, and that was the priority (Raj, FG)

2.4. "When you're trying to access a GIC they say they don't know how to do it but when you're not trying to access trans-related healthcare in regards to mental health they just wanna send you off there" (Paul, FG)

2.5. "This entire experience has just made me even more apprehensive than I already was in relation to accessing any type of medical service" (Raj, FG)

2.6. "The second I mentioned I was trans, everything, just the whole conversation came back to me being trans and then it's like I was treated like a 2-D cardboard cut-out with no more aspects to my personality other than having to change my body and my gender history" (Alex, FG)

2.7. "You wait alone for your appointment, there's no support or information (…) you're just left in the dark with no idea" (Charlie)

4.2.3. Medicalisation, Power, and Non-disclosure

Participants felt that GIS, and the NHS, acted as adversaries. Rather than providing support and facilitating treatment, GIS were viewed as gatekeepers of medical diagnosis and subsequent treatment. Often referring to their experiences with GIS early in their transition as the 'convincing' stages of transition (Box 4.1; 1.5), participants described a reluctance to be wholly authentic in their interactions with medical professionals due to the perceived risk (Box 4.3; 3.1). Individuals across interviews and the focus group described how they believed the halting or delaying of treatment to be a punitive response by GIS in reaction to perceived doubt (3.2). This rigid conceptualisation of the transmasculine experience is incongruent with the flexibility and individuality of gender identity, as described by the participants in this study.

Thus, participants attempted to avoid potential barriers by conforming to the expectations of GIS and not asking questions (3.3).

Once having finally attained an initial appointment, participants described how they felt let down as their lived experiences were ignored and that they felt pressure to 'perform' and 'jump through hoops' for GIS (3.4). Non-binary individuals deliberated over whether to disclose their non-binary identity (3.5), while others discussed feeling forced to 'assimilate' by GIS (3.6). These negative experiences of having their identities repeatedly invalidated, whilst feeling unable to discuss matters of mental health or gender nonconformity, intensified existing distress for these individuals.

The participants in this study were aware of the power exerted over them by GIS and of the negative effects that are felt due to this power imbalance. One participant, Amit, attributed this power imbalance as the reason why they could not be truly authentic with GIS (3.7). Furthermore, some participants voiced the opinion that they felt powerless in their own transition and were 'stuck in the system' (3.8). This lack of control over their own situation was felt so profoundly, particularly within the focus group, that it provoked a passionate discussion of the necessity for, and the costs of fighting for your rights, and the rights of those in your community (3.9). This discussion culminated in a call to 'take back that power', for the empowerment of transgender individuals, and for the right to live your authentic life.

Box 4.3. Representative quotes for "Medicalisation, Power, and Non-disclosure"

3.1. "They put you in the position where I'm gonna hide stuff because of the risk" (Raj, FG)

3.2. "Even if I said the slightest thing, like I feel a little bit depressed, then they'd just jump on it and stop the whole process, it's almost as if they're looking for a reason to stop you, or a reason to say you're doubting it, or they doubt you" (Romeo)

3.3. "They take it as doubt whenever you ask a question, so it's best not to I've learned (Charlie)

3.4. "[GIS] just want me to jump through hoops for them and perform for them" (Romeo)

3.5. "They might withhold treatment, it's a very real fear … and so when I went to my first assessment I was like, do I disclose that I'm non-binary?" (Amit, FG)

3.6. " They only think about the medical side of it and they're pushing and pushing for you to assimilate, and they don't take into account the everyday processes we go through on the social side of it" (Mike)

3.7. "[GIS are] considered experts so they do hold that power, so it means you can't tell them certain things" (Amit, FG)

3.8. "I'm stuck in the system, it's like addiction now because they can't take away treatment, not for any fucking reason" (Francis, FG)

3.9. "Elliot: When I had my first appointment, I told them that I'm **male,** when I'm not, I'm non-binary. That ended up hurting my health, but I knew I wouldn't get treatment otherwise"

Amit: You're right Elliot, and I think it's tricky because there are so many different narratives. We need to **take** back that power and we need to fight, but these things have a cost, we have to make choices like you [gestures to Elliot] had to make a choice. So, it's like you can either choose to be complicit and get your treatment on time, or you can fight, and be true and authentic and fight for your community, and make it so that non-binary people, we can keep fighting together. It's tricky deciding what do we sacrifice? We've already sacrificed so much" (FG)

4.3. Discussion

This study adds to existing literature regarding transgender identity development and offers a deeper understanding of how the NHS can be better equipped to provide the appropriate healthcare to the transgender community. This study sought to clarify and explore the idea of 'stages' of transition. This was with the purpose of creating an ethical and reliable way of documenting the chronological point at which a participant sits in their transition. Understanding how the transgender community conceptualises stages of transition would allow

future research to examine experiences that take place within them and provides parameters for understanding and comparing experiences across the transition timeline. The topic of discussion, however, evoked more than a grass-roots definition of transition and understanding of the transgender experience. The group seized the opportunity to share their views on the externally imposed transition pathways and the intricacies of navigating the GIS.

The stages of transition outlined by the GIS as an appropriate guide to a successful transition were rejected by the group. The idea of 'transition stages' was viewed as a way of controlling and gatekeeping access to medical treatment. The focus group argued that one's process of transition should be guided by introspection, information-seeking, and flexibility. While many 'stages' described by the participants are mirrored in the stage models of transgender identity, such as the work of Devor (2004), the predominant view was that such linear models do not accurately account for the fluidity, complexity, or diversity of lived experiences of transmasculine individuals. In light of this, it was suggested that broader descriptive categories (such as pre-transition, mid-transition, post-transition etc.) would be best placed to measure stage of transition, in order to capture the flexibility and uniqueness of transitioning that the participants described.

While everyone held their own personal concept of transition and the goals and route they prefer, they also expressed that they felt as if their transition was subject to the whims of the NHS. The NHS GIS pathway was criticised by participants for its paradoxical, one-size-fits-all approach. Rather than being guided through their transition, participants described lacking support and feeling "stuck in the system". These perspectives reveal the nature of the group's relationship with the GIS as necessary but also with the potential to be a harmful and difficult process. These findings build on the work of Ellis et al. (2015) which reported that 46% of respondents in their study reported that they had experienced difficulties obtaining treatment or assistance at their GIS.

Participants in the current study reported that their transgender status negatively impacts their access to all NHS services. It was a major source of anxiety that their GP would be ill-informed about transgender healthcare which presented a significant barrier to accessing services. This is mirrored in previous research such as one systematic review (Heng et al., 2018) which found that a lack of healthcare provider knowledge was a frequent experience for transgender people. Furthermore, Taylor's (2013) exploration of transmen's experiences with healthcare reflects on the necessity of self-advocacy and health literacy, something which the participants in the current study also reported.

The vital information-seeking that the participants stated defined many of the initial 'stages' of transgender identity development was avoided in healthcare contexts. Asking questions and seeking information was perceived to cause the GIS to doubt their transgender status or their readiness for treatment. As a result, participants reported feelings of being made to 'perform' for healthcare professionals. To stave off any possible doubt from medical professionals, participants were hesitant to disclose sensitive information for fear that there would be a punitive response through the delaying or halting of treatment. This sentiment is reflected throughout the limited previous work which examines transgender experiences of GIS, for example, a recent UK study (Harrison et al., 2020) reported similar findings whereby many of their participants reported feeling pressured to 'prove' their gender identity to GIS. Participants in the present study described how the pressure to quickly convince healthcare professionals of their readiness to medically transition was intensified by the prospect of lengthy waiting lists with little to no communication from GIS. These findings provide support for prior studies which focus on transgender access to healthcare, these studies report that participants often express feeling a lack of support during their transition, particularly during the wait for their initial assessment and between appointments (Harrison et al., 2020; Linander et al., 2017).

The rigid diagnostic framework of NHS GIS and power inequalities inherent in this framework were apparent in the reports from participants; feeling powerless and lacking in autonomy was frequently described. The participants in this study expressed frustration with the "gatekeeping" role of healthcare providers, which has been described as "unethical" and "dehumanising" by leading transgender academics (Ashley, 2019). In response to various literature which clearly communicates the transgender community's growing dissatisfaction with the current diagnostic model (Ellis et al., 2015; Harrison et al., 2020; Waszkiewicz, 2006), and the rallying cries to "take back that power" voiced in the current study, a transition to the Informed Consent Model (Schulz, 2018) is suggested. Such a change in protocol would mitigate many of the barriers faced by this community when accessing transition-related healthcare, it would empower patients to make informed choices in collaboration with healthcare professionals and would place the UK and the NHS at the forefront of transgender healthcare. Within this model, trans individuals would not have to choose between identity and interventions, nor would they have to "sacrifice" or "fight", as was often mentioned by participants in this study. Previous studies indicate that healthcare providers who offer the Informed Consent diagnostic model are currently growing in popularity for both service providers and patients (Reisner et al., 2015).

In advance of a fundamental shift in the diagnostic model, some immediate practical recommendations are suggested, based on the experiences of the current study's participants and of extant literature in this field. Increased support for service users during waiting periods is necessary; participants reported feeling increased anxiety while waiting, therefore service users should be offered appropriate support. This support may include transgender-specific counselling or psychotherapy as was recommended by Harrison et al. (2020) or might consist of more frequent contact with service users. Furthermore, a lack of trans-specific training and knowledge was frequently mentioned by participants; an NHS-wide commitment to LGBTQ-

specific training is recommended to improve access to all services for the transgender population. Additionally, measures to facilitate multi-disciplinary working for GIS service-users is suggested because participants frequently discussed the difficulty of accessing mental-health services and GIS services simultaneously.

Criticisms of the inner working of the NHS and GIS which were mentioned frequently, are here described through the lens of the patient, and accounts of these processes may differ from that of the care providers themselves. It is hoped that perceived conflicts between service users and providers might be better understood by conducting future research into the perceptions of care providers in these settings. The participants were likely in receipt of care under different local authorities and health services, though this information was not gathered during this study. I am therefore unable to delineate regional discrepancies of care. However, there was a strong consensus in the type of criticisms made of healthcare provision from those that took part in this research.

In the context of the larger TESUP study, this pilot study sought to clarify the most accurate and appropriate method of operationalising 'stage of transition'. In addition to this, currently accepted language conventions were explored within the focus group. The results revealed that the concept of 'transition stages', particularly in a medical context, were rejected by the participants as being too strict and inflexible. Participants suggested, that for the purposes of the current research, broad descriptive categories that participants could self-define would allow for sufficient fluidity and diversity of stages of transitioning. These categories were decided within the focus group as being pre-, early, mid-, late, and post-transition, with no 'start' or 'end' point being defined by the researcher. Furthermore, the participants in the focus group agreed that the term 'transmasculine' was appropriate for the group that TESUP is aimed at. These suggestions informed the project design and language used within the TESUP study.

5. TESUP-1

5.1. Descriptive Statistics

5.1.1. Demographics

The age of the 105 participants ranged between 18–52 years ($M = 24.98$, $SD = 5.84$). 29.5% ($N = 31$) of the sample identified their gender identity to be non-binary which included identities such as transmasculine, genderqueer, agender, non-binary, and genderless. The remaining 70.5% ($N = 74$) identified as male. The largest proportion of participants considered themselves to be mid transition (39%, $N = 41$), however, other participants ($N = 12$) said they felt these options were limiting. Additionally, some participants ($N = 38$) took the opportunity to go into detail about their transition journey; these comments demonstrate the different paths taken during their transition (Appendix E). The most common sexual orientation was bisexual ($N = 29$), and the majority of the sample identified as White British ($N = 98$, 93%).

Completed level of education was assessed using the established levels of educational attainment in the UK (Gov.uk, 2022) which ranges from 0 (no completed education) to 8 (doctoral level). Levels in this sample ranged from 0 to level 7 (postgraduate master's level). Almost half of the sample (49.5%, $N = 52$) reported completing either an undergraduate or postgraduate degree or certificate. The majority of participants were in paid employment (62.9%, $N = 66$). Please see Table 3.3 in Chapter 3 for quantitative demographics variables.

Tobacco Use. Use of tobacco was determined through questions relating to current- and past-tobacco use. The majority (60.9%, $N = 64$) of the sample indicated that they had used tobacco in the past. Fewer participants (42.8%, $N = 45$) reported current use of tobacco.

39% ($N = 41$) of the sample reported never having used tobacco. Please see Table 3.3 for quantitative tobacco use data.

Of those who reported using tobacco daily currently ($N = 45$), the most frequently used method of using tobacco was smoking manufactured (68.8%, $N = 31$) or hand-rolled (40%, $N = 18$) cigarettes. The frequency with which tobacco was used on a daily basis ranged between 1–75 times per day, the most common frequency of use was between 1–10 times per day, with only five participants reporting a frequency of use greater than 10 times per day.

Alcohol Use. Use of alcohol was determined through administering the AUDIT (Babor et al., 1992). A cut-off score of 8 or over is suggestive of harmful and/or hazardous drinking habits and a cut-off score of 20 or over indicates that the individual may be at risk of, or are experiencing, alcohol dependence (Babor et al., 1992). For this study's sample, the mean score on the AUDIT was 7.49 ($SD = 5.9$), with scores ranging from 0–31 points. 49.5% ($N = 52$) of the sample met or exceeded the cut-off score of 8, and a further 6% ($N = 7$) of the sample met or exceeded the cut-off score of 20. Please see Table 3.4 for means and standard deviations of AUDIT.

Drug Use. Use of drugs was determined through administering the DUDIT (Berman et al., 2005). A cut-off score of 6 or more points is recommended to identify those with drug-related problems (Berman et al., 2005). For this sample, the mean score on the DUDIT was 5.7 ($SD = 6.57$), with a range of 0–22 points. 43.8% ($N = 46$) of the sample met or exceeded the cut-off score of 6. Please see Table 3.4 for means and standard deviations of DUDIT.

Participants were asked to indicate which drugs they usually take and had the option to select multiple drugs. A total of 59 participants indicated at least one drug that they typically used. The most commonly used drug was cannabis (23.8%, $N = 25$), followed by hallucinogens (17.1%, $N = 18$). Drugs also indicated in free-text comments but not included

in the questionnaire are DMT, NOS, Valium, and Ayahuasca. Heroin was the only substance included in the questionnaire which was not indicated by any participant. Please see Table 3.7 for frequencies of drug type used.

5.1.2. Correlation Results

Please refer back to each scales' description in the Methods chapter (*section 3.4.2. TESUP Materials*) for definitions of the abbreviations in each scale. Please see Appendix H for additional information and scattergrams of all correlations.

Demographics. Table 5.1 shows the correlations between demographic information (age, gender, education level), transition stage, and substance use (tobacco, alcohol, and drugs) on data collected from 105 transmasculine individuals. Not surprisingly, there were significant positive correlations between age and transition stage ($r(103) = .230$, $p = .018$), age and education ($\rho(103) = .427$, $p < .001$), and transition stage and education ($r(103) = .244$, $p = .013$). There was also a significant positive correlation between age and gender ($r(103) = .236$, $p = .016$), indicating that younger participants tended to identify as binary male whereas the older participants more often identified as non-binary. Factors such as completed level of education, stage of transition, and gender identity (such as male, genderqueer, agender, etc) showed no significant correlations with the use of tobacco, alcohol, or drugs.

Interestingly, while the use of drugs had a moderate positive correlation to the use of alcohol ($r(103) = .416$, $p < .001$), 95% CI [.210, .618], the use of drugs was moderately negatively correlated with the use of tobacco ($r(103) = -.443$, $p < .001$), 95% CI [-.613, -.234].

Table 5.1. Demographics, stage of transition, and substance use correlations. Means, standard deviations, and correlations with confidence intervals

Variable	*M*	*SD*	1	2	3	4	5	6	7
1. Age (*r*)	24.98	5.841	--						
2. Gender binary (r_{pb})			.233* [.028, .449]	--					
3. Transition Scale (*r*)	3.23	1.012	.236* [-.006, .422]	-.188 [-.391, .026]	--				
4. Education (ρ)	4.70	1.723	.427** [.228, .622]	-.009 [-.218, .189]	.244* [.058, .419]	--			
5. Tobacco score (*r*)	4.57	1.358	-.191 [-.398, -.019]	-.083 [-.254, .114]	.028 [-.194, .242]	-.100 [-.278, .157]	--		
6. AUDIT score (*r*)	7.49	5.900	-.011 [-.181, .103]	-.001 [-.210, .148]	.028 [-.041, .328]	.047 [-.143, .280]	-.132 [-.361, .073]	--	
7. DUDIT score (*r*)	5.70	6.571	.123 [-.125, .235]	.048 [-.154, .216]	.149 [-.083, .216]	.190 [-.140, .390]	-.443** [-.613, -.234]	.416** [.210, .618]	--

Note. *M* and *SD* represent the mean and standard deviation, respectively. *R* and ρ indicate Pearson's correlation and Spearman's Rank correlation, respectively. r_{pb} indicates point-biserial correlation. Values in square brackets are the 95% confidence interval for each correlation.
* Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Quality of Life. Table 5.2 shows correlations between the four domains of the

WHOQOL-BREF and substance use (tobacco, alcohol, drugs). There were no significant

correlations between quality of life and tobacco or alcohol use. Results demonstrated a weak

negative relationship between physical health QoL and drug use, $r(103) = -.212$, $p = .03$, 95%

CI [-.387, .011]. There was also a weak negative relationship between environment and drug

use, $r(103) = -.195$, $p = .04$, 95% CI [-.372, .003].

Table 5.2. Quality of Life and substance use correlations. Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7
1. Physical Health QoL (r)	13.62	2.924	--						
2. Psychological Health QoL (r)	11.63	2.993	.520** [.364, .647]	--					
3. Social and relationships QoL (r)	13.40	3.476	.280** [.093, .447]	.436** [.266, .579]	--				
4. Environment QoL (r)	13.35	2.655	.570** [.424, .686]	.725** [.619, .804]	.471** [.307, .607]	--			
5. Tobacco score (r)	4.57	1.358	-.088 [-.275, .105]	.069 [-.124, .257]	.082 [-.111, .269]	.128 [-.065, .312]	--		
6. AUDIT score (r)	7.49	5.900	-.075 [-.262, .118]	.120 [-.073, .304]	-.039 [-.228, .153]	.130 [-.063, .313]	-.132 [-.361, .073]	--	
7. DUDIT score (r)	5.70	6.571	-.212* [-.387, .011]	.021 [-.171, .211]	-.114 [-.299, .079]	-.195* [-.372, -.003]	-.443** [-.613, -.234]	.416** [.210, .618]	--

Note. *M* and *SD* represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Gender Role Conflict. Table 5.3 shows correlations between the four factors of the GRCS and substance use (tobacco, alcohol, drugs). The factors SPC, RE, and CBFWR showed no significant correlations to substance use. Results demonstrated a weak positive relationship between RABBM and alcohol use ($r(103) = .215$, $p = .028$, 95% CI [-.037, .484]) and a moderate positive relationship between RABBM and drug use ($r(103) = .331$, $p = .001$, 95% CI [.156, .504]).

Table 5.3. Gender Role Conflict Scale and substance use correlations. Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7
1. SPC (*r*)	43.30	11.418	--						
2. RE (*r*)	37.33	10.231	.213* [.048, .466]	--					
3. RABBM (*r*)	25.38	8.817	.406** [.260, .612]	.670** [.530, .773]	--				
4. CBWFR (*r*)	19.70	5.429	.423** [.209, .597]	.241* [.073, .500]	.227* [.060, .463]	--			
5. Tobacco score (*r*)	4.57	1.358	-.050 [-.259, .161]	-.133 [-.355, .069]	-.094 [-.343, .044]	-.153 [-.345, .056]	--		
6. AUDIT score (*r*)	7.49	5.900	.177 [-.032, .383]	.067 [-.153, .320]	.215* [-.037, .484]	.048 [-.146, .221]	-.132 [-.361, .073]	--	
7. DUDIT score (*r*)	5.70	6.571	.114 [-.128, .333]	.181 [-.001, .374]	.331** [.156, .504]	.148 [-.080, .351]	-.443** [-.613, -.234]	.416** [.210, .618]	--

Note. M and *SD* represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Gender Minority Stress and Resilience. For reasons of available space Table 5.4

shows correlations between the nine sub-scales of the GMSR and substance use (tobacco,

alcohol, drugs) and Table 5.5 shows respective confidence intervals. The sub-scales D, NA,

IT, NE, ND, and CC were found to have no significant associations with the use of any

substance. The sub-scale V was found to have a weak negative relationship with tobacco use,

$r(103) = -.215$, $p = .026$, 95% CI [-.433, -.069]. Results show that this sub-scale also had a

moderate positive relationship with the use of drugs, $r(103) = .364$, $p < .001$, 95% CI [.131,

.588]. The sub-scale R had a weak positive relationship with the use of drugs, $r(103) = .194$,

$p = .047$, 95% CI [-.031, .404]. The sub-scale P was found to have a weak positive

relationship with drug use ($r(103) = .253$, $p = .018$, 95% CI [-.287, .120].

Table 5.4. Gender Minority Stress and Resilience measure and substance use correlations including means and standard deviations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Discrimination (*r*)	4.20	2.128	--											
2. Rejection (*r*)	4.64	2.624	.631**	--										
3. Victimisation (*r*)	3.96	3.060	.481**	.597**	--									
4. Non-affirmation (*r*)	12.75	6.906	.006	.184	.189	--								
5. Internalised Transphobia (*r*)	15.87	8.072	.096	.196*	.261**	.322**	--							
6. Pride (*r*)	12.63	6.405	.128	.201*	.080	.356**	-.165	--						
7. Negative Expectations (*r*)	18.36	8.033	.140	.231*	.260**	.534**	.309**	.210*	--					
8. Non-disclosure (*r*)	13.11	4.772	.033	-.003	-.005	-.003	.119	-.410**	.230*	--				
9. Community Connectedness (*r*)	11.49	4.788	-.090	-.154	-.038	.041	-.277**	.191	-.187	-.088	--			
10. Tobacco score (*r*)	4.57	1.358	-.113	-.039	-.215*	.040	.073	-.028	-.016	-.001	-.015	--		
11. AUDIT score (*r*)	7.49	5.900	.102	.072	.135	-.014	.005	.128	.033	-.177	.005	-.132	--	
12. DUDIT score (*r*)	5.70	6.571	.187	.194*	.364**	.006	-.056	.253**	.107	-.162	-.048	-.443**	.416**	--

Note. *M* and *SD* represent the mean and standard deviation, respectively. See table 7 for confidence intervals for each correlation value. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Table 5.5. Gender Minority Stress and Resilience measure and substance use correlation confidence intervals, with means and standard deviations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Discrimination (r)	4.20	2.128	--											
2. Rejection (r)	4.64	2.624	[.507, .748]	--										
3. Victimisation (r)	3.96	3.060	[.289, .672]	[.469, .711]	--									
4. Non-affirmation (r)	12.75	6.906	[-.219, .262]	[-.073, .385]	[.014, .361]	--								
5. Internalised Transphobia (r)	15.87	8.072	[-.120, .299]	[-.020, .376]	[.069, .435]	[.154, .513]	--							
6. Pride (r)	12.63	6.405	[-.119, .381]	[.110, -.032]	[-.145, .331]	[.156, .521]	[-.395, .019]	--						
7. Negative Expectations (r)	18.36	8.033	[-.104, .377]	[.002, .402]	[.054, .433]	[.367, .659]	[.070, .442]	[-.035, .415]	--					
8. Non-disclosure (r)	13.11	4.772	[-.195, .236]	[-.190, .195]	[-.226, .225]	[-.222, .213]	[-.122, .325]	[-.585, -.220]	[.015, .450]	--				
9. Community Connectedness (r)	11.49	4.788	[-.324, .117]	[-.417, .083]	[-.221, .172]	[-.166, .332]	[-.467, -.057]	[-.013, .418]	[-.376, .049]	[-.325, .153]	--			
10. Tobacco score (r)	4.57	1.358	[-.315, .097]	[-.265, .156]	[-.433, -.069]	[-.226, .228]	[-.205, .247]	[-.245, .146]	[-.291, .157]	[-.236, .242]	[-.202, .226]	--		
11. AUDIT score (r)	7.49	5.900	[-.067, .281]	[-.118, .249]	[-.072, .339]	[-.207, .149]	[-.230, .233]	[-.096, .364]	[-.199, .248]	[-.378, .040]	[-.173, .184]	[-.361, .073]	--	
12. DUDIT score (r)	5.70	6.571	[-.041, .403]	[-.031, .404]	[.131, .588]	[-.198, .190]	[-.287, .120]	[-.287, .120]	[-.104, .291]	[-.369, .071]	[-.264, .175]	[-.613, -.234]	[.210, .618]	--

Note. M and SD represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation (see table 6 for correlation values.

Psychopathological Symptoms. For reasons of available space Table 5.6 shows

correlations between all 12 dimensions of the SCL-90-R and substance use (tobacco, alcohol,

drugs) and Table 5.7 shows respective confidence intervals. Typically, GSI (the average

score of all 90 items of the measure) is thought to be the best indicator for the current level of

the symptoms (Derogatis, 1994). Results from this sample demonstrate that GSI was

moderately positively correlated with the use of drugs, $r(103) = .464$, $p < .001$, 95% CI [.205,

.600]. PST (the number of symptoms that are reported) was found to have a moderate

positive correlation with both alcohol use ($r(103) = .273$, $p = .021$, 95% CI [-.020, .406]) and

a moderate positive correlation with drug use ($r(103) = .502$, $p < .001$, 95% CI [.340, .647]).

Additionally, PSDI had a weak positive correlation to alcohol use, $r(103) = .261$, $p <.001$,

95% CI [.340, .647].

The use of tobacco had no correlations to any symptom dimensions and the use of

alcohol had a weak positive correlation to three symptom dimensions: HOS ($r(103) = .240$, p

$= .028$, 95% CI [.005, .427]), PAR ($r(103) = .251$, $p = .010$, 95% CI [-.035, .378]), and PSY

($r(103) = .326$, $p < .001$, 95% CI [.067, .408]).

The use of drugs was significantly correlated with all nine symptom dimensions. A

moderate positive correlation was found between the use of drugs and DEP ($r(103) = .311$, p

$< .001$, 95% CI [.106, .481]), INS ($r(103) = .368$, $p < .001$, 95% CI [.106, .491]), OBC

($r(103) = .393$, $p < .001$), 95% CI [.114, 513]). Additionally, a moderate positive relationship

was demonstrated between the use of drugs and PAR ($r(103) = .407$, $p =<.001$, 95% CI [.123,

.520]), ANX ($r(103) = .444$, $p < .001$, 95% CI [.164, .602]), SOM ($r(103) = .440$, $p < .001$,

95% CI [.195, .559]), PHO ($r(103) = .452$, $p < .001$, 95% CI [.181, .697]), HOS ($r(103) =$

.442, $p < .001$, 95% CI [.270, .585]), and PSY ($r(103) = .586$, $p <.001$, 95% CI [.357, .693]).

Table 5.6. Symptom Checklist – 90 - Revised and substance use correlations with means and standard deviations.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. SOM (r)	1.2659	.82383	--														
2. OBC (r)	1.8371	.91707	.716**	--													
3. INS (r)	1.6506	.91761	.712**	.799**	--												
4. DEP (r)	1.7778	.88898	.679**	.842**	.793**	--											
5. ANX (r)	1.4505	.93327	.777**	.834**	.816**	.863**	--										
6. HOS (r)	1.2184	.98878	.712*	.614**	.729**	.637**	.752**	--									
7. PHO (r)	1.2184	1.03379	.757**	.717**	.764**	.712**	.845**	.780**	--								
8. PAR (r)	1.1843	.86460	.727**	.639**	.770**	.581**	.711**	.761**	.676**	--							
9. PSY (r)	1.1733	.85229	.816**	.723**	.763**	.701**	.854**	.801**	.820**	.789**	--						
10. GSI (r)	1.4540	.80762	.869**	.877**	.897**	.885**	.949**	.834**	.882**	.829**	.912**	--					
11. PST (r)	59.10	25.239	.868**	.801**	.806**	.752**	.840**	.779**	.831**	.772**	.887**	.923**	--				
12. PSDI (r)	2.0736	.54337	.569**	.760**	.766**	.837**	.785**	.638**	.617**	593**	.623**	.790**	.045	--			
13. Tobacco score (r)	4.57	1.358	-.058	-.135	-.086	-.160	-.175	-.082	-.123	-.064	-.165	-.142	-.171	-.152	--		
14. AUDIT score (r)	7.49	5.900	.225*	.038	.105	-.042	.121	.240*	.152	.251*	.326**	.149	.273**	-.011	-.132	--	
15. DUDIT score (r)	5.70	6.571	.440**	.393**	.368**	.311**	.444**	.442**	.452**	.407**	.586**	.464**	.502**	.261**	-.443**	.416**	--

Note. *M* and *SD* represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation.
* Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Table 5.7. Symptom Checklist – 90 - Revised and substance use correlation confidence intervals with means and standard deviations.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. SOM (r)	1.2659	.82383	--														
2. OBC (r)	1.8371	.91707	[.495, .797]	--													
3. INS (r)	1.6506	.91761	[.524, .847]	[.626, .832]	--												
4. DEP (r)	1.7778	.88898	[.510, .729]	[.775, .886]	[.671, .837]	--											
5. ANX (r)	1.4505	.93327	[.598, .835]	[.699, .960]	[.699, .860]	[.760, .933]	--										
6. HOS (r)	1.2184	.98878	[.517, .849]	[.403, .772]	[.563, .812]	[.478, .715]	[.620, .848]	--									
7. PHO (r)	1.2184	1.03379	[.528, .819]	[.533, .874]	[.612, .822]	[.584, .784]	[.781, .910]	[.575, .840]	--								
8. PAR (r)	1.1843	.86460	[.573, .796]	[.466, .733]	[.621, .815]	[.458, .710]	[.579, .810]	[.595, .815]	[.529, .771]	--							
9. PSY (r)	1.1733	.85229	[.667, .859]	[.599, .779]	[.618, .814]	[.618, .814]	[.771, .907]	[.658, .854]	[.696, .924]	[.715, .859]	--						
10. GSI (r)	1.4540	.80762	[.743, .958]	[.789, .907]	[.814, .959]	[.829, .919]	[.917, .961]	[.708, .876]	[.809, .908]	[.722, .876]	[.849, .950]	--					
11. PST (r)	59.10	25.239	[.767, .950]	[.653, .822]	[.711, .895]	[.649, .792]	[.775, .895]	[.702, .872]	[.749, .871]	[.699, .847]	[.849, .939]	[.899, .954]	--				
12. PSDI (r)	2.0736	.54337	[.432, .738]	[.474, .839]	[.133, .564]	[.571, .913]	[.517, .906]	[408, .744]	[-.009, .469]	[-.010, .418]	[.392, .770]	[.413, .840]	[-.151, .245]	--			
13. Tobacco score (r)	4.57	1.358	[-.280, .105]	[-.405, -.005]	[-.360, .037]	[-.411, .038]	[-.394, .016]	[-.326, .092]	[-.356, .053]	[-.296, .073]	[-.392, -.069]	[-.387, -.002]	[-.340, .003]	[-.317, .113]	--		
14. AUDIT score (r)	7.49	5.900	[-.031, .395]	[-.156, .165]	[-.097, .216]	[-.298, .110]	[-.146, .220]	[.005, .427]	[-.098, .265]	[-.035, .378]	[.067, .408]	[-.131, .284]	[-.020, .406]	[-.377, -.012]	[-.361, .073]	--	
15. DUDIT score (r)	5.70	6.571	[.195, .559]	[.114, .513]	[.106, .491]	[.106, .481]	[.164, .602]	[.270, .585]	[.181, .697]	[.123, .520]	[.357, .693]	[.205, .600]	[.340, .647]	[.128, .381]	[-.613, -.234]	[.210, .618]	--

Note. *M* and *SD* represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation (see table 6 for correlation values.

Personality. Table 5.8 shows the correlations between the seven dimensions of the

TCI-140-R and substance use (tobacco, alcohol, drugs). Tobacco use was only correlated

with one dimension; results demonstrate a moderate negative relationship between tobacco

use and NS ($r(103) = -.382, p < .001$, 95% CI [-.576, -.228]).

The personality profiles of alcohol users and drug users in this sample had very

similar results. There was a moderate positive relationship between both NS and alcohol use

($r(103) = .244, p = .012$, 95% CI [.076, .447]) and NS and drug use ($r(103) = .360, p < .001$,

95% CI [.187, .544]). There was also a moderate positive relationship between both ST and

alcohol use ($r(103) = .374, p = .002$, 95% CI [.184, .496]) and ST and drug use ($r(103) =$

$.293, p = .004$, 95% CI [.049, .459]). There was a moderate negative relationship between

both HA and alcohol use ($r(103) = -.333, p < .001$, 95% CI [-.519, -.198]) and HA and drug

use ($r(103) = -.257, p = .009$, 95% CI [-.418, -.028]). Additionally, there was a moderate

negative relationship between both CO and alcohol use ($r(103) = -.386, p < .001$, 95% CI [-

.526, -.195]) and CO and drug use ($r(103) = -.293, p = .003$, 95% CI [-.500, -.036]).

Table 5.8. Temperament and Character Inventory – 140 - Revised and substance use correlations. Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Novelty Seeking (*r*)	59.91	9.395	--									
2. Harm Avoidance (*r*)	70.56	14.373	-.278** [-.496, -.098]	--								
3. Reward Dependence (*r*)	64.04	10.225	.230* [.008, .439]	.140 [-.151, .303]	--							
4. Persistence (*r*)	61.34	12.073	.036 [-.163, .334]	-.152 [-.436, .028]	.091 [-.182, .282]	--						
5. Self-directedness (*r*)	57.79	11.341	-.233* [-.448, .040]	-.236* [-.437, -.051]	.132 [-.079, .430]	.362** [.094, .561]	--					
6. Cooperativeness (*r*)	70.37	11.673	-.167 [-.357, .102]	.443** [.251, .634]	.454** [.319, .677]	.115 [-.120, .300]	.303** [.051, .491]	--				
7. Self-transcendence (*r*)	44.07	9.829	.320** [.127, .453]	-.263* [-.511, -.056]	.104 [-.095, .323]	.184 [-.012, .429]	-.251* [-.466, -.025]	-.225* [-.395, .020]	--			
8. Tobacco score (*r*)	4.57	1.358	-.382** [-.576, -.228]	-.046 [-.240, .201]	-.046 [-.290, .121]	-.122 [-.364, .069]	.073 [-.113, .262]	-.069 [-.210, .210]	-.114 [-.339, .106]	--		
9. AUDIT score (*r*)	7.49	5.900	.244* [.076, .447]	-.333** [-.519, -.198]	-.157 [-.313, .035]	.090 [-.061, .300]	-.070 [-.263, .115]	-.386** [-.526, -.195]	.374** [.184, .496]	-.132 [-.361, .073]	--	
10. DUDIT score (*r*)	5.70	6.571	.360** [.187, .544]	-.257* [-.418, -.028]	-.099 [-.291, .163]	-.057 [-.238, .183]	-.170 [-.356, .036]	-.293* [-.500, -.036]	.293** [.049, .459]	-.443** [-.613, -.234]	.416** [.210, .618]	--

Note. M and SD represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation.
* Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

5.2. Inferential Statistics

Separate multiple regression analyses using the forward method were carried out for the outcome variables of alcohol and drug use to investigate whether the predictor variables which most highly correlated with those outcomes could significantly predict participant's AUDIT and DUDIT scores, respectively. A binary logistic regression was conducted between the variables which most highly correlated with smoking to investigate if they could predict whether an individual was a current smoker or non-smoker.

For a predictor variable to be included in the regression analyses the inclusion criteria was a correlation coefficient of $r \geq .35$ and a p-value of $p \leq .01$

5.2.1. Binary Logistic Regression – Smoking Status

Based on the inclusion criteria stated above, a single predictor variable was included which was Novelty Seeking (NS). Please refer to Table 5.8 for the correlations and p-values. A binary logistic analysis was conducted to explore if NS could significantly predict whether an individual was a current smoker or non-smoker.

105 cases were included in analysis, with three cases excluded for missing NS data. In total 102 cases were analysed, and the full model significantly predicted smoking status (omnibus $\chi^2 = 13.07$, df = 1, $p < .001$). The model accounted for between 12% and 23.3% of variance in smoking status, with 100% of current smoking status successfully predicted and 25% of current non-smoking status successfully predicted. Please see Table 5.9 for coefficients, Wald statistics, probability values and standardised beta (with 95% confidence intervals). Overall, 91.2% of predictions were accurate. NS significantly contributed to predicting smoking status ($p = .002$); for each point increase in NS, participants were 1.142 times less likely to be a current smoker.

Table 5.9. Binary Logistic Regression predicting current smoking status (smoker/non-smoker).

Variable	df	Sig.	B	SE	Exp(β) [95%CI]
Constant	1	.000	10.481	2.799	.000
Novelty Seeking (NS)	1	.002**	-.133	.042	1.142 [1.052, 1.240]

Note. Omnibus $\chi^2 = 13.074$, df = 1, p <.001. $R^2 = .233$ (Nagelkerke). $R^2 = .120$ (Cox & Snell).
*Significant at the .01 level.

5.2.2. Multiple Regression – Alcohol Use

Based on the inclusion criteria previously stated, five predictor variables were included, these were Novelty Seeking (NS), Harm Avoidance (HA), Cooperativeness (CO), Self-Transcendence (ST), and Global Severity Index (GSI). Please see Appendix I for the correlations and p-values. A multiple regression analysis using the forward method was conducted to explore if the five predictor variables could significantly predict alcohol use.

105 cases were included in analysis, with 13 cases excluded for missing data in any of the five predictor variables. In total 92 cases were analysed, and the results indicated that the model which was the most significant predictor of AUDIT scores was model 2 (see Table I.1), which included the predictor variables CO ($p = .002$) and NS ($p = .041$). This model could account for 16.3% of variance and was a significant predictor of alcohol use status, $F(2, 91) = 8.669$, $p < .001$, $R^2 = .163$ (see Table 5.10). The final most successful predictive model was:

$$AUDIT\ score = 11.08 + (-.155*CO) + (.121*NS)$$

AUDIT score decreased by .155 for each point increase in CO and increased by .121 for each point increase in NS.

Table 5.10. Multiple regression of AUDIT using forward method, Model 2: CO and NS

Variable	B	SE B	β	t	p
(Constant)	11.082	5.292		2.094	.039*
CO	-.155	.048	-.316	-3.211	.002**
NS	.121	.058	.204	2.077	.041*

Note: B = unstandardized beta, SE B = standard error for unstandardized beta, β = standardized beta.
* Significant at the 0.05 level. ** Significant at the 0.01 level.

5.2.3. Multiple Regression – Drug Use

Based on the inclusion criteria previously stated, four predictor variables were included, these were Novelty Seeking (NS), Global Severity Index (GSI), Positive Symptom Total (PST), and Gender-related Victimisation (V). Please see Appendix J for the correlations and p-values. A multiple regression analysis using the forward method was conducted to explore if the four predictor variables could significantly predict drug use.

105 cases were included in analysis, with 8 cases excluded for missing data in any of the three predictor variables. In total 97 cases were analysed, and the results indicated that the model which was the most significant predictor of DUDIT scores was model 2 (see Table J.1), which included the predictor variables NS ($p = .001$) and GSI ($p < .001$). This model could account for 35% of variance and was a significant predictor of drug use status, $F(2, 96) = 25.259$, $p < .001$, $R^2 = .35$ (see Table 5.11). The final predictive model was:

$$DUDIT\ score = -11.38 + (3.233*GSI) + (.206*NS)$$

DUDIT score increased by 3.233 for each point increase in GSI and increased by .206 for each point increase in NS.

Table 5.11. Multiple regression of DUDIT using forward method, Model 2: GSI and NS

Variable	B	SE B	β	t	p
(Constant)	-11.382	3.573		-3.185	.002*
GSI	3.233	.710	.400	4.554	.000**
NS	.206	.059	.305	3.466	.001**

Note: B = unstandardized beta, SE B = standard error for unstandardized beta,
β = standardized beta.
* Significant at the 0.05 level. ** Significant at the 0.01 level.

5.3. TESUP-1 IPA Results

Participants in the qualitative TEP1 study consisted of six of the lowest-scoring and seven of the highest-scoring on measures of alcohol and drug use from the quantitative TEP1 study. The following results were identified across both the low- and high-risk substance use groups. There was a degree of shared experiences across the two groups as well as differences. Overall, six themes (See Table 5.12) were identified across both groups, with the exception of theme 5 which was only relevant to those in the high-risk group. Each theme includes up to three sub-themes. The themes are: (1) Conceptualising the Transgender Self; (2) Navigating Transition-related Healthcare; (3) Social Contexts for Substance Use; (4) Distress (In)tolerance; (5) Impulsivity and Novelty Seeking; and (6) Protective and Prohibitive Factors in Substance Use. Participant extracts from each group are provided to illustrate each theme.

Table 5.12. TESUP-1 IPA results: themes and related sub-themes

Themes	Sub-Themes
1. Conceptualising the Transgender Self	1.1. Journey to the Authentic Self 1.2. Loss of the Self
2. Navigating Transition-related Healthcare	2.1. Lack of Knowledgeable and Inclusive Healthcare Services 2.2. Navigating a Complex Healthcare System
3. Social Contexts for Substance Use	3.1. LGBTQ Community Connections 3.2. Substance Use to Facilitate Socialising 3.3. Impact of Masculinities and Social Expectations
4. Distress (In)Tolerance	4.1. Coping with Frustration and Uncertainty 4.2. Unhealthy Strategies to Regulate Negative Emotions 4.3. The Symbiotic Relationship of Mental Health and Substance Use
5. Impulsivity and Novelty Seeking	5.1. Pursuit of Novel Stimulation 5.2. Impulsivity: Risks and Consequences
6. Protective Factors in Substance Use	6.1. Personal and Family History of Substance Use Issues 6.2. Attitudes and Behaviours of Peers 6.3. Harm Avoidance

5.3.1. Conceptualising the Transgender Self

Journey to the Authentic Self. The majority of participants across both the low-risk (L) and high-risk (H) substance use groups discussed the process of discovering and identifying with a transgender identity as one fraught with difficulties. Participants emphasised the complexities of navigating a trans identity but ultimately all participants except for one reported an improvement in their mental health and QoL after beginning to transition.

For the participants in this study the initial experience of recognizing their own transgender identity was characterised by difficulty interpreting one's own experiences and a lack of language to communicate their feelings to other people or themselves. This type of difficulty could be described as hermeneutical injustice (Fricker, 2006), which occurs when people are unable to understand or articulate their experiences due to social inequality and historic exclusion from contributing to the collective understandings that people use to make sense of their experiences. In this study, hermeneutic injustice often arose as a result of conservative socio-cultural norms and being raised within a Christian religion which has historically excluded trans people (see Box 5.1, extract 1.1). Exposure to positive depictions of transgender people was frequently a key turning point in the lives of the participants and remain as important life events which they can vividly recall (1.2).

The process of transitioning (both medically and socially) was most often reported as being a positive and validating experience. For Parker (H; 1.3), even negative experiences of receiving homophobic slurs were interpreted in a positive light because it indicated that they had not been perceived as female. However, despite the process of transitioning generally increasing the quality of life of the participants, there existed multiple barriers and difficulties in becoming their authentic selves. To cope with these difficulties, multiple participants from

both L and H groups reported using alcohol or drugs. Jeremy (L) was experiencing

unemployment and struggling with complications from phalloplasty surgery, which left him

concerned about his ability to manage his alcohol use (1.4). On the other hand, some

participants reported that their motivation for drinking alcohol had changed since they began

to medically transition, and their relationship to alcohol and themselves had improved (1.5)

Box 5.1. Representative extracts for "Conceptualising the Transgender Self". Quotes are from both low substance use group (L) and high substance use group (H).

1.1.	" I grew up in Austria which is a fairly Christian and conservative country and so being trans wasn't really a thing there […] I did an exchange program to England when I was 16 and I met a trans man … it was a very lightbulb-y moment of oh god that's a thing they can do here … and so I came out to some of my friends but not my family … I was very scared" (**Owen, H**)
1.2.	"I never actively identified as female ever in my life but looking at my body I could sort of go 'oh I can see why people describe me in that way' but I didn't have the knowledge or any sense of anything else … I suppose I never behaved or identified with the way everyone around me expected me to be … the big point for me that I recall was they had the documentary … on Channel 4 in 2011 … it was My Transsexual Summer … and that was the first time I really saw proper transmasculine experiences … and it was accessible … and I saw those experiences and went 'OH! Oh **that** describes how I feel' … and that really opened the door for me to have the language and knowledge to look at things on the internet and say 'this really fits with how I feel about things' (**Jeremy, L**)
1.3.	"I had someone yell 'faggot' at me in the street once and I was … obviously it's not nice but at the same time I was like … it was quite validating in a way because they read me as a guy [laughs]" (**Parker, H**)
1.4.	"I don't know when I'll be employed again and I'm struggling … coupled with that surgical issue it's gonna be hard in the future […] I think these two factors are making me question my alcohol use … and that is probably my biggest fear in terms of slipping … slipping back into problematic behaviours" (**Jeremy, L**)
1.5.	"a year or two ago I was spending five days out of the week drinking … this was before starting T and I was in a difficult place and I just didn't want to be sober […] after I started T it's like I'm a lot more confident and happier and now I go [drinking] to have a good time … it's completely reversed reasons" (**Logan, H**)
1.6.	"I sometimes see glimpses of how I could have been and I find that frustrating when I think about how my life could have been different … it makes me depressed a lot really … thinking of what I've lost before I've had the chance to do anything … all the things that have been taken away from me and the opportunities I haven't had … like if I wasn't trans I wouldn't be depressed … it makes me quite bitter I suppose" (**Darren, L**)
1.7.	"a lot of the time I get angry with myself … like why do I feel this way and why am I like this and how can I stop being like this … I get angry and wish I could just be a girl because it would be easier" (**Darren, L**)

Loss of the Self. Almost all of the participants described how their transition had helped them feel "at peace with myself" (Logan, H) and "happier and more content" (Aaron, L). However, one participant did not feel this way: Darren (L) frequently reported feeling "quite angry" and "isolated". He expressed intense bodily dysphoria ("there's something massively wrong with my body … I look disgusting and wrong") and conceptualised being transgender as a medical condition with no cure ("I'm stuck with this condition and no one understands … and there's no treatment for it"). Where other participants described transitioning as a journey to their authentic self, Darren described it as a loss of the self, the self that could have been (1.6), and was the only participant who vocalised his unhappiness with identifying as male (1.7). While no participants other than Darren felt similarly, Darren's negative experiences with his transgender identity were so frequently discussed throughout his interview and had such a substantial impact on the entirety of his life, the author felt it important that his views were centred within a single sub-theme.

5.3.2. Navigating Transition-Related Healthcare

Lack of Knowledgeable and Inclusive Healthcare Services. Many of the participants who were seeking transition-related medical interventions discussed the value of trans-inclusive healthcare. The few participants who received appropriate care from their GP typically described themselves as "very lucky" (Parker, H; Box 5.2; 2.1), or emphasised their appreciation for GPs who tried to provide appropriate healthcare, despite lacking any experience in it previously (2.2).

A more often reported experience was struggling to receive appropriate healthcare from primary care to gender identity services (GIS). One participant (Owen, H) was assumed to be struggling with depression and anxiety, due to his request for a GIS referral (2.3).

Another participant (Bailey, L) experienced a lot of distress in their attempts to access a referral to GIS (2.4). In contrast to Parker's inexperienced GP who tried to increase their knowledge and provide the correct care, Bailey perceived their GP as having "no idea what she's doing" and preventing Bailey from accessing timely and low-cost healthcare.

Box 5.2. Representative extracts for "Navigating Transition-related Healthcare". Quotes are from both low substance use group (L) and high substance use group (H).

2.1 "I am very lucky that my GP is amazing and she does shared care … she's been really good even though GenderGP haven't sent much information she's been trying to fight for me … we've actually not moved [house] so I can stay with this GP … I've never had a GP this good before and it makes a huge difference" (**Parker, H**)

2.2 "they [GP] have openly said that at the time they didn't have any trans patients and were sort of quite new and naïve to knowing how to deal with it and if anything … they took my journey … and it was a learning experience for them" (**Jeremy, L**)

2.3 "I went to my GP and said I want a referral to the gender clinic […] and she just gave me a test for depression and anxiety … I mean I did get the diagnosis but it was weird to immediately assume 'oh you're trans you must also be depressed" (**Owen, H**)

2.4 "my GP has never had a trans patients and so … it's really annoying because she wants to help but has no idea what she's doing … and the NICE guidelines are incredibly vague … so she doesn't know what she can or cannot do and ends up basically doing nothing … she referred me to the GIC but everything else has hit a road block of pedantic nonsense" (**Bailey, L**)

2.5 "As a non-UK national the hardest thing for me … and it's still ongoing … it's that I can't change my documents … and I do think it affects my drinking habits … if I'm really stressed out like if there's a visa deadline or something like that then I find it just makes me want to have a drink and some cigarettes (**Aaron, L**)

2.6 "*Interviewer*: have you been referred to a GIC? *Cody*: Somewhat … kind of … I think so *Interviewer:* so you're assuming you're on the waiting list? *Cody*: yeah I mean … I can't afford privately because I'm a student and get jack shit … I had a private consultation a while ago and I didn't have the money for it at the time … so I guess at the time it was like my way of solving that was just to have a drink" (**Cody, L**)

2.7 "A lot of it comes down to what the manager of the GP surgery says … and they don't wanna spend money unnecessarily … so basically they dictate who gets treatment and who doesn't" (**Bailey, L**)

2.8 "It's frustrating because you can't get on with what you **know** that you need … you **know** you need this and they hold you back so it takes a long time … sometimes I think they do it on purpose … hold you back" (**Simon, H**)

2.9 "I feel sort of … [sigh] not ungrateful … I don't know the word … sort of like … I've let them down … like they gave me testosterone and I've let them down because I'm taking a horrible drug *Interviewer:* why do you feel like you've let them down? *Simon:* because they trusted me to look after my own body and they gave me this testosterone to feel better and it's like I'm … I'm **purposefully** putting blocks in the way … not really purposefully but subconsciously … like trying to make problems for myself … like there's no problem because now I'm on testosterone so maybe it's like I need a problem in my life to dwell on … like subconsciously … I definitely feel like I've let them down … and especially my mum as well … that's a massive thing" (**Simon, H**)

Navigating a Complex Healthcare System. Where participants had managed to secure a referral to GIS, this process was far from simple. Some participants described how they were "put through so many hoops" before a referral was successful (Ezra, L). For participants who were non-UK nationals there was additional difficulties regarding navigating transition; changing names and gender markers on legal documents were referenced as additional challenges that might trigger the urge to drink alcohol and smoke cigarettes (2.5).

The waiting time between referral and first appointment was mentioned by all of the participants, they described this waiting time as "**extremely** just ridiculously long" (Logan, H) and like being "stuck in a nightmare" (Parker, H). The length of waiting time, the uncertainty of whether their referral would be accepted or when their appointment might be, and the financial stress of attempts to access private healthcare were often depicted as experiences which triggered increased frequency and quantity of substance use (2.6). It is interesting to note that four of the six L participants had accessed private transition-related healthcare, whereas only one of the seven H participants had been able to access private healthcare. Additionally, it was more often the H group who used emotional language to describe their difficulties accessing healthcare, describing waiting as a "nightmare" (Parker, H), and depicted delayed appointments as "a kick in the face". The L group had similar experiences but were more reserved in their description of events ("I suppose it was upsetting" Jeremy, L) and tended to minimise the emotional impact ("my appointment was moved back which was admittedly disappointing" Ezra, L).

Throughout interviews with all of the participants, there was a sense that GIS could not be trusted and there was a lack of understanding of GIS motivations behind decision-making processes regarding HRT and referrals for surgery. For example, Bailey (L) suspected that they had been denied shared care simply so that their GP surgery could save

money (2.7), and Simon (H) wondered if GIS were purposefully preventing him from accessing testosterone (2.8). Simon's conflicted feelings about his relationship with GIS was particularly apparent when discussing his use of cocaine and his feelings of shame because he thought that he had "let them down" when they had "trusted [him] to look after [his] own body" (2.9).

5.3.3. Social Contexts for Substance Use

LGBTQ Community Connections. Many of the participants discussed their relationships with other LGBTQ people and the LGBTQ community as a whole. The L group tended to feel disconnected from other trans people and sometimes felt as though they did not really belong to the LGBTQ community. On the other hand, the H group often felt strong connections with other LGBTQ people and would attend trans support groups and LGBTQ-specific nightclubs and bars. Many individuals in the H group defined themselves as activists for trans rights and their social circles largely consisted of other LGBTQ people.

Some participants discussed how socialising with other trans people when they were younger or when they had just come out as trans was a strong source of validation and support (Box 5.3; 3.1). Many participants in the H group described how a lot of their social experiences with other LGBTQ people took place in the context of substance use. Logan (H) felt as though the community that he had found in "queer bars" helped him gain confidence and he felt a sense of safety in these contexts, compared to non-queer bars (3.2). However, the benefits of seeking community in bars and clubs was not felt by all participants. For example, Parker (H) described how many events for LGBTQ people centred around alcohol, and they felt that this limited their opportunities for socialising when they did not want to drink (3.3).

It is notable that participants who had positive experiences of socialising with other trans people had all done so 'in real life' as opposed to participating online. Other participants who had tried to connect with other trans people but had done so online had strikingly negative experiences, and many of them who had looked for support in online trans support groups described how they found it "difficult to get along" with other trans people (3.4; Bailey, L), and felt like they had "nothing in common with them" (3.5; Darren, L).

Most of the L group had less LGBTQ community connections in comparison to the H group, however they tended to report that they did not have much interest in pursuing this, and that they had other friendships that were based on shared hobbies or having grown up together as children. The exception to this was Darren (L) who consistently described being socially isolated and claimed that he didn't "have any friends or anyone to talk to". He felt disconnected from the trans community because he perceived being trans as having been "born with a condition" and he reported that this led to him getting into arguments online with other trans people. These arguments were typically based on a division within the trans community over the necessity of dysphoria to identify as trans, with Darren stating, "you **do** need dysphoria to be trans … it's quite literally part of the diagnosis". This had led to him feeling rejected from the community, increasing his feelings of shame and self-hatred, and led to an increase in drinking alcohol (3.6).

The idea that engaging with other trans people is related to substance use was also explored by another participant, Zack (H). However, where Darren (L) conceptualised disconnection from the trans community as contributing to his substance use, Zack (H) described how his connections with other trans people increased his substance use. He felt that in his friendship group, being trans was connected to heavy substance use, and they would encourage these behaviours in each other (3.7). He directly related identifying as trans, and being around other trans people, as a precipitant to increased substance use ("when

you're in a group and you're all queer … well you're not exactly sitting down for bible study"). In his opinion having an identity which made him "a social outcast" made it easier to participate in other behaviours which were not socially acceptable (3.8). It is interesting that both Darren (L) and Zack (H) related increased substance use with feelings of rejection from their peers. However, for Darren it was rejection from the "mainstream" trans community that influenced his substance use, whereas for Zack it was rejection from "mainstream" society as a whole (mainstream for Zack largely meant cis/het society).

Box 5.3. Representative extracts for "LGBTQ Community Connections" in "Social Contexts for Substance Use". Quotes are from both low substance use group (L) and high substance use group (H).

3.1	"I'm from a really small town and I had a couple of gay friends but it wasn't … the same type of queer … and coming to university and being able to meet people … like having a group of trans friends that are a bit older and are like … big brothers … that was really nice" (**Cody, L**)
3.2	"You tend to get that sense of community more in queer bars definitely … I went to one that had gender neutral toilets and people were dressed up in drag and it was such a … nice community … it felt really safe […] places like that just help me to feel more confident … help me socialise more and create a sense of community" (**Logan, H**)
3.3	"I think it's a thing where a lot of queer events and spaces centre around alcohol … which I think is an issue in the queer community for sure … and so I just try not to go out because sometimes it's hard not to drink" (**Parker, H**)
3.4	"I've been on a couple of forums but … it sounds awful … but a lot of them like … they went to all girl's schools and their experiences and their … attitudes … just didn't mesh with me … I just found them quite difficult to get on with [laughs] I dunno if it's a culture thing or what" (**Bailey, L**)
3.5	"I've tried joining LGBT and trans groups online … and I constantly have issues … I just don't seem to have anything in common […] I've noticed increasingly in trans groups online that there's lots of things about new genders and … like … there's a kind of Tumblr style of trans person who identifies as 30 genders and as a fox or whatever and they use weird pronouns … it's frustrating that I can't find spaces for trans people who are like me … like who don't agree with that stuff and who are **actually** trans" (**Darren, L**)
3.6	"it feels like you **have** to have certain beliefs otherwise you get badly rejected and it makes everything to do with being trans worse … I do think it has pushed me to drinking sometimes … because I end up hating myself because of the attitudes in the community […] so I'm part of one of these communities of rejected trans people and it's an awful place where everyone is really depressed" (**Darren, L**)
3.7	"A lot of the trans friends I've made actively partook in some sort of substance use … we created the atmosphere where … not only were we the queer group in college but we were also the smokers and the people who did drugs and partied and stuff … we were the alternative kinda punk crowd … we created an atmosphere where we'd let ourselves do all those things and everyone was trying to win the bet of who can get the most screwed up" (**Zack, H**)
3.8	"almost every queer person I know likes drugs … and I'm not too sure why that is … maybe if you're already going against the grain it opens up … like if you're already a social outcast … it's a lot easier to get into things like that … if you take this lifestyle where a lot of people are like 'oh that's bad' then I think it's very easy to do other things that people think are bad as well" (**Zack, H**)

Substance Use to Facilitate Socialising. Most of the participants in both the L and H groups conceptualised substance use as something which enhances social experiences and increases their confidence. Participants in the L group reported that they did not use substances when alone, and that they mostly drank in social situations to enhance an already good time (Box 5.4; 4.1). This sentiment was mirrored in the H group, but members of the H group also reported that they occasionally would drink alcohol or take drugs on their own, although this was not always depicted as a positive experience (4.2).

Participants in the H group reported more instances of experiencing peer pressure to drink more alcohol or take more drugs than they wanted to. Some participants reported that they would use more substances to stop their friends from mocking them and "taking the piss out of [them]" (4.3). Simon (H; 4.4) felt it was better to give in to peer pressure because "they don't know I'm trans so I can't single myself out for attention like that". For Simon, his need to conceal his trans identity from his friendship group led to his struggles with excessive use of alcohol and cocaine.

In both the L group and H group, participants discussed how getting drunk would encourage themselves and others to talk about topics which they would not have done while sober; some participants would take the opportunity while drunk to come out as trans to their friends (4.5). Some participants described how they had purposefully got drunk so that they could have difficult conversations, particularly if they want to talk about their mental health or experiences of dysphoria (4.6). These participants also all described that when they were sober the next day, they would have feelings of regret about talking about something they usually would not talk about and feeling that it was "embarrassing" (4.7).

Box 5.4. Representative extracts for "Substance Use to Facilitate Socialising" in "Social Contexts for Substance Use". Quotes are from both low substance use group (L) and high substance use group (H).

4.1 "I only drink in social situations … never on my own … and in social situations I'm already feeling pretty good … that fun feeling is more attributed to the people I'm with rather than alcohol … the alcohol is like … it's like the cherry on top and the people I'm with is the whole ice cream sundae [laughs]" (**Ezra, L**)

4.2 "When you're doing [drugs] with your friends you can justify it as having a good time but also like now I'm having an even better time .. but when you're on your own … that's when you're really like oof [laughs] y'know … you do feel … more reflective the morning after" (**Zack, H**)

4.3 "Some of my friends will take the piss out of me and say 'come on you've not been out out for ages' and by out out they mean taking drugs all night and not coming home … and it's nice to be appreciated and feel that other people want to encourage me to get high and hang out with them … but at the same time they will pester me and just take the piss if I say no" (**Gale, H**)

4.4 "If I didn't take [cocaine] then my mates would take the piss or something … and they don't know that I'm trans so I can't single myself out for attention like that … it's better to fit in" (**Simon, H**)

4.5 "I came out to people at university when I was really drunk at a party … because it's a relaxing … a loosening of inhibitions thing … and most of my comings out have actually happened while tipsy or drunk … it just makes it easier to talk about" (**Owen, H**)

4.6 "I do sometimes have a drink to speak more openly with people … like about mental health … or I know that among my group of trans friends … people will tend to talk about their experiences of dysphoria when they're drunk … I think people are a lot more open to talk about it … and there's a level of trust among queer friends that you … you can't replicate that elsewhere" (**Cody, L**)

4.7 "Alcohol does lower my anxiety levels … to a lower level where I can say more things and have those important discussions that I wouldn't really have while sober […] but then there's the negative consequences the next day when you've said something embarrassing or something that you end up regretting" (**Owen, H**)

Impact of Masculinities and Social Expectations. Most of the participants in the H group discussed how the decision to use substances, or the type of substances used, was often dependent on accessibility of the substance and the social context (Box 5.5; 5.1). Participants would compare their own drug use to others in an attempt to normalise their own use of drugs. For example, Gale (H) rationalised their own use of drugs by comparing themselves to others who take more drugs in less acceptable circumstances (5.2). Drinking with friends was seen as more acceptable than drinking alone. For example, Rowan (H; 5.3) would purposefully avoid drinking alone to prevent "addiction" but would take advantage of being with his friends to engage in heavy drinking. He also conceptualised non-drinkers as

"boring", and so he was actively navigating the boundaries of what he found acceptable and

what society thinks of as acceptable drinking behaviours.

Box 5.5. Representative extracts for "Impact of Masculinities and Social Expectations" in "Social Contexts for Substance Use". Quotes are from both low substance use group (L) and high substance use group (H).

5.1 "If it's not the right settings I probably wouldn't have coke or ket or whatever … we do that stuff at parties and if there's no party then there's no point to take drugs" (**Zack, H**)

5.2 "I can take or leave the harder stuff and I'd quite happily go three to six months without being inspired … I wanna keep it special or you can disappear into a hole where obviously other people might take everything known to man in my opinion too often and they get used to it and end up casually having some … having some coke after their tea … that doesn't offer any appeal to me" (**Gale, H**)

5.3 "I go out **a lot** to drink … I'm not one to drink alone because I have this thing in my head like … if I drink alone I'll fall into this addictive personality … this addiction … and so I consciously did that purposefully so I wouldn't drink alone … and I was pretty much not drinking unless I go out but going out … I will go out a lot and I would just drink … and drink and drink and drink and drink *Interviewer:* Would you feel comfortable going out when others are drinking but not having a drink? *Rowan:* um kinda … it depends … I have some preconceptions about people who don't drink and it's like … they just seem boring or something … so in my opinion having drinks with your mates is normal and fine and whatever" (**Rowan, H**)

5.4 "there's such a different culture with your geeky guys than there is with more … jock guys … that sort of lad culture […] I think that within the geek subculture there's less of a necessity to drink … I dunno … I've always found that my role-play buddies drink significantly less than the more laddish buddies I have" (**Bailey, L**)

5.5 "*Interviewer:* Do you think that your substance use might actually help in your job [as a youth worker for at-risk kids] *Gale:* Well yeah because I think it means I've not been a geek for my entire life which means I can identify with some of the difficult kids I work with" (**Gale, H**)

5.6 "I do **not** get into lad's culture or any of that … I'm a fan of cocktails and I like tasty ciders and wine … I don't have their attitude to drinking and I really don't like binge-drinking *Interviewer:* do you consider yourself to be masculine? *Aaron:* yeah I do … I mean … it's one of those 'in the eye of the beholder' things … but yeah … I think I do" (**Aaron, L**)

5.7 "I'm quite conscious about what I drink and that I should be having a pint … it's like I would choose my drink so that people will perceive my gender right … and sometimes it's like all the guys are having pints so maybe I should have a pint and not a gin and tonic" (**Parker, H**)

5.8 "What you drink is inherently masculine or feminine … I mean it's completely social and means nothing … but men drink pints and women drink cocktails … so that stuff affects what you drink because it's that stupid social dysphoria isn't it … it's stupid but I think if I drink that beer then people won't misgender me" (**Cody, L**)

5.9 "I think there's a masculine or feminine way of drinking alcohol and I try to do it in the masculine way … and do that with drugs too … since transitioning I'm more aware of my gendered and I purposefully do gendered things … to make sure it's all done in a masculine way … like with alcohol I act really funny like saying 'lads lads lads let's get messed up' … and smoking cigarettes to be that *cool guy who smokes cigarettes* … and drugs y'know it's fun to be that cool mysterious dude who's done loads of psychedelics and trying to be more masculine definitely drove all that … just that atmosphere … of trying to be as cool and as masculine as possible" (**Zack, H**)

A cultural norm related to substance use which was frequently discussed by participants in both groups was something that they described as "lad culture" (Bailey, L; Aaron, L; Jeremy, L; Cody, L; Rowan, H; Zack, H; Parker, H; Logan, H). Participants in the L group often made a distinction between themselves and 'lad culture', which they associated with drinking large quantities of alcohol, particularly beer, in the pub while watching football. This 'lad culture' was typically framed in contrast to the subculture that the participants in the L group described themselves as belonging to: "nerdy" or "geek culture". They reported that this subculture included less of an expectation to drink alcohol and instead they focused their socialising on shared hobbies such as role-playing games (Bailey, 5.4). Although it was typically the L group which made this distinction, one participant in the H group (Gale) implied that because they do drink alcohol and use drugs, they are not a 'geek' (5.5). Many of the participants in the L group made this distinction between "geek" guys and "lad" guys which includes a suggestion of the existence of multiple masculinities. This was made clear by Aaron (L; 5.6) who stated that masculinity is subjective and implied that there are multiple ways to inhabit masculinity.

Although participants from both groups discussed 'lad culture' in the context of substance use, it was participants from the H group who more frequently reported that they might participate in 'lad culture' in order to pursue masculinity and 'pass' as male through gendered substance use (5.7). Participants in the H group often expressed concern that if they did not consume substances in a 'masculine' way then they would not be perceived as male by others, Rowan (H) described this behaviour as "it's all about **how** you drink and **when** you drink and the **things** you drink … and if you don't do that then you're purposefully leading yourself to get misgendered". Cody (L) was one of the few participants in the L group who discussed how they make efforts to conform to gendered expectations of alcohol use, and they reported that they engage in this due to "social dysphoria" (5.8).

In a similar sentiment to Cody (L), Zack (H) also discussed conforming to gendered expectations of substance use, however where Cody conceptualised this as avoiding dysphoria, Zack framed his behaviours as seeking gender euphoria through masculine use of substances (5.9). His description of motivations for engaging in substance use were framed in the context of pursuing masculinity; "I smoke cigarettes so I can be that *cool guy who smokes cigarettes*", "I feel proper manly when I hold a pint", "I just wanted to be that cool mysterious dude who's done loads of psychedelics … just trying to be as cool and masculine as possible".

While on the face of it, avoiding gender dysphoria and seeking gender euphoria through substance use may seem to be two sides of the same coin, it is worth noting the differences in the underlying intent and mechanisms through which they were attained. For those participants whose motivation for substance use was avoidance of dysphoria, this can also be framed as attempts to avoid distress, or avoidance of having to psychologically cope with distress. As is seen in Rowan's description of why they engage in dysphoria avoidance behaviours, when this is not done 'successfully', the individual may blame themselves, potentially leading to worse gender dysphoria and self-esteem. Whereas the desire to seek gender euphoria, as told by Zack (5.9), can be framed as a performative act, which not only serves to communicate his gender identity to others, but also is a source of self-esteem and validation (and likely lessens the negative impact of gender dysphoria).

5.3.4. Distress (In)Tolerance

Coping with Frustration and Uncertainty. For some of the participants in this study, their attempts to cope with uncertain or frustrating situations sometimes led to an increase in substance use in order to regulate those negative emotions. Some participants

reported that conflict in personal (most often, romantic) relationships could trigger the urge to drink alcohol (Box 5.6; 6.1). One participant (Parker, H; 6.2) reported that even when they were teetotal, if they were enduring significant emotional turmoil related to arguing with their partner, then they would usually drink alcohol to deal with their emotions.

Another area of the participants' lives which consistently caused frustration and feelings of uncertainty was their medical transition. The financial burden of getting private healthcare and trying to change one's name and gender on legal documents was cited by some participants as difficult situations which might trigger the urge to use alcohol to excess (see Box 5.2; 2.7 and 2.8). Some participants found the official NHS and government guidance on medical transition to be vague and confusing which caused feelings of frustration and confusion, and participants also reported drinking alcohol to cope with that (6.3). Some participants reported that they used alcohol "as a coping mechanism for dysphoria" (Cody, L), particularly when they were uncertain about when they would receive GIS appointments or transition-related treatment (See Box. 5.1; 1.4).

Box 5.6. Representative extracts for "Coping with Frustration and Uncertainty" in "Distress (In)Tolerance". Quotes are from both low substance use group (L) and high substance use group (H).

6.1 "If there's more stress and there's more emotional conflict in my relationships that I'm unable to express for whatever reason then I'd be quite tempted to have a drink" (**Aaron, L**)
6.2 "I'd definitely drink more if I'm stressed or if I've had an argument with my partner … even when I wasn't drinking at all if we had an argument … especially if she had stormed out … then a lot of the time then I'd drink … or I'd really want a drink … but yeah I do drink more then … like if I'm really down or frustrated or really stressed" (**Parker, H)**
6.3 "All the information that you find is so vague … and name change and all that is an absolute headache … all you need is a deed poll on fancy paper but so many places say that you need more … because they don't really know … and again the guidance is so vague … it's all a nightmare and I don't want to do it … I find it incredibly stressful and it all just makes me want to have a drink" (**Bailey, L**)

Unhealthy Strategies to Regulate Negative Emotions. One of the reasons for engaging in substance use frequently discussed by participants in both groups was to reduce stress, and to distract themselves from feeling negative emotions. Many of the participants felt they lacked healthy coping mechanisms and did not know how to deal with stressful situations or negative emotions, so they would drink to cope, even though for some it might cause worse outcomes such as suicidal ideation (Box 5.7; 7.1). Some participants would turn to alcohol to deal with stress related to their job (7.2) and their housing situation (7.3). Another participant reflected on a traumatic event which he believed was the catalyst for his difficulties with substance use. As a teenager, Simon (H) witnessed his father take an overdose of heroin and, looking back on it, he identified it as the experience which caused his excessive alcohol use, and more recently, his cocaine use as well (7.4).

One participant in the L group (Bailey) who had previously suffered from chronic pain from migraines, reported how in an effort to reduce their pain they would combine opiate painkillers and alcohol so they could "pass out for a few hours" (7.5). Although Bailey reported that they no longer suffered so severely from migraines, they still crave alcohol if they are experiencing any negative emotions because "if I'm feeling down and really bad then I want a drink … I suppose I still associate it with feeling better".

Box 5.7. Representative extracts for "Unhealthy Strategies to Regulate Negative Emotions" in "Distress (In)Tolerance". Quotes are from both low substance use group (L) and high substance use group (H).

7.1 "I really haven't got any coping mechanisms for negative emotions … other than just wanting to drink … and when I want something I usually let myself have it otherwise I'll just think about it and think about it until I do have it … so yeah just I drink … but I have had to learn not to drink too much when I'm sad and alone … because it leads to situations like when you tried to throw yourself into the river at 3am … and that's not very good" (**Rowan, H**)

7.2 "When I have an upcoming project deadline and there's a lot of stress it makes me want a drink and some cigarettes … this happened in my old job too … I would just be so exhausted on all levels that I'd regularly have a drink" (**Aaron, L**)

7.3 "When I was really unhappy in my job and I lived in a really shitty place where there was nothing to do me and my partner would just sit inside and drink wine every night … it got to the point where we were drinking and sharing a bottle every night and then it progressed to a bottle of wine **each** a night" (**Parker, H**)

7.4 "When I was 18 I went through a lot of stress with my dad and I mean **massive** stress … and that's what made me first start drinking so much *Interviewer:* what was the stress that you were going through? *Simon:* I was with my dad and he took a heroin overdose … and I think it massively affected me … well it must have done … I don't **feel** like it's affecting me but … it's obvious because I did start having alcohol problems just after that … and now I have a coke habit too" (**Simon, H**)

7.5 "I used to drink **a lot** … as a way of dealing with the fact I was in almost constant pain … I was the only student I knew who had a freakin' liquor cabinet (!) … and so if I had a headache or a migraine then I would have a drink to help the painkillers … and that was a habit I got into of taking my very strong opiate painkillers and washing them down with some straight whatever I had … and then pass out for a few hours … I know it's not a good thing but when you're in that much pain and you're that upset about it all then you're like 'I'm desperate just give me the booze" (**Bailey, L**)

7.6 " before starting T I was having a really difficult time and I just … didn't want to be sober … it started out like partying with friends but then it turned into me going out to drink and get really smashed and try to hook up with someone … like for validation … because I'd just come out and I was feeling like I wasn't passing very well … I just wanted people to find me attractive … sometimes it worked but not always … I just wanted that validation and affection from someone else" (**Logan, H**)

7.7 "one of the worst parts [about being trans] is certainly the dysphoria … sometimes it's very debilitating … it's difficult to do anything … it's still very difficult to have a shower and to go outside … and it's not easy for me to sleep with my girlfriend but when I've had a few drinks it's much easier to loosen up … so yeah usually I'll have some drinks before we sleep together because it's harder for me when I'm not drunk or at least tipsy … it does help to lessen the dysphoria" (**Owen, H**)

Alcohol use to cope with dysphoria was sometimes reported, though only from participants in the H group. One participant, Logan (H) recounted a story about how prior to being on testosterone he would spend most of the week drinking because he felt so much dysphoria that he "didn't want to be sober". During this period, he would go out drinking in clubs alone in order to seek validation of his gender identity by "hook[ing] up with someone" (7.6). Additionally, another participant in the H group, Owen, disclosed that to reduce

dysphoria he would typically have some alcohol to be intimate and have sex with his girlfriend (7.7).

The Symbiotic Relationship of Mental Health and Substance Use. Many of the participants described how their mental health and their substance use were often interrelated and interdependent. Participants in the L group, many of whom had previously struggled with substance use but no longer engaged in it, reflected on how they had become reliant on alcohol as a method of avoidance related to mental health and gender dysphoria. Bailey (L) described substance use as "a crutch" to cope with worsening mental health (Box 5.8; 8.1) and similarly, Jeremy (L) conceptualised his previous alcohol use as a maladaptive coping mechanism to deal with depression, anxiety, and dysphoria (8.2). Both Bailey and Jeremy alluded to the relationship between their gender dysphoria and struggles with their mental health; it's notable that both their reliance on alcohol and their symptoms of mental illness reduced as they progressed through their transitions. Another participant, Rowan (H), identified his substance use as stemming from his struggles to cope with ADHD when he was younger and his feeling that he was unable to do anything other than "be the life of the party" (8.3).

Conversely, some participants discussed the negative impact that substance use would have on their mental health. Parker (H) discussed how increased alcohol use would lead to a deterioration in their mental health, which they linked to weight gain that often led to increased bodily dysphoria (8.4). The negative self-image that resulted from poor mental health and weight gain caused a cycle of increased drinking in response to mental health struggles, and worse mental health as a result of increased substance use (8.5). Simon (H) also described how using cocaine would cause intense feelings of shame and guilt (8.6).

Substance use was discussed by some participants in relation to self-harm, though there was significant divergence of these experiences and the contexts from which they emerged. Early in his interview, Zack (H) reported that he tends to drink heavily on his own when his mental health is declining (8.7). Later in the interview, Zack recounted the first time that he smoked a cigarette as a twelve-year-old and discloses that he justified it by wanting to "look cool in front of [his] older brother" but that secretly it was "just another form of self-harm" (8.8). At the end of his interview, when asked if he would be willing to seek help for substance use-related issues he denied this, explaining that "I deserve to feel to like crap and to be on drugs [...] I don't wanna bother people with my stupid alcoholism" (8.9). As the interview progressed, the relationship between Zack's mental health and substance use became demonstrated more explicitly, and the contradictory nature of Zack's beliefs about substance use (a method of self-harm vs. a method of seeking gender euphoria) shed light on his complicated relationship with substances and with himself. Darren (L) also discussed how substance use and self-harm interact in his life, but his experiences and the personal meanings are contrasting to that of Zack. For Darren, alcohol was used as a method of preventing himself from self-harming because he perceived it to "calm me down a bit" (8.10), while Darren acknowledged that excessive alcohol use is harmful and potentially addictive, he viewed his alcohol use as a less damaging coping mechanism than self-harm (8.11). The damaging nature of alcoholism, for Zack, however, was part of his motivation for excessive alcohol use.

Box 5.8. Representative extracts for "The Symbiotic Relationship of Mental Health and Substance Use" in "Distress (In)Tolerance". Quotes are from both low substance use group (L) and high substance use group (H).

8.1 "I mean at the time … it was before I started transitioning or anything … and [alcohol] was very much a crutch … and as my mental health has improved an awful lot the need for those crutches has gone away" (**Bailey, L**)

8.2 "I can remember how sort of … how reliant I got in terms of … when I wasn't busy and occupied I was using [alcohol] as a device to not have to deal with that stuff but these days the anxiety and depression has got a lot less since I've got through the process of transitioning … and so I don't need those coping mechanisms so much *Interviewer:* do you think that drinking was connected to the struggles with your gender that you were having at the time? *Jeremy:* absolutely yeah … definitely it was easier [to drink] than to deal with it because at that point I didn't … have the necessary language and knowledge of anything LGBT […] so turning to alcohol to take the edge off it was **definitely** my way of coping but not really coping at the time … just to not have to think about things or feel things and just … not have to deal with any of it" (**Jeremy, L**)

8.3 "A lot of things associated with ADHD are things which have been copping up as issues in my life **a lot** […] when I was 14 I would get sensory overloads and changing moos and whatever … and I was unable to do anything … like in general but also about the way I was and it led to me going out drinking several times a week and doing the only thing I knew I could do … just be the life of the party" (**Rowan, H**)

8.4 "If I have a drink I know I'll feel down for a few days afterward … and then when I drink regularly my mental and physical health gets a lot worse" (**Parker, H**)

8.5 "I've been drinking a lot and I've put on a lot of weight and that's really upsetting because it all sits around my stomach and hips … right now I hate my body … and I usually just end up more miserable and eating and drinking more … it just ends up as this cycle" (**Parker, H**)

8.6 "I always feel really guilty afterwards … I mean **really** guilty … because I've let them down … especially my mum … I mean it's disgusting and I feel ashamed of myself everyday" (**Simon, H**)

8.7 "When my mental health is on a decline I kinda … drink on my own a lot … I get those situations a lot where I just am on my own and feel … very much like I wanna be off my face right now … it doesn't happen all the time but it is kinda often that I have gotten really messed up on my own just because I felt like I needed to" (**Zack, H**)

8.8 "When I was about 12 er … my brother at that point he was 17 and he'd like started smoking because he was a cool 17-year-old who has like a bottle of whiskey in his room and a packet of cigarettes … and … my twin brother he goes to me like 'oh hey y'know he let me take a puff of his cigarette and I coughed up like coughed my lungs out' and I was like 'what?! I want a puff' y'know 'what's this about' … so I sneaked downstairs ages later … and rolled myself the most god-awful- because I'm a 12-year-old the worst cigarette of my life and then I tried to smoke it out of my window and half of me was justifying it by saying okay I'm preparing myself so when he asks us if we want a toke I'm not gonna cough … I'm gonna look cool in front of our older brother … and then like the other half was- by that point I'd also started self-harming and it was kind of just a form of that to be honest" (**Zack, H**)

8.9 "I wouldn't seek help and definitely not if I'm in the peak of a depressive episode *Interviewer:* Why do you think you wouldn't seek help? *Zack:* Basically I'd feel like I deserve it … like I deserve to feel like crap and to be on drugs and it's very much a … self-eating snake of feeling like I deserve it and also wanting at the same time to feel this sadness … like I wanna feel this bad because I deserve it and so … y'know I'd feel like I wasn't … worth … getting help and I don't wanna bother people with my stupid alcoholism" (**Zack, H**)

8.10 "I've got quite a lot of mental health issues and I'll just try to block it a bit with alcohol […] I have the urge [to self-harm] daily and alcohol can reduce the chances of self-harming … it just calms me down a bit and it's like taking a different measure to change how I'm feeling inside" (**Darren, L**)

8.11 "[alcohol] is not something I want to rely on much for a coping mechanism … so I try not to treat it in that way because I don't want to get dependent on it" (**Darren, L**)

5.3.5. Impulsivity and Novelty Seeking

Pursuit of Novel Stimulation. For participants in the H group, the experiences that they recounted indicated that substance use was not always conceptualised as a coping method for negative emotions or to facilitate socialising, as it was for members of the L group. Instead, some participants in the H group discussed how substance use was an enjoyable activity that they sought out in the pursuit of novel experiences. Logan (H; Box 5.9; 9.1) described how he had a "really positive outlook on drinking" because it enabled him to have new experiences and enhanced his enjoyment of activities such as festivals and parties with friends. Similarly, Gale (H; 9.2) would engage in substance use to enhance their enjoyment of music festivals. They described how their substance use would be carefully planned in order to get maximum effects from the drugs they were using, and also so that the type of drug would complement the activity they were doing (i.e., marijuana for low energy activities and cocaine for high energy activities).

Where Gale would plan to use specific substances at different times, other participants described how they would combine substances to enhance their effects. For example, Zack reported that he enjoyed experimenting with various drugs in different combinations (9.3), and Simon (9.4) enthusiastically described how he typically uses alcohol and cocaine together because it is "the best feeling in the world".

Box 5.9. Representative extracts for "Impulsivity and Novelty Seeking" Quotes are from the high substance use group (H).

9.1 "I guess I [drink alcohol] a lot just to have a new experience … or a different experience … like even getting really sweaty and disgusting is all part of it … especially at a gig or a festival … and if you go to a club that is **packed** and the music is loud and you're literally sardined in … it's like you enjoy the whole experience and the drinking takes it up a notch … the whole thing is so fun and … yeah I definitely have overall a really positive outlook on drinking (**Logan, H**)

9.2 "I like MD because it lasts longer than coke … but I'll very much time it if like I want to come up at this time because I want to see these bands under the influence … for certain bands when I'm looking at a festival line-up I'll be like okay so Thursday is gonna be my MD heavy day … and then Friday I'm just gonna drink because there's not much I'm arsed about er … Saturday I wanna be … I'm gonna watch some acoustic stuff so I'm just gonna have a couple of joints and then Sunday I wanna be sort of … er y'know I wanna get stuck in for a couple of bands between 6 and 8 and then after that there's nothing so I'd think well I don't want to have MD because I'll be awake pointlessly dancing to shit I don't like [laughs] so that's sort of how I can organise a 4 day festival in what I'm having to make sure that I **can** peak because there's no point trying to peak on MD twice in a weekend it's just not gonna happen" (**Gale, H**)

9.3 "To give a broad list of everything I've done … weed Xanax Valium LSD 2CB DMT … coke ket … there's 1 or 2 more … I've forgot its actual name but it's some weird synthetic heroin type thing … and I used to smoke **a lot** of weed … I tried LSD and I was like yeah this sounds really cool … also I've done MDMA a few times and sometimes would take it with acid because that's what's called a Candy Flip and it's a whole lot of fun" (**Zack, H**)

9.4 "[alcohol and cocaine] gives you the best feeling in the world and you get a rush of euphoria and you're having a drink and you're like 'oh I feel a bit drunk' so you have a sniff or a line and you're just like 'wow' and you get the best feeling ever you just get a warm feeling and it's like your heart slows down and you're like wow that's just amazing honestly it's the best feeling ever … best feeling … like the feeling of alcohol **makes** me want the coke and the coke makes me wanna drink … they go together easy" (**Simon, H**)

9.5 "I can't buy a bottle of gin and just keep it in the cupboard because I wouldn't stop drinking it … I would just drink it every single night so I need to buy cans to limit how much I drink … I just really think I'm someone who just shouldn't drink at all … I just … I don't think I have the control to drink in moderation" (**Parker, H**)

9.6 "when my sort of reasons to behave … aren't there anymore then it's like well if everyone else is doing that and they're having a great time why wouldn't I sort of be in the same headspace as everyone that I'm with … so it's normally like if I haven't got the game the next day er … sort of my self-control goes out the window 'cos there's nothing to control myself for … and using alcohol I think I'm more likely to vomit when I've had alcohol because I don't know when to stop" (**Gale, H**)

9.7 "Alcohol is the worst trigger for (cocaine use) it's like my number one trigger … it lowers my inhibitions so you don't think about the consequences or the future … you just think 'ah fuck it' like act now and think later *Interviewer: do you consider yourself to be an impulsive person? Simon:* yeah definitely … if I was at a friend's house and we were having a drink and they said let's go out then I'd just be like 'yeah let's go' … I'm **that** impulsive … and it's not a good thing in circumstances when we're drinking" (**Simon, H**)

9.8 "If I'm drinking then I act more impulsive and weird … like especially with dancing and my favourite thing about going out is the dancing … and I look like an idiot dancing on the floor so I need to be quite drunk" (**Rowan, H**)

9.9 "when I'm not doing well mentally then I won't particularly care … and sometimes I have a depressive episode or I go very … manic … and then I'm quite impulsive … one reason I took acid on my own was … it was 10pm and I had college the next day so I wanted to see what a micro-dose felt like … but I ended up taking the entire tab anyway and went to college having not slept and still tripping" (**Zack, H**)

Impulsivity: Risks and Consequences. The participants in the H group also discussed how impulsivity would lead to increased substance use and that substance use, in turn, would make them feel more impulsive. This is in contrast to the L group, none of whom mentioned impulsive behaviours related to substance use. Some participants in the H group, like Parker (9.5) reported that they had difficulties stopping drinking alcohol once they had started and perceived themselves to lack self-control. Gale (9.6) also talked about lacking self-control, but only when they thought they had no reason to try to moderate their behaviour, such as work commitments. Simon conceptualised himself as an impulsive person, and that his impulsivity was heightened when he was under the influence of alcohol (9.7).

Other participants related impulsive substance use to their experiences of neurodivergence and mental illness. Rowan (9.8), who reported having ADHD, explained that alcohol makes them act "more impulsive and weird", and Zack (9.9) described how his impulsive behaviours would increase when he was experiencing symptoms of depression and mania.

5.3.6. Protective Factors in Substance Use

Personal and Family History of Substance Use Issues. Participants in both the L and H groups described having struggled with substance use in their own lives. Participants in the H group discussed their current struggles with their relationship to substance use, whereas the L group tended to have past issues with excessive substance use which they now managed, but some reported that they currently struggled with the urge to engage in it again.

Past negative experiences of substance use were often cited as a motivating factor to reduce use for participants in both groups. The consequences of a particular instance of excessive drinking prevented Ezra (L; Box 5.10; 10.1) from drinking so heavily again. The

physical side-effects of drinking also prompted Bailey (L, 10.2) to reduce their alcohol intake after they began a medication which made them unwell when mixed with alcohol. For some participants in the H group, hangovers or feeling unwell after a session of heavy drinking were not always motivation enough to reduce their use. For example, Simon (H; 10.3) reported how he will drink heavily and feel unwell the next day but will repeat the same behaviours a week later. However, Simon also described how he decided to seek help from an alcohol and drug recovery service for cocaine use after getting an infection in his nose (10.4).

Additionally, some participants in both L and H groups had a family history of substance use which acted as a deterrent in their relationship with substances. Aaron (L; 10.5) described how because his dad is a "chain smoker" and "an alcoholic" he acted as "a good example of why not to [use substances]". Similarly, Simon's dad (H; 10.6) had an addiction to heroin and had overdosed on it in the presence of Simon, which made him avoid drugs and drug users when he was growing up because he was "proper against drugs".

Box 10. Representative extracts for "Personal and Family History of Substance Use" in "Protective and Prohibitive Factors in Substance Use". Quotes are from both low substance use group (L) and high substance use group (H).

10.1 "Two conventions ago I drank **a lot** … and ended up being so sick and having a 3-day hangover … it was horrible I felt **so** ill and fragile and really really embarrassed as well … because I didn't remember my behaviour or anything … and I was so mortified that I'd gotten into that state … so it put me off so much that I've never gotten into that state again" (**Logan, L**)
10.2 "I was put on medication for hormonal issues which meant I couldn't drink or I would get very very sick … so I was teetotal for a while … and that was probably the best thing I could have done because it really curbed [my drinking] and now I barely drink (**Bailey, L**)
10.3 "Normally I'd go out and drink drink drink until 9 o'clock in the morning and then go home … wake up later feeling anxious and depressed … chest pain … feels like I'm gonna die for a full week … and I say 'I'm never ever doing it again" but then a week later [throws hands in air and shrugs]" (**Simon, H**)
10.4 "I got a nose infection from sharing the snooters … I told my doctor I've been taking cocaine and he had a proper look and was gonna send me to the ENT … to see how much damage I'd done … and it had got to the point where I was so sick of it … I messaged my tutor at college while I was **still** pissed up and asked for help and she referred me onto [local alcohol & drug recovery service] … so my appointments there have just started" (**Simon, H**)
10.5 "Part of the reason why I've never had strong substance use is my dad … is a good example of why not to do it [laughs] I had a fear when I was younger that if I started then … what if I turn into my dad … that's my self-control … he's a chain smoker and he's … okay … I **do** think he's an alcoholic … but it's like the way it was entwined in his life and became a part of him … I just didn't want that for myself … it affected his judgement especially the drinking … like whatever you're dealing with mate this is not the way to deal with it … I mean I know it's a common thing in Russia … like there's literally a saying … like there's a woman in a marriage and she's unhappy people will say like hey at least he's not a smoker and at least he's not a drinker and he doesn't beat you … like the bar is **very** low [laughs]" (**Aaron, L**)
10.6 "I used to be proper against drugs because of my dad … yeah he messed me up about them especially after his heroin overdose right in front of me … and so I wanted to avoid them and avoid people that took them … I guess because they reminded me of my dad and I didn't want that" (**Simon, H**)

Attitudes and Behaviours of Peers. The behaviours and attitudes of the participants' friends were one of the strongest influences on substance use. Where friends engaged in substance use this would influence the participant to do that also; where friends did not drink alcohol or use drugs, the participants reported less frequency and quantity of substance use. Five of the six participants in the L group stated that their peer group did not often drink or use drugs and that this meant that they also did not either (Box 5.11; 11.1). Aaron (11.2) stated that because his partner "really frowned upon smoking" and was "sensitive to alcohol mismanagement", this was a protective factor which prevented him from substance use. While all the participants in the H group spent time with friends who also frequently used alcohol or drugs, Simon (H; 11.3) had recently made new friends who did not use substances.

This was having a positive influence on his own attitude to alcohol and drug use because it meant that he was exposed to "the normality of what life can be like without all the chaos".

Box 5.11. Representative extracts for "Attitudes and Behaviours of Peers" in "Protective and Prohibitive Factors in Substance Use". Quotes are from both low substance use group (L) and high substance use group (H).

11.1 "If I'm at a social event then maybe I'll have one [drink] or two at a push … it's really only a couple [of drinks] with friends these days and since my friends don't drink much then I don't feel the need to drink either" (**Jeremy, L**)

11.2 "My partner **really** frowned upon smoking so I have **multiple** deterrents from getting back into bad habits … both of us have parents who have **bad** relationships with substances … or difficult or … I'm not sure if bad is the right word to use but … they do have a relationship with substances which affected their children badly yeah [laughs] so he's quite sensitive to alcohol mismanagement and … I'm sensitive to become a person who manages alcohol insensitively" (**Aaron, L**)

11.3 "I think meeting more people has helped … it's good for me to see other people and the patterns in their lives … like seeing how people my age are living their lives with no worries and I'm seeing that and thinking I could be doing that … you know I get to see some normality of what life can be like without the chaos and it makes me think drinking a lot during the week isn't actually **that** normal" (**Simon, H**)

Harm Avoidance. Participants in both groups discussed methods of limiting potential harm which may arise through substance use. In the L group, Jeremy (Box 5.12; 12.1) described how reflecting on his past behaviours and restricting excessive alcohol consumption is necessary for him to stay in control of his substance use, and similarly Cody (12.2) reported that recognising unhealthy patterns of substance use in himself was key to managing his mental health and limiting harm from substance use.

Participants in the H group, who all currently reported frequent use of alcohol and/or drugs, described how they engaged in various methods of harm avoidance in relation to substance use. Gale reported that they were more likely to drink less alcohol if they were also taking drugs (12.3) and made sure to look after their friends when they were all taking drugs (12.4). Rowan (12.5) would make sure his alcohol consumption on nights out was limited by being conscious of how much he was spending, and Owen (12.6) would limit his alcohol

consumption because he would begin to feel tired (as a precursor to feeling sick) and made

sure to stop drinking at that point.

Box 5.12. Representative extracts for "Harm Avoidance" in "Protective and Prohibitive Factors in Substance Use". Quotes are from both low substance use group (L) and high substance use group (H).

12.1	"I'm quite aware of how I've been in the past and I try not to [drink] for reasons of intoxication and only doing it for something that I want to enjoy for the taste … I've definitely reached the point where I'm self-aware and in control … it's definitely manageable … although I have thought about it a lot and so I'm aware that I have a potentially addictive personality" (**Jeremy, L**)
12.2	"At times I have been drinking in a way that was a bit unhealthy but it also doesn't take long to recognise that drinking is making [my mental health] worse … so I do try to recognise these patterns and generally try to change it when it's really not making things any better" (**Cody, L**)
12.3	"Obviously if I have a Class A then I wind down how much alcohol I'm taking … and sort of be aware of getting through a 500ml bottle of water every hour by just sipping it and looking at the clock and being careful not to overdo it or underdo it … I'm much more likely to be sensible with drink if I **have** had Class A's" (**Gale, H**)
12.4	" we all order off the same dude so we all are on the same stuff … like pick one person's dodgy geezer and stick with him for that night out … we're all eating out the same bag … and at least you know sort of how much everyone has had and who came up first and what to expect or … if someone is having a funny turn we can be like well they shouldn't have any more … and we do try to look after each other" (**Gale, H**)
12.5	"I've only been blackout drunk very few times … I try not to get to that stage … and I guess I don't because I'm not very financially sure … I don't want to spend more than a certain amount and I put limits on that … like it already costs to get into the club and I don't want to spend much so I'm very careful about that" (**Rowan, H**)
12.6	"When I drink it can get to the point where it's not fun anymore and I just want to lie down and I feel sick really suddenly *Interviewer:* do you find you usually drink to that point? *Owen:* No I usually stop before then … before I feel sick I start to feel really tired … so it's sort of a natural barrier because I get really sleepy and just go to bed [laughs]" (**Owen, H**)

5.4. TESUP-1 Discussion

This study investigated correlates and experiences of substance use in transmasculine individuals. The aim of this research is to expand our understanding of how substance use is initiated and maintained in this population, explore gaps in knowledge related to how masculinities, gender minority stress, quality of life, personality traits, and psychopathological symptoms may contribute to substance use, and to better understand the lived experiences of transmasculine individuals in relation to substance use. This investigation will contribute to both a theoretical knowledge of substance use in transmasculine individuals and will also provide much needed information to healthcare professionals and service providers who work with this population in the UK.

In the first phase of research, the questionnaire responses of 105 transmasculine individuals were analysed, and from this sample, 13 participants were interviewed. From this sub-sample six participants engaged in low-risk substance use (denoted L in excerpts) and seven participants were categorised as engaging in high-risk substance use (denoted H in excerpts), as measured by the AUDIT and DUDIT. Participants were classified as high-risk if they scored 8 or over in the AUDIT or 6 or over in the DUDIT.

The central research question for this study was: What are the factors that contribute to the development and maintenance of substance use in transmasculine individuals?

There were several specifically quantitative research questions:

1. Is stage of transition related to substance use?

2. Is low QoL associated with higher substance use?

3. Does increased GRC correlate with higher substance use?

4. Does increased GMS correlate with higher substance use?

5. Is resilience a protective factor against issues with substance use?

6. Are psychopathological symptoms associated with substance use?

7. Is there a specific personality profile for individuals who engage in high-risk substance use?

Following on from the questionnaire, the interviews sought to explore the differences and similarities in experiences between the low-risk group and high-risk group. The associated research questions (below) reflect the aims of the interviews as attempting to provide a deeper exploration of GMS, masculinities, contexts of substance use, and protective factors to prevent high-risk substance use.

8. What is the impact of transitioning and masculinities on substance use?

9. What contexts and situations are associated with substance use and what do these mean to the participants?

10. What factors contribute to a cessation or reduction of substance use?

In this chapter an integrated discussion of quantitative and qualitative findings is presented. First a discussion of quantitative and qualitative results as it relates to each research question is provided in the context of four main themes which emerged throughout both quantitative and qualitative analysis. These four themes are: Transition, Masculinities, and the Function of Substance Use; Contexts of Substance Use and Meaning-Making; Risk Factors in Substance Use; and Protective Factors in Substance Use. The discussion of these core themes is then followed by a discussion of how each of these themes relate to the main research question. Finally, the chapter concludes with a discussion of practical implications, recommendations for future study, and limitations.

5.4.1. Transition, Masculinities, and the Function of Substance Use

Stage of Transition. The findings of this study indicate that the process of discovering and accepting one's transgender identity, often followed by socially and medically transitioning was, for some participants, related to increased substance use. Although there was no significant correlation between stage of transition and substance use in the quantitative data, the responses from interview participants indicated that they did perceive their transition to have had an impact on their substance use. For example, Jeremy (L) reported that complications from phalloplasty surgery left him feeling concerned about "slipping back into problematic behaviours". The qualitative results may suggest that while the more general 'stage of transition' is not associated with substance use, specific difficulties throughout the process of transitioning may represent risk factors for increased substance use. There have been very few studies which have explored stage of transition in relation to substance use. However, one study (Budge et al., 2013) which explored coping processes throughout gender transition, highlighted that substance use as a coping mechanism was highest for individuals in the 'pre-transition' stage, reduced slightly during transition, and was not mentioned by participants in the 'post-transition' stage.

Although the analysis of quantitative data in the current thesis did not indicate that substance use decreases as an individual reaches more self-defined goals in their transition as in the Budge et al. (2013) paper, the interview results often contradicted this. Participants in both groups consistently described how transitioning reduced their dysphoria and increased their confidence and happiness. These participants all conceptualised these changes as being related to a reduction in their substance use or to a 'reversal' of their motivation to use substances from maladaptive ones to healthy ones. This supports the findings from previous studies which have demonstrated that transition-related treatment improves the QoL of treatment-seeking transgender people, in addition to being associated with lower depression

and anxiety (Baker et al., 2021). The present results may suggest that it is not the precise 'stage of transition' which contributes to substance use, but instead that it is a feeling of security and stability in one's gender identity and transition which may be more important. Guzman-Parra et al. (2014) reported that for treatment-seeking transgender individuals cannabis use was associated with anxiety and suggested that cannabis may be used in this population to self-medicate anxiety. The current study provides support for this finding; anxiety symptoms were significantly associated with both alcohol and drug use, and of the 59 participants who indicated that they typically consume drugs, cannabis was the most frequently reported drug ($N = 25$).

The experiences of non-binary transmasculine people compared to binary trans men in relation to medical transition and dysphoria vary in multiple ways. For example, in this study although there was no significant correlation between binary/non-binary gender identity and substance use, in the interviews it emerged that all the participants who reported substance use to cope with body dysphoria or non-disclosure of their trans identity identified as binary, and none of the non-binary participants related their substance use to these struggles. This may be because binary individuals are more likely to seek out medical interventions; one study (James et al., 2016) found that 95% of binary transgender participants desired HRT whereas 49% of non-binary participants desired it. Other literature reports that non-binary people are less likely to report bodily gender dysphoria, but instead emphasise the social roots of dysphoria such as misgendering and micro-aggressions (Galupo et al., 2021). While both binary and non-binary participants in the current study experienced similarly high levels of substance use, the motivations for engaging in substance use differed between the two groups.

It is also important to note that the findings related to 'stage of transition' could be limited by the operationalisation of the concept. The current formulation allowed for

individuals to place themselves at pre-, early, mid-, late, and post-transition; a structure which was suggested by participants in the pilot study focus group. Within the focus group it was noted that transgender identity discovery and related transition processes are flexible and highly unique to the individual. Therefore, 'stage of transition' was measured through participant self-identification with a 'stage' and no specific beginning or end point was suggested by the author. This means that participants who identified as 'mid-transition' for example, had experiences which ranged from waiting to begin HRT to having had top surgery and waiting for lower surgery. It is possible that with an improvement in the operationalisation of 'stage of transition' the validity of this concept would increase. If the measurement of this concept could allow for non-linear flexibility but was still accurate enough to capture discrete groups of individuals, then possible relationships between transition stage and substance use could be revealed.

GRC, Gender Socialisation, and Masculinities. Another area of exploration in this study which revealed seemingly contradictory results between expected findings in the quantitative and qualitative data was the impact of GRC and masculinities on substance use. To discuss the GRC scores of the participants in the present study, scores will be compared to the normative data of adult gay men (Ervin, 2004). This decision has been made because only 16.2% ($N = 17$) of participants in the present study identified as heterosexual. The remaining participants all expressed an attraction to men or masculine-identified people except for 6.6% ($N = 7$) who identified themselves as asexual. There are some immediate issues with the use of this normative data, as well as with the measure of GRC itself. The main limitation of the GRC and the related normative data is that it is all based on binary men; there is no data, and to my knowledge, no study other than the present research, which has included non-binary masculine-identified people. First, the language used within the measure is aimed at binary men (e.g., "expressing my emotions to other men is risky"); although the individuals in the

current study all identified with masculinity to some extent, they were not all males. One participant provided feedback: "I'm not a man and my experiences are not those of a man and so these questions do not relate to me at all". This raises questions about the validity of the GRCS as a whole if it does not measure what it purports in all masculine-identified samples. Additionally, some participants provided feedback which stated that some of the questions would only be applicable in a context where they are presenting as 'stealth' among cis men, but the answer would change in a situation where they are among other transmasculine people. This calls into question whether the GRCS is an appropriate measure for use in transgender populations or perhaps if GRC in transmasculine individuals could be better understood by having participants complete the questionnaire in different conditions (i.e., socialising with cisgender men vs. with transmasculine people).

The correlational analysis of the GRCS in relation to substance use revealed that the only factor out of the four factors to be associated with substance use was Restrictive Affectionate Behaviour Between Men (RABBM), which was significantly correlated to both alcohol and drug use. However, it is important to note that while most of the factors were not associated with substance use, the mean score in two factors was higher than that of the normative data based on adult gay cisgender men (Ervin, 2004). The factors which were higher in the current study were RE (37.33 vs. 28.30 in Ervin, 2004) and RABBM (25.38 vs. 18.80 in Ervin, 2004). Interestingly, when comparing the present study's sample with the normative data of adult cisgender men in the UK (Tate, 1998) it is demonstrated that RE was also higher in the present study (37.33 vs. 28.77 in Tate, 1998), but so was SPC (43.30 vs. 40.84 in Tate, 1998). When considering what these results might mean in relation to transmasculine individuals, the interview data can shed some light on the meaning-making surrounding experiences of masculinity and GRC.

When discussing GRC it is important to note that GRC refers to the "psychological state in which socialised gender roles have negative consequences for the person or others" (O'Neil, 2008, p. 362). Therefore, it is not the belief of stereotypic norms of masculine behaviour, nor the pursuit of a hegemonic masculine ideal, which results in the psychological state of GRC. Instead, it is the behavioural and affective restrictions inherent in the socialised male gender role which limit the individual's ability to adaptively respond to various situational demands (O'Neil et al., 2017). One aspect of O'Neil's (2008) definition which I believe is important when considering GRC in transmasculine individuals is "socialised gender roles".

As mentioned in chapter two, O'Neil (1981) states that GRC is best conceptualised in the context of early gender role socialisation as children. Wester et al. (2010) suggest that transgender youths face negative consequences for not conforming to the expected gender role according to their assigned sex at birth. For example, a young trans boy who does not confirm to a traditional feminine gender role will often likely face harassment, shame, and demands for conformity from others (Dietert & Dentice, 2013). It is important to understand what gender socialisation refers to, typically it is thought of as "a process by which individuals develop, refine, and learn to 'do' gender through internalising gender norms and roles as they interact with key agents of socialisation, such as their family, social networks, and social institutions" (John et al., 2017, p.6). In this definition it is clear that gender socialisation is a two-way street; it involves the matter of which specific cultural norms and expectations are placed on an individual, but crucially, it also consists of which of these are identified with, internalised, and enacted. Furthermore, gender roles are learned both explicitly and implicitly, so an AFAB child will be learning about the female gender role by being directed to perform female gender norms but will also be learning about gender roles implicitly by way of observation and comparisons to how others are learning and doing

gender. Therefore, while norms are being applied to that child, the child is also integrating or rejecting those norms into their own beliefs and behaviours.

Based on this definition of gender socialisation, I contend that claims that an AFAB transmasculine individual is always socialised female are inaccurate. Such a child may be being taught and encouraged into a female gender role, but if they reject or fail to meet these norms, they often then receive a socialisation punishment, shame, and demands for conformity to a gender with which they do not identify (Dietert & Dentice, 2013). This is exemplified in the participants' interview extracts: Jeremy (L) reflected on his childhood and stated that he "never behaved or identified with the way everyone around [him] expected [him] to be" and pointed out that he lacked the knowledge and language to describe his own feelings in relation to his transgender identity. This unique experience of gender socialisation, which can be framed in the context of hermeneutic injustice (Hänel, 2020), demonstrates first how transgender individuals have a distinct gender socialisation experience, and secondly how this unique experience of lacking other- and self-recognition can have detrimental effects on understanding oneself and on the ability to communicate this. This might then be translated into the experiences described in Dietert and Dentice's (2013) study, in that trans youths who will not, or cannot, conform to gendered expectations are socially punished through exclusion and harassment, and by the internalisation of shame.

Therefore, to understand GRC in this population, it is first necessary to explore how transmasculine individuals conceptualise and how they 'do' masculinity, particularly in the context of substance use. Jeremy believed that because he "fit other people's expectations of masculinity" it meant that he did not feel the need to "overcompensate or do things that aren't my natural inclination" in relation to masculinity. This overcompensation in order to fit other's expectations of masculinity relates to the concept of *precarious manhood*, the idea

that manhood must be consistently enacted appropriately, and that it is a social status that is difficult to achieve and is easy to lose through acts of femininity (Vandello & Bosson, 2013). Related to this concept is a theory which is especially relevant for transmasculine individuals termed *compensatory masculinity*. This is the idea that an individual must enact hypermasculine behaviours and attitudes in order to communicate their masculine identity and to compensate for a perceived lack of masculinity or maleness (Vegter, 2013). The concept of compensatory masculinity was often alluded to in the participant interviews as a major motivator to engage in substance use. A common concern among the participants in this study was that if they did not consume substances in a masculine way then they would not be perceived as male at all by others. This attitude was exemplified in an extract from Rowan (H) who described compensatory masculine behaviours as "it's all about **how** you drink and **when** you drink and the **things** you drink … and if you don't do that then you're purposefully leading yourself to get misgendered" (emphasis in original statement).

The GMSR results may help us understand why masculine substance use was so important to many of the participants in this study. Correlational analysis demonstrated that previous experiences of gender-related victimisation were associated with tobacco use and drug use, and experiences of gender-related rejection were associated with drug use. It is possible that individuals engaged in compensatory masculinity not only to receive external validation of their gender identity, but also to avoid further victimisation or rejection. The language that Rowan (H) uses in the previous extract when explaining why he engages in compensatory masculinity implies that the onus of responsibility is on him to ensure that he is correctly perceived as male, and therefore, the negative consequences are also his fault. On one hand, conceptualising his behaviour in this way may give him a sense of control over his gender identity and how he is perceived by others. Conversely, the constant self-monitoring of behaviour and rumination on how one is being perceived could be a contributing factor to

the high levels of anxiety and paranoid ideation which were found in this sample. Both anxiety and paranoid ideation were associated with high-risk drug use, additionally, paranoid ideation was associated with high-risk alcohol use.

Typically, it was members of the high-risk group who described engaging in substance use in the pursuit of masculinity. One of the few members of the low-risk group, Cody, who described pursuing masculine substance use stated that it was because of "social dysphoria". Similarly, Zack (H) framed all of his motivations for substance use in the context of pursuing masculinity and seeking gender euphoria. Gender euphoria is a frequently used term in the transgender community, which is not often recognised in published literature. Typically, it is used to refer to feelings of joy and validation that occur when one's gender identity is recognised and accepted by oneself or others. These results indicate that context is important when considering the impact of GRC on transmasculine substance use. This lends support to Vandello & Bosson's (2013) discussion of GRC and laboratory-induced threats to manhood; that GRC is highly dependent on context and is responsive to situation-specific cues, as opposed to being a chronic psychological state.

As previously mentioned, RABBM was the only GRCS factor which was significantly associated with alcohol use and drug use. When taken into consideration with the qualitative findings, some potential explanations emerge. First, the interview participants expressed concern over the risk of being misgendered or 'outed' as transgender, particularly in the context of substance use. The idea that anti-masculine behaviours were a risk to their masculine status has some commonalities with RABBM, which includes statements such as "I am hesitant to show affection to other men because of how others might perceive me". Anxiety about demonstrating affectionate behaviour to men may arise from previous experiences of gender-related victimisation and rejection, therefore it was not just precarious

manhood which was a cause for concern but also the very real risk of danger. The avoidance of this may be a motivator for excessive alcohol and drug use in this sample.

5.4.2. Contexts of Substance Use and Meaning-Making

Navigating Transition-Related Healthcare. In this study, all but one of the interview participants were seeking transition-related medical interventions. All of the participants who discussed the process of seeking transition-related healthcare reported difficulties in accessing NHS services. Many of the participants described how healthcare professionals often lacked knowledge and experience in providing care to transgender patients. For some participants in this study, disclosing their trans identity and seeking referral to a GIS often resulted in barriers to accessing appropriate and timely interventions. For example, when Owen (H) asked for a referral to a GIS, he reported that his GP immediately assumed "oh you're trans you must also be depressed" which resulted in significant delays to his referral. Owen's experience is echoed in other recent research into trans experiences of accessing NHS healthcare. Wright et al. (2021) reported that many participants in their qualitative study of access to gender-affirming healthcare had been subject to unnecessary referrals to mental health services due to GPs' lack of knowledge about appropriate care pathways.

Two participants in the low-risk group, Jeremy and Bailey, described how their GPs had never worked with a trans patient and therefore lacked the experience necessary to provide appropriate healthcare. However, whether they perceived this as a positive or negative experience was dependent on their GP's approach. In the absence of straightforward referral guidelines, Jeremy's GP conceptualised the provision of his transition-related care as a learning opportunity which resulted in Jeremy having a positive appraisal of the experience. This is in contrast to Bailey, who reported their GP had "no idea what she's doing". As a

result, Bailey was struggling with the high cost of private healthcare. Lack of healthcare provider knowledge is a concern that has been reported in various studies. For example, the Trans Lives Survey (TransActual, 2021) found that 45% of participants reported that their GP did not have a good understanding of their needs and 14% of respondents reported that their GP had refused to provide healthcare due to their transgender status. Furthermore, a recent study (Willis et al., 2020) which explored older transgender adult's experiences of accessing primary care found that they were positioned as 'reluctant educators' for GPs and that they perceived self-advocacy to be a necessary and often stressful aspect of accessing transition-related healthcare. The results of the current study support Willis et al. (2020) and demonstrate that even for younger transgender adults, who may have less experience of self-advocacy, the role of 'reluctant educator' is essential. These results emphasise the necessity of primary care providers taking an active role in enhancing their own understanding of transition-related healthcare.

Attempts to navigate the often confusing and complex pathway of transition-related healthcare in the NHS and the resulting long waiting times was described by participants as like being "stuck in a nightmare" (Parker, H). Many participants felt that the process of being referred to a GIS and attempts to receive the necessary transition-related medical interventions was challenging and convoluted, echoing the analogy of defeating 'bosses' in a videogame as described by Greg in the pilot study. Difficulties navigating access to transition-related healthcare and negotiating authenticity mentioned by participants in TESUP-1 were further mirrored in the pilot study focus group, where participants described feeling pressure to "perform" and "jump through hoops" for healthcare professionals. As discussed in chapter four, the feelings of restriction and pressure to appropriately perform a (typically binary) gender identity, fed into the lack of trust in healthcare providers and non-disclosure which was reported by participants in both the pilot study and the TESUP-1

interviews. Studies into trans experiences of medical transition in the UK have also reported these same concerns from participants. Harrison et al. (2020) found that participants in their study were unsatisfied with the support they received from healthcare professionals throughout their medical transition, and many felt the need to 'prove' their trans identity in order to receive timely and necessary medical interventions.

Social Substance Use and Peer Group Influences. Almost all of the participants in this study conceptualised substance use as a normal aspect of socialising. Many participants reported that drinking while socialising enhanced their enjoyment of the experience, increased their confidence, and enabled them to meet new people. LGBTQ individuals face the same risk factors for developing high-risk substance use habits as do the general population, such as enhancing one's mood (Sinha, 2008), fitting in with one's peer group (Keyzers et al., 2020), and wishing to feel more confident (Marsh et al., 2019). These studies largely align with the experiences of participants in the current study.

However, the qualitative interviews revealed that these risk factors involve multiple layers of complexity and were inherently informed by the participant's status as transmasculine. For example, participants in the high-risk group often reported that peer pressure was a prominent aspect of why they might use more substances. This was exemplified by Simon (H) who described how alcohol and cocaine use was normal within his peer group and so he typically engaged in it too because he felt that it was crucial that he "wasn't singled out for attention like that". The passive pressure that Simon experienced was multi-faceted; he desired acceptance and belonging within his group of friends and to achieve this he modelled his behaviour on that of his peers. This involved a) engaging in heavy drinking and simultaneous cocaine use, and b) non-disclosure of his transgender identity. The first behaviour was critical for preservation of the second, and in his view, not engaging in

either would mean social rejection or ridicule. This example demonstrates how even general risk factors are informed by the individual's status as transmasculine.

Previous studies have explored the relationship between peer pressure and substance use; Demant et al. (2014) interviewed a sample of 45 LGBT youth and community stakeholders who reported that passive peer pressure is higher within LGBTQ communities. Furthermore, an examination of the genetic moderation of peer pressure on alcohol use (Griffin et al., 2015) revealed that for individuals with at least one copy of the D4 dopamine receptor gene (D4DR), peer pressure was associated with increased lifetime alcohol use. This is a particularly interesting finding in the context of the current study. As was stated in the literature review, the temperament dimension of Novelty Seeking (NS) has been shown to be related to the D4DR gene (Ebstein et al., 1996). Furthermore, in the present study, statistical analysis revealed that high scores in the NS domain were significantly correlated with alcohol and drug use, and that a one-point increase in the NS domain accounted for a .121-point increase in AUDIT score and a .206-point increase in DUDIT score. These results demonstrate strong support for previous studies which showed that NS is associated with high-risk alcohol and drug use and enhances our understanding of the role of dopaminergic activity in relation to substance use.

The negative relationship between tobacco consumption and NS was an unexpected finding; it was hypothesised that higher levels of NS would be associated with current tobacco consumption, but the opposite effect was found. For each point increase in NS, participants were 1.142 times less likely to be a current smoker. Since regression analysis can only investigate whether a variable (here, NS) has an impact on the topic of study (here, smoking), I cannot make any causative claims about the relationship of the two variables. These findings are contradictory to previous studies which have repeatedly found that high scores in the domain of NS are related to increased tobacco consumption (Laucht et al., 2005;

Etter, 2010; Masiero et al., 2021). One possible reason for this discrepancy is that almost all previous research that focuses on personality traits and smoking habits was conducted on cisgender individuals. Therefore, it is possible that previous findings suggesting high NS is associated with increased tobacco consumption cannot be extended to transmasculine populations. Based on the qualitative interviews, it is possible that other factors such as the pursuit of masculinity or peer pressure may increase tobacco consumption.

Another risk factor which contributes to increased substance use, for both general populations and LGBTQ populations, is using substances to increase confidence and reduce social anxiety. However, for the participants in this study, the motivations behind the desire for more confidence were often connected to their experiences as a transmasculine individual. For example, Owen (H) reported that most of the times that he had disclosed his transgender status to other people he was under the influence of alcohol. Similarly, Cody (L) reported that they would purposefully get drunk in order to have difficult conversations with their friends about their mental health and gender dysphoria. For Cody, this was directly related to being transgender, not only because they were discussing trans experiences but also because they were discussing it with other trans and queer people. These results support previous research which indicates that the process of 'coming out' as LGBTQ is a risk factor for increased substance use (Shelton, 2017, pp.44). The process of 'coming out' as LGBTQ is conceptualised by many in the community as a lifelong experience, and something that inherently carries an element of risk (Felner et al., 2020). This complicates the relationship between coming out and substance use; it is not a one-time event with a high level of risk but a continuous or recurring situation which, for some people, might exist alongside chronic substance use issues.

Furthermore, the process of initially discovering and disclosing one's transgender identity may also coincide with increased exposure to, and involvement with, LGBTQ

communities. For many transgender individuals this is a positive experience, as noted by Cody (L), building community connections can involve a deep-rooted feeling of trust and belonging. However, it is well documented that many traditionally safe spaces for the LGBTQ community are bars and clubs, which places individuals in situations where there is a high exposure to, and a normalisation of, substance use (Hunt, 2012). This has important implications for GMS, in particular, the resilience factor of Community Connectedness (CC). In the present study CC was not associated with substance use; however, some studies have questioned the hypothesised moderating effect of CC between GMS stressors and negative outcomes (Jaggi et al., 2018; Puckett at al., 2019).

The qualitative results provide further challenges to the hypothesised protective role of CC. While some participants reported positive experiences of socialising with other trans people, others described finding it difficult to connect with their trans peers. There were two important distinctions here. First, the only participants who had positive experiences were those in the high-risk group, with the exception of Cody (L). This could imply a relationship between frequent socialising in LGBTQ peer groups and substance use, although the lack of significant relationship between CC and substance use may contradict this. It is important to note that the CC factor measures feelings of comfort and belonging with the transgender community, not the frequency or quality of time spent with other transgender people, which may obscure the link between quantitative and qualitative results.

Secondly, all of the participants who had positive experiences of transgender CC reported that this occurred in person, whereas those who had negative experiences all reported that they had sought out transgender communities online. Recent research into LGBTQ community engagement online and offline has indicated that online communities can provide a safe and validating space for LGBTQ youth, especially where they might not

have offline support or do not have access to LGBTQ spaces in their local area (Higa et al., 2014). The idea of a *safe space*, commonly found in trans and queer literature, refers to a space which provides the LGBTQ community freedom from discrimination, abuse, and violence, with the ability to discuss issues freely (Kenney, 2001). The narratives of those from the low-risk group about seeking connection in online transgender communities was often framed in a negative manner. The language used by some participants, such as "they went to all girl's schools" (Bailey, L) and "[they] identify as 30 genders and as a fox or whatever and use weird pronouns" (Darren, L), reveal their discomfort with unconventional trans identities and a subtle rejection of the variance in transmasculine experiences of gender.

Darren (L), in particular, described how his attempts at seeking online community connections were fraught with difficulties, often getting into arguments with other trans people about the necessity of gender dysphoria to identify as trans. As a result of this *insider harm* (as Scheuerman et al., 2018, term it), Darren felt rejected from the mainstream transgender community online and saw himself as belonging to a community of "rejected trans people". To understand this, it is important to understand the socio-political context of the UK at the time of interviews. From 2017, a significant political and social pushback on transgender rights has been taking place, often centred around the concept of self-determination of gender identity (Pearce et al., 2020a). This has most often been led by "trans-exclusionary radical feminists" (TERFs) who argue for the elimination of trans rights in the name of biological essentialism (Vincent et al, 2020). Where transfeminine people are often cast as predators or as a danger to society, TERF ideology renders transmasculine individuals as confused or deluded women, infantilising them and ignoring their lived experiences as male and/or masculine people. A common thread between transfeminine and transmasculine experiences of TERF ideology is the denial of the existence of happy, healthy transgender people, and a push toward eliminating all transition-related healthcare services.

This "war on trans existence" has only increased during the COVID-19 pandemic (Pearce et al., 2020b), and with lockdown measures taking place throughout the majority of 2020 in the UK (the year in which the TESUP-1 interviews took place), transgender people were essentially limited to accessing support or community connections *only* in an online context.

Throughout the interview with Darren (L), it was clear that he was struggling to consolidate his personal beliefs about gender with his own identity as a trans man. His intense gender dysphoria and internalised transphobia may well have been influencing his online communications with other transgender people. There is limited research into the schisms within transgender communities; however, one study (Pinter et al., 2021) which explored online visibility and disclosure of transgender identities discussed the pitfalls of some online transgender support groups. The authors conceptualised online support groups as 'doorways' and 'traps', whereby an individual might gain a 'doorway' to more support and a feeling of empowerment or might get 'trapped' by a community which privileges some experiences, identities, and beliefs over others. In the present study, Darren can be conceptualised as being 'trapped' in both sides of the community. He feels like he does not belong among others who prioritise self-determination over more traditional, pathology-based transgender identification. However, when he associates with other trans people who share his beliefs, this also has a negative effect on his mental health, because he sees himself as surrounded by peers who are in the midst of "alcohol and drugs and self-harm and suicides".

While Darren (L) discussed his experiences with intra-community rejection as having a substantial negative impact on his substance use, Zack (H) on the other hand, discussed his experiences with extra-community rejection as having a similar negative impact on his substance use. Zack conceptualised his connections with other trans people as increasing his substance use and framed this in the context of being rejected from mainstream (cis/het)

society. This is an interesting perspective when one considers Zack's experiences in the context of GMS. Within the initial minority stress framework (1995), Meyer draws on societal reaction theory to explain how minority groups can be conceptualised as "deviant" because they depart from society's conventional understandings of appropriate ways of being. According to a critical review of GMS (Tan et al., 2019), cisnormativity (the assumption that it is 'normal' to be cisgender) contributes to why transgender identities may be seen as "deviant" by many Western societies. To take this concept of a "deviant" identity one step further here, some researchers have explored how identification with a "deviant" peer group can influence behaviour, particularly in relation to substance use. For example, one review of literature regarding peer group identification (Sussman et al., 2007) reported that within 37 studies which categorised individuals into 'types' of peer group, the "deviant" peer group were mostly likely to smoke cigarettes, drink alcohol, and take drugs. Throughout all of these studies, individuals who were included in the "deviant" peer group were LGBTQ individuals, people who were rejected from other peer groups, and those who identified themselves as punk/alternative/skater. This mirrors Zack's experiences of being "the queer group [...] the smokers and the people who did drugs […] the alternative kinda punk crowd". These results suggest that experiences of rejection for transmasculine people, whether intra- or extra-community rejection, have a substantial impact on substance use, and in Zack's words "if you're already a social outcast […] it's very easy to do other things that people think are bad as well". Therefore, it is of critical importance to the health and wellbeing of transmasculine individuals, particularly teenagers and young adults, to foster an atmosphere of acceptance and support, both within trans-focused spaces and within society at large.

5.4.3. Personal and Psychological Risk Factors in Substance Use

The Symbiotic Relationship of Mental Health and Substance Use. Throughout TESUP-1, psychopathological symptoms and substance use were consistently observed as being highly interrelated. Both the global measures of psychopathological symptoms and individual symptom dimensions (as measured by the SCL-R-90) were correlated with high-risk alcohol and drug use, though this relationship was more frequently found in relation to high-risk drug use (See Table 5.6 and 5.7). To add further support to these findings, participants in both the low- and high-risk substance use groups in the interviews indicated that they would use alcohol or drugs to cope with mental health symptoms or gender dysphoria, and that such substance use in turn often worsened their mental and physical health (See Box 5.8).

In this study, psychopathological symptoms were measured using the SCL-90-R, which measures nine symptom dimensions and three global measures of symptoms and distress. The Global Severity Index (GSI; the mean value of the nine symptom dimensions divided by total number of items) is the most commonly used score to assess overall symptomatology and is viewed as the best single indicator of the current level of symptoms (Derogatis et al., 1994). In this study, GSI was significantly related to the use of drugs, but not alcohol or tobacco. Additionally, in the multiple regression analysis it was found that DUDIT score increased by 3.233 points for each point increase in GSI. These results indicate that for transmasculine individuals, GSI is an important indicator of high-risk drug use and would be a useful assessment tool to consider when planning interventions for individuals when multimorbidity is suspected.

There are only a few studies which utilise the SCL-90-R when exploring psychopathological symptoms in transgender individuals. Where it has been used, to the

author's knowledge, it has only been in non-UK populations of transgender people, using validated alternative language versions of the SCL-90-R such as Spanish (Castelo-Branco et al., 2021) and German (Auer et al., 2013). One study that established community sample norms in the UK (Francis et al., 1990) did not explicitly include transgender people, nor did another study which explored the nine symptom dimensions in a US sample with comorbid psychiatric diagnoses and SUD (Zack et al., 1998). The mean SCL-90-R scores from the present study will be compared to these studies to explore the psychopathology of transmasculine individuals in the UK (see Appendix F for means and standard deviations for the SCL-90-R in each of these studies).

When comparing the SCL-90-R results to the four studies in Appendix F it is immediately apparent that these results are substantially higher than both the Spanish FTM, German FTM, and British male community samples, and are much more similar to the US outpatient comorbid SUD sample. Initially it was hypothesised that the results would be similar to other samples of transmasculine individuals because not all of the sample in this study would report a SUD. While 49.5% and 43.8% of the sample met the cut-off score indicating high-risk alcohol use and drug use respectively, the SCL-90-R scores for the entire sample are comparable to scores in Zack et al.'s (1998) study in which all participants had a diagnosis of SUD and were attending an outpatient mental health unit.

Zack et al.'s (1998) exploratory factor analysis of the SCL-90-R found that the measure primarily represents general psychiatric distress and provides little information regarding specific symptom patterns in non-normative samples. Furthermore, the factor analysis identified three higher-order factors, one of which was Hostility and Suspiciousness; this factor comprised questions from the HOS, PAR, and PSY dimensions. The present study lends support to these findings, particularly because only three dimensions were positively correlated with both high-risk alcohol and drug use, and these were HOS, PAR, and PSY.

This may indicate that participants were coping with distressing symptoms of excessive anger, paranoid ideations, and psychosis by self-medicating using alcohol and drugs (Broman et al., 2019). On the other hand, it is possible that the increased symptoms in HOS, PAR, and PSY were as a result of high-risk alcohol and drug use, for example, as a result of substance-induced psychosis (Tandon & Shariff, 2019). Longitudinal analyses which focus on the transgender community are necessary to begin to delineate between these possibilities

Some participants identified substance use as being intertwined with their mental health, and two participants in particular, Darren (L) and Zack (H), went into detail about how substance use is connected to self-harm (or non-suicidal self-injury; NSSI). Some common functions of NSSI are to regulate negative emotions or inflict self-punishment (Cipriano et al., 2019). In extracts from Darren and Zack their motivation to engage in substance use is comparable to the motivations to engage in NSSI, as mentioned above. For example, for Darren (L) drinking alcohol was a less harmful method of regulating negative emotions when his alternative was NSSI; both substance use and NSSI were means of coping with distress and symptoms of poor mental health, but he perceived the former to be less damaging. On the other hand, for Zack (H) it was specifically the damaging nature of substances that he sought out as a method of self-punishment. Zack's motivations, however, were more complex. He reminisced about the first time he smoked a cigarette, age 12, highlighting the pursuit of masculinity which provided him with gender euphoria, while simultaneously stating that it was "another form of self-harm". These extracts illustrate that while substance use and NSSI functioned as a method of regulating negative emotions, substance use (and perhaps NSSI by extension) was sometimes complicated by the paradoxical motivations of self-punishment and pursuing masculinity and gender euphoria. This suggests that while many participants were using substances to regulate negative emotions, the reasons behind substance use in transmasculine people are more complicated

and are entangled in social expectations of masculinity, gender dysphoria, and euphoria. It is recommended that culturally competent and gender-affirming healthcare and substance use interventions are provided to this population, with a particular focus on the psychosocial context of their lived experiences related to substance use and coping with negative events and emotions.

When interpreting the symptom dimensions, it is important to be aware of the differences between transgender and cisgender experiences of both psychopathological symptoms and experiences of healthcare. The PAR dimension was designed to be representative of symptoms of paranoid ideation which commonly occur in psychiatric conditions such as BPD, PTSD, and psychotic spectrum disorders (Marwaha et al., 2014). It has been reported that transgender individuals have a greater than 20-fold incidence of personality disorder diagnosis and a greater than 3-fold incidence of psychotic spectrum disorder diagnosis, compared to a cisgender control group (Hanna et al., 2019). However, it is important to note that perceived and actual discrimination are associated with both paranoid and psychotic symptoms (Pearce et al., 2019). It is crucial to take this into consideration in the present study, as the GMSR subscales of gender-related rejection and victimisation were positively correlated with high-risk drug use. This provides support for Pearce et al. (2019) and suggests that previous experiences of gender-related rejection and victimisation have a negative impact on mental health and substance use.

A recent literature review on psychosis in transgender individuals (Barr et al., 2021) cites diagnostic biases as a potential reason for the increased rate of psychosis diagnoses in this community. Referencing the historical conflation of transness to psychopathology, and the pathologisation of normal reactions to violence and oppression, the authors highlight the need for culturally sensitive and gender-affirming interventions. Barr et al. also note that symptoms of psychotic spectrum disorders are not always subjectively distressing which may

be relevant for the participants in this study. The Likert scale which measures symptom distress intensity ranged from 0 (not at all) to 4 (extremely) and according to Derogatis (1994) a score under 1 indicates the absence of substantial psychiatric distress. The HOS, PAR, and PSY means in this study ranged from 1.17 to 1.21, indicating a low level of distress that is only slightly past the clinically significant cut-off, which suggests that although these symptoms were associated with high-risk alcohol and drug use, participants did not necessarily perceive these symptoms as distressing. This may be because their efforts to use substances to lower their distress did effectively reduce the intensity of symptoms.

Distress (In)tolerance and Emotional Regulation. Many of the participants in the qualitative interviews across both low- and high-risk groups said that they did not know how to cope with stressful situations and negative emotions in a healthy or productive manner. As mentioned in the previous section (5.4.3.1), a common reason for engaging in substance use is to regulate negative emotions. Numerous studies have found that intolerance of emotional and physical distress is a primary motivation underlying the development and maintenance of SUD, and that the ability to tolerate distress is changeable depending on the personal and social context (Otto et al., 2005; Leyro et al., 2010; Veilleux et al., 2022). Distress (in)tolerance has been conceptualised as hierarchical in nature, consisting of the higher-order construct of Global Experiential Distress (In)tolerance and five related lower-order dimensions: a) tolerance of uncertainty, b) tolerance of ambiguity, c) tolerance of frustration, d) tolerance of negative emotion, and e) tolerance of physical discomfort (Leyro et al., 2010). The quantitative and qualitative results of TESUP-1 will now be discussed in the context of this hierarchical concept of distress (in)tolerance.

Participants frequently referenced struggles to tolerate uncertainty, ambiguity, and frustration, often in the context of access to transition-related healthcare. The difficulties in accessing appropriate healthcare were compounded by the lack of healthcare provider

knowledge and uncertainty about legal aspects of transition, such as changing name and gender marker. For some participants, the inability to tolerate these confusing and stressful situations prompted an urge to cope by using substances. Previous studies have demonstrated the relationship between low distress tolerance and substance use, for example, Özdel and Ekinci (2014) reported that substance-dependent participants scored significantly lower on a measure of distress tolerance, and significantly higher in a measure of depression and anxiety, compared to a healthy control group. Although the present study did not include a measure of distress (in)tolerance, the correlation analyses revealed that depression and anxiety had a moderate positive correlation with high-risk drug use, but not alcohol use. It is interesting that the participants who reported using alcohol to cope with distress intolerance were all in the low-risk group; this may indicate that though these participants may turn to alcohol as a maladaptive coping mechanism, they are not at high-risk of developing hazardous use or dependence on alcohol. However, this may not be the case for those who use drugs to cope with distress.

The difference between whether the participants chose to cope with distress using alcohol or drugs may be related to the type of distress they were struggling with. The participants mentioned in the previous paragraph were all low-risk and used alcohol to cope with frustration, ambiguity, and uncertainty, whereas the participants who turned to drugs were typically (but not always) in the high-risk group and more often reported previous trauma related to substance use, physical discomfort, and an inability to regulate negative emotions. For example, Simon (H) reflected on how witnessing his father overdose on heroin was the event that triggered his current struggles with alcohol and cocaine use. This agrees with previous literature which has indicated that exposure to parental SUDs is predictive of the development of SUD in adolescence and early adulthood (Biederman et al., 2000). An inability to tolerate physical discomfort was also noted among some of the participants, for

example, Bailey (L) suffered with migraines and would routinely combine opiate painkillers with alcohol "just to pass out for a few hours". In Bailey's description, it is clear that it was not just struggles to tolerate the physical discomfort but also the resulting negative emotions that prompted seeking relief in alcohol and drugs.

In the high-risk group, gender dysphoria was a frequently mentioned negative experience which combined intolerance of negative emotions and physical discomfort, and consequently resulted in substance use. Notably, gender dysphoria typically arose in the context of intimate and sexual contact. Logan (H) recalled that before he was on testosterone, he would often drink alone to cope with intense feelings of gender dysphoria and would go clubbing to "hook up with someone" and achieve validation of his gender identity. Similarly, Owen (H) routinely drank alcohol in order to cope with dysphoria, again in the context of intimacy and sexual relationships. In Connolly and Gilchrist's (2020) systematic review they note that gender dysphoria is a risk factor for the development and maintenance of SUDs. Very few studies focus on the relationship between substance use and intimacy for transgender people. Those that have explored this topic focus solely on the association between transgender people who participate in sex work and high-risk substance use (Keuroghlian et al., 2015; Scheim et al., 2017). The results from the present study indicate a critical gap in the research about the intimate and sexual lives of transgender people and how dysphoria may be related to increased substance use. Future research is necessary in order to explore lived experiences of sex and substance use, in order to tailor appropriate interventions.

The results indicate that distress intolerance is a common difficulty facing the transmasculine community, but evidence-based interventions for distress intolerance in the context of SUD are limited. A recent systematic review (Warner & Murphy, 2021) offers promising preliminary support for dialectical behavioural therapy skills training (DBT-ST) in

the treatment of SUD. However, there have been few studies which involve randomised controlled trials comparing this intervention to alternatives; additionally, there is no literature which indicates that transgender people would benefit from this intervention. Another study (Muhomba et al., 2017) which focused on DBT-ST for university students presenting with serious psychological concerns (such as substance use and NSSI), found that emotional regulation and dysfunctional coping skills decreased, and adaptive coping skills increased, after 7-10 weeks of DBT-ST. Again, this research was limited by the lack of a control group, and the inability to measure treatment efficacy over time, however the results indicate the potential benefits of this intervention. Given the difficulties that the participants in the current study were facing (such as NSSI, high-risk substance use, emotional dysregulation, and dysfunctional coping skills) it is recommended that future research should focus on identifying whether DBT-ST would be efficacious for the transgender community. Group skills training is not only a financially beneficial method of healthcare provision, but access to community-level psychological interventions can decrease GMS through strengthening individual- and community-level resilience, which in turn, improves mental health and quality of life (Meyer & Frost, 2013).

Personality Traits. The findings of this study indicated that various personality traits were significantly associated with high-risk substance use. Most notably, novelty-seeking (NS) significantly predicted current tobacco use and high-risk drug and alcohol use. As discussed previously statistical analyses revealed that NS contributed to an increase in high-risk alcohol and drug use, which confirmed initial hypotheses; however, the finding that high levels of NS was associated with a decreased likelihood of current tobacco use was unexpected (for a full discussion of this result please see section *5.4.3.2*).

The overall personality profile of the participants in TESUP-1 was comparable to the limited number of published studies which focus on transgender individuals. Miyajima et al.

(2014) examined differences in personality traits between trans men and trans women, and their findings indicated that trans men were higher in cooperativeness (CO) and lower in self-transcendence (ST). The present study had comparable results to that of Miyajima et al., though their sample had higher results in self-directedness (SD) and CO. This could indicate cultural differences between the UK and Japan; however, it may also be representative of the effect of substance use in the current sample. Though there was no association between SD and substance use, there was a significant negative correlation between CO and both high-risk alcohol and drug use. Furthermore, a multiple regression analysis revealed that CO significantly predicted alcohol use status, and the AUDIT score decreased by .155 for each point increase in CO. This result provides support for studies which have focused on personality profiles of people who use substances which indicate that low CO is associated with increased alcohol use (Amau et al., 2008; Foulds et al., 2016). It is also possible that the association between CO and substance use was simultaneously related to GMS. The CO scale represents how well an individual relates to and accepts other people; in this study, gender-related rejection and victimisation were positively associated with substance use. Additionally, some participants in the interviews reported feeling rejected from society and having experienced discrimination in healthcare settings which may contribute to a lower propensity for cooperativeness and an increase in substance use. Further investigation is required to explore whether GMS might mediate the association of personality traits, such as CO, with high-risk substance use.

In order to determine whether there was a distinct personality profile for those engaged in high-risk substance use compared to low-risk substance use, independent sample *t*-tests were conducted. The results indicated that high-risk substance users had statistically significantly higher NS and ST, and lower HA and CO, compared to the low-risk group (see Table 5.14). These results are comparable to previous studies, for example, Le Bon et al.

(2004) explored the differences in personality profiles between people with heroin dependence, alcohol dependence, and a control group. Le Bon et al.'s results indicated that NS and ST were significantly higher in both of the substance dependent groups. However, the results of the current study differ from that of Le Bon et al. in the dimensions of HA and CO; in the present study these dimensions were both significantly lower in the high-risk group, whereas in Le Bon et al.'s study HA was significantly higher in substance dependent groups compared to the control group, and there was no significant difference in CO. More recent studies have also indicated that high levels of NS and ST are associated with SUD (Kotov et al., 2010; Foulds et al., 2017; Hashemi et al., 2019) which aligns with the findings of the present study. However, Hashemi et al. also reported that high HA was associated with SUD, similar to the findings of Le Bon et al. (2004). When Cloninger developed the TCI measure, he theorised that a pattern of high NS and low HA, RD, and PS would predict SUD; the present study provides partial support for this theory in that high NS and low HA was indicative of high-risk substance use.

Table 5.14 – Independent samples *t*-test exploring the difference between low- and high-risk SUD on the TCI-140

	Low-Risk SUD		High-Risk SUD		Independent Samples *t*-test			
	M	*SD*	*M*	*SD*	*df*	*t*	*p*	Cohen's d
NS	56.30	10.141	63.13	8.146	103	-3.391	.001**	.742
HA	75.86	13.843	66.84	14.617	103	2.968	.004**	.633
RD	66.18	11.858	62.51	9.396	103	1.615	.110	.343
PS[a]	60.09	15.017	62.37	9.971	95.55	-.837	.405	.178
SD[a]	60.02	14.333	55.91	8.717	91.73	1.617	.110	.346
CO	75.62	10.734	65.95	10.768	103	4.218	.000**	.899
ST	40.46	9.696	47.31	9.441	103	-3.309	.001**	.715

[a] Welch test statistic is reported where Levene's test indicated that the homogeneity of variances assumption was violated for this variable.
** Correlation is significant at the 0.01 level.

The interviews with participants in this study illuminate some of the differences between the quantitative findings of this study compared to earlier research. For example, Zack (H) used alcohol and drugs as a method of NSSI which may suggest a lack of concern about the consequences of potential harm involved in substance use. Throughout Zack's

interview it is clear that he is sociable, comfortable with taking risks, and sensation seeking, all of which are indicators of high NS and low HA. Other participants such as Parker (H) and Rowan (H) reported impulsively using substances to manage feelings of distress or symptoms of ADHD, demonstrating interactions between impulsive substance use (indicative of NS) and struggling with the anticipation of negative emotional or psychological states (indicative of HA). Additionally, it was *only* participants in the high-risk group who reported conceptualising themselves as being impulsive, and participants such as Gale (H) and Simon (H) discussed how their impulse control was worse when they were under the influence of substances. Despite some participants taking measures to minimise harm when engaging in substance use, the draw of new experiences or heightened enjoyment of events when using alcohol or drugs was often enough for them to impulsively engage in risky activities related to increased substance use.

5.4.4. Protective Factors in Substance Use

Personal and Community-Level Resilience. The previous section (*5.4.4.3*) discussed how the personality trait of CO significantly contributed to lower AUDIT scores and highlighted a possible connection between this dimension and GMS. It is important to note that CO is a character dimension; the character dimensions of the TCI (SD, CO, and ST) are held to be rooted in socialisation, culture, and personal experiences, and are therefore changeable across the lifespan (Cloninger et al., 1993). This is in contrast to the temperament dimensions which are thought to be more stable over time (Cloninger et al., 2019). Since the domain of CO is thought to be moderately changeable, there is the possibility of developing psychosocial interventions in order to increase CO and, consequently, reduce substance use. There are some preliminary studies which have attempted to enhance character dimensions in order to achieve better outcomes. For example, Cloninger (2004) reports that therapeutic interventions which focus on enhancing CO can increase happiness and wellbeing.

Additionally, intervention studies have demonstrated the potential of mindfulness-based meditation (Crescentini et al., 2018) and person-centred psychotherapy (Cloninger & Cloninger, 2016). However, it is crucial that any intervention offered to transgender clients is gender affirmative and considers the role of gender minority stress.

It was initially hypothesised that the GMS subscale of identity pride (P) would act as a protective factor against substance use, based on the proposed mechanism of resilience in the GMS theory (Testa et al., 2015). However, quantitative analyses revealed that P was significantly correlated to high-risk drug use. Bockting et al. (2019) reported that individuals who have high levels of identity pride may be reacting to stigma and discrimination by increasing their connections to the transgender community. It is notable that individuals with high identity pride may be more likely to disclose their trans status to others, and therefore may be at higher risk of experiencing discrimination, rejection, and victimisation (Breslow et al., 2015). Additionally, Nuttbrock et al. (2015) indicated that transgender individuals may re-conceptualise non-conformity or "social deviancy" as a positive aspect of their identity. Some studies have suggested that identity pride (Bockting et al., 2013) or conceptualising non-conforming identities (Barr et al., 2016) as a positive can buffer the negative effects of discrimination and GMS. However, the current study indicates that individuals who associate with a "deviant" peer group, have high levels of identity pride, or frequently participant in LGBTQ events, have a higher risk of engaging in substance use. The findings of this study contradict previous research, therefore particular emphasis was placed on investigating the relationship between identity pride and substance use in TESUP-2 and will be discussed in more detail in chapter six.

Although the GMS subscale of CC was not found to be related to substance use, the qualitative results indicated some participants did believe that attending "queer events" or associating with other transgender people tended to increase their substance use. In contrast

to this, some participants conceptualised their relationship to family and friends who do not drink or take drugs to be a protective factor against high-risk substance use. It is notable that five of the six interview participants in the low-risk group reported that their friends, partners, and family didn't often drink alcohol or use drugs. These findings provide support for previous studies into the positive effect of peers on substance use. Coyle et al. (2015) demonstrated that positive peer influence (such as abstinence and supportive friendships) was a significant predictor of lower substance use and better mental health. Additionally, Beard and Wolff (2020) explored the role of positive influence of peers on substance use in university-age adults and found that positive peer affiliation was related to lower nicotine and drug use, and that it moderated the relationship between sensation-seeking and substance use. As sensation-seeking is highly related to novelty seeking (NS), Beard and Wolff's (2020) findings, together with the results of the present study which indicated that NS significantly contributed to tobacco, alcohol, and drug use, have important implications for potential interventions into high-risk substance use.

Harm Avoidance. In the interviews, many participants described their experiences with harm avoidance in the context of the subdomain HA in the TCI, in addition to the more general measures they take to reduce the risk of harm when they are engaged in substance use. Typically, participants in the high-risk group described the methods they used to mitigate potential physical or emotional harm as a result of substance use. Participants in the low-risk group tended to discuss health concerns or previous negative experiences which led to them stopping using substances. These findings align with the quantitative results which indicated that participants in the low-risk group had higher levels of HA compared to the high-risk group. A high score in the domain of HA relates to fear of uncertainty, shyness, excessive worry, and being easily fatigued; all of these aspects can be conceptualised as features of anxiety (Markett et al., 2016).

Two participants discussed the impact that parental substance use had on their own beliefs and behaviours regarding substance use. Both participants (Aaron, L; Simon, H) disclosed that their fathers' problematic substance use had made them afraid of using substances, because they wanted to avoid becoming like their fathers. It is notable that although both discussed wanting to avoid substance use due to their family history, it was only Aaron who limited his use. Simon reported that he "used to be proper against drugs" until he witnessed his father overdose on heroin, which led to his current high-risk use of alcohol and cocaine. There is a growing body of evidence that has reported that adverse childhood experiences (such as abuse, parental substance use, and domestic violence) are associated with negative outcomes in adult life, including poor mental and physical health, and substance use (Choi et al., 2017; Hughes et al., 2017).

Participants often discussed how negative side-effects of alcohol and drug use, such as feeling unwell, embarrassment, and risks to health, all contributed to their decision to reduce or quit using substances. For Simon (H), it was after getting an infection in his nose from frequent cocaine use that he decided to seek help and began attending an alcohol and drug recovery service. The reported reasons for reducing or quitting substance use largely aligns with previous research which has indicated that common motivations to stop using substances include health concerns (Smith et al., 2010) and recent negative experiences, often described as "hitting rock bottom" (Stokes et al., 2018). Though no participants reported explicitly that transition-related motivations prompted abstinence from substance use, some did mention that when they began medically transitioning their motivation to use substances changed from being a coping method to being a way to enjoy or enhance socialising. This provides some support for previous research which has indicated that, for those who desire it, medical transition improves quality of life and mental health (Baker et al., 2021).

Participants in the high-risk group discussed their methods of reducing harm whilst using substances. Being aware of potential negative effects on physical health and taking measures to mitigate this risk was commonly reported. Gale (H) in particular went into detail about staying alert to health risks when using alcohol and drugs (stimulants) at the same time. They expressed a high level of concern about their own wellbeing and the wellbeing of their friends and discussed methods of risk management such as buying drugs for the group from the same person so that they all experienced the same effects. Throughout Gale's interview it was clear that they put a lot of thought into their substance use, such as planning when to take specific substances to achieve the desired effects. Although Gale was in the high-risk group, they were the only participant who reported that they did not use substances in order to cope with difficult situations or manage mental health symptoms, and overall, they displayed multiple distress tolerance skills. These experiences, though only reported by one participant, suggests that a potential relationship between distress intolerance and harm avoidance may exist in the context of substance use and this warrants further investigation.

5.5. Conclusions

The results from TESUP-1 indicate that high-risk substance use in the transmasculine community is a prevalent issue; over half of the sample engaged in hazardous or harmful alcohol use, and just under half engaged in risky drug use. Additionally, interviews with a nested sample of participants indicated that for some individuals who did not currently engage in substance use, they had previously experienced substance use-related issues, and continued to feel the urge to use alcohol or drugs.

No specific stage of transition was related to increased substance use, however, difficulties in the process of transition might trigger an increase in substance use. It is important to note that improvements are necessary in the operationalisation of the concept of 'stage of transition'. In order to accurately investigate the issues affecting transmasculine

individuals at different stages of transition, and to begin to formulate appropriate support, it is recommended that participatory research is conducted with the transmasculine community. It is noted that this is an ethical method of engaging marginalised or oppressed populations in research (Strang et al., 2019).

The role of masculinities, and how they intersected with a transgender identity, was frequently mentioned by interview participants. The concept of compensatory masculinity was a particularly important factor in understanding high rates of substance use. Participants felt acute pressure to always appear masculine and to 'pass' as male to others. This was not only due to personal preference but also an avoidance of potential danger that they might face due to their transgender identity. This study raised some questions about the validity of using the GRCS with the transmasculine population. First, I contend that transmasculine individuals have a unique experience of gender socialisation which is inherently disparate from cisgender socialisation experiences. Second, participant feedback indicated that many of the questions did not apply to non-binary individuals, and that their responses would change depending on the social context, particularly regarding if they were disclosing their trans identity or not. These issues call into question the appropriateness of the GRCS and suggest that a separate version of the measure should be developed and validated for use with transmasculine individuals.

Difficulties in accessing and navigating transition-related healthcare were cited as having a considerable influence on urges to engage in substance use. Quantitative results revealed that 65.7% of participants had experienced difficulties in accessing medical or mental health treatment due to being trans. It was frequently reported that healthcare professionals lacked trans-specific knowledge and experience and many participants were unsatisfied with the care provided by NHS GIS. Long waiting times and a feeling of having to 'prove' their trans identity or 'jump through hoops' to access healthcare were reported by

most of the participants who were trying to access NHS transition-related services. Some participants expressed a lack of trust in GIS and voiced concerns about the current diagnostic system. The resulting stress from poor access to GIS and a lack of communication from healthcare professionals are likely to have contributed to increased substance use.

Peer pressure was often described as being heightened in importance due to their transgender status; a desire to be seen as cisgender or be seen as 'normal' meant that some participants would engage in high-risk substance use. Additionally, substance use was often connected to being transgender due to some participants getting drunk to 'come out' as trans to others, attending LGBTQ events which are often centred around alcohol, and pride in one's transgender identity. The hypothesised protective factor of community connectedness was not supported, and the qualitative results indicated that both socialising with other transgender people and being rejected by other transgender people contributed to an increase in substance use. Further research is necessary to explore the roles of identity pride and community connectedness in substance use in transgender communities, with particular focus on online/offline communities and how schisms in various trans communities contribute to isolation, seeking support, and substance use.

Psychopathological symptoms were consistently associated with high-risk substance use. Though it is worth noting that despite participants indicating a high number of symptoms, their distress regarding these symptoms was relatively low. It is important to take into consideration the impact of GMS because some symptoms may be a normal reaction to traumatic experiences. Some participants reported that they used substances as a distress tolerance method, though there were paradoxical accounts of conceptualising substance use both as a form of self-harm and a method of achieving validation of a masculine gender identity. These results indicate that the relationship between substance use and psychopathological symptoms is complex and entangled with gender identity and social

expectations. For this reason, it is critical that any interventions gender-affirming and consider the psychosocial context of their lived experiences. Furthermore, due to the high occurrence of distress intolerance in this study, it is suggested that DBT-ST is likely a cost-effective and efficacious method of helping this community regulate emotions, reduce distress, and build community connections and individual-level resilience.

Personality traits were revealed to be a significant factor which contributed to high-risk substance use. There are only a few studies which investigate the personality profiles of transgender individuals, and to my knowledge, none which focus on substance use in the transgender population. This novel finding of the significance of personality traits in transmasculine substance use warrants further investigation. In particular, it would be useful to explore whether therapeutic interventions which focus on changing character traits, such as mindfulness-based meditation and person-centred psychotherapy, could be efficacious in reducing substance use.

Various protective factors were demonstrated to be related to a reduction or cessation of substance use; a high HA score, previous negative experiences of substance use, and health concerns were the most common factors. Participants who felt supported by their partners, family, or friends also reported low-risk substance use. Some participants who were categorised as engaging in high-risk substance use took measures to reduce risks to themselves and others when they were intoxicated. Although it was not indicated that transition-related motivations prompted a reduction in substance use, some participants described how beginning to medically transition led to an increase in self-esteem and overall wellbeing and led to more positive motivations for using substances.

6. TESUP-2

6.1. Descriptive Statistics

6.1.1. Demographics

The age of the 82 participants ranged between 18–54 years ($M = 26.17$, $SD = 6.21$). 34.1% ($N = 28$) of the sample identified their gender identity to be non-binary which included identities such as transmasculine, genderqueer, agender, non-binary, and genderless. The remaining 65.9% ($N = 54$) identified as male. The largest proportion of participants considered themselves to be mid transition (39%, $N = 32$), although 2.4% ($N = 2$) declined to answer this question. The most common sexual orientation was bisexual ($N = 27$), and the majority of the sample identified as White British ($N = 75$, 91.5%).

Completed level of education was assessed using the established levels of educational attainment in the UK (Gov.uk, 2022) which range from 0 to 8. Levels in this sample ranged from 0 (no completed education) to level 7 (postgraduate master's level). Over half of the sample (62.2%, $N = 51$) reported completing either an undergraduate or postgraduate degree or certificate. The majority of participants were in paid employment (65.9%, $N = 54$). Please see Table 3.3 for quantitative demographics variables.

An additional question was added to this second questionnaire regarding disability. 74.4% ($N = 61$) reported that they did not have any disabilities or health conditions. The remaining 25.6% ($N = 21$) of the sample reported having a disability or health condition that impacts their daily life. Of these 21 participants, 57.1% ($N = 12$) had multiple health conditions or disabilities. The most frequently mentioned condition was autism spectrum disorder ($N = 10$), followed by psychiatric disorders ($N = 8$), followed by long-term health conditions ($N = 10$).

Tobacco Use. Use of tobacco was determined through questions relating to current- and past-tobacco use. The majority (73.2%, $N = 60$) of the sample indicated that they had used tobacco in the past. Just over half of the sample (52.4%, $N = 43$) reported current use of tobacco. Only 12 participants ($N = 14\%$) reported never having used tobacco. Please see Table 3.3 in Chapter 3 for quantitative tobacco use data.

Of those who reported current tobacco use ($N = 43$), the most frequently reported method of tobacco use was smoking manufactured cigarettes ($N = 25$), followed by using a tobacco pipe ($N = 10$), and smoking hand-rolled cigarettes ($N = 6$). The frequency of use ranged from 1 – 15 times per day, the most common frequency of use was between 1–10 times per day ($N = 41$) with only two participants reporting a frequency of use greater than 10 times per day, both of which were fifteen times per day.

Alcohol Use. Use of alcohol was determined through administering the AUDIT (Babor et al., 1992). A cut-off score of 8 or over is suggestive of harmful and/or hazardous drinking habits and a cut-off score of 20 or over indicates that the individual may be at risk of, or are experiencing, alcohol dependence (Babor et al., 1992). For this study's sample, the mean score on the AUDIT was 11.96 (SD = 8.81), with scores ranging from 0–27 points. Over half of the sample met or exceeded the cut-off score of 8 points (56.01%, $N = 46$), and over a quarter of the sample met or exceeded the cut-off score of 20 points (26.8%, $N = 22$). Please see Table 3.4 for means and standard deviations of AUDIT.

Drug Use. Use of drugs was determined through administering the DUDIT (Berman et al., 2005). A cut-off score of 6 or more points is recommended to identify those with drug-related problems (Berman et al., 2005). For this study's sample, the mean score on the DUDIT was 10.98 (SD = 11.55), with a range of 0 – 30 points. Over half of the sample

(51.2%, $N = 42$) met or exceeded the cut-off score of 6 points. Please see Table 3.4 for means and standard deviations of DUDIT.

Participants were asked to indicate which drugs they usually take and had the option to select multiple drugs. A total of 42 participants indicated at least one drug that they typically used. The most commonly used drug was cannabis (46.3%, $N = 38$). Drugs also indicated in free-text comments but not included in the questionnaire were Valium and prescription painkillers taken recreationally. It is interesting to note that where heroin was the only drug not selected in TESUP-1, whereas in TESUP-2, four participants indicated that they use heroin. Please see Table 3.5 for frequencies of drug type used.

6.1.2. Correlations

Please refer back to each scales' description in the Methods chapter (*section 3.4.2. TESUP Materials*) for definitions of the abbreviations in each scale. Please see Appendix K for additional information and scattergrams of all correlations.

Demographics. Table 6.1 shows the correlations between demographic information (age, gender, education level), transition stage, and substance use (tobacco, alcohol, drugs) on data collected from 82 transmasculine individuals.

There were no correlations between any of these variables and the use of tobacco, alcohol, or drugs. Unsurprisingly, there was a significant correlation between level of education and age ($\rho(82) = .299$, $p = .007$, 95% CI [.064, .518]).

Interestingly, the use of tobacco was negatively correlated with both the use of alcohol ($r(82) = -.320$, $p = .003$, 95% CI [-.507, -.139]) and the use of drugs ($r(82) = -.419$, p

< .001, 95% CI [-.551, -.275]). Additionally, the use of alcohol had a very strong positive

correlation to the use of drugs ($r(82) = .830$, $p < .001$, 95% CI [.726, .905]).

Table 6.1. Demographics, stage of transition, and substance use correlations. Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7
1. Age (*r*)	26.17	6.218	--						
2. Gender binary (*r*$_{pb}$)			.042	--					
			[-.142, .288]						
3. Transition Scale (*r*)	3.36	.903	.189	.017	--				
			[-.094, .416]	[-.202, .240]					
4. Education (ρ)	5.04	1.666	.299*	-.008	.108	--			
			[.064, .518]	[-.237, .219]	[-.144, .345]				
5. Tobacco score (*r*)	4.35	1.201	-.062	.027	.096	.152	--		
			[-.259, .144]	[-.178, .231]	[-.154, .325]	[-.106, .379]			
6. AUDIT score (*r*)	11.96	8.814	-.112	.059	.154	.106	-.320**	--	
			[-.314, .127]	[-.167, .283]	[-.061, .359]	[-.096, .307]	[-.507, -.139]		
7. DUDIT score (*r*)	10.98	11.554	-.034	.055	.136	.088	-.419**	.830**	--
			[-.233, .204]	[-.171, .284]	[-.050, .307]	[-.112, .295]	[-.551, -.275]	[.726, .905]	

Note. *M* and *SD* represent the mean and standard deviation, respectively. *R* and ρ indicate Pearson's correlation and Spearman's Rank correlation, respectively. *r*$_{pb}$ indicates point-biserial correlation.
Values in square brackets are the 95% confidence interval for each correlation.
* Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Quality of Life. Table 6.2 shows correlations between the four domains of the

WHOQOL-BREF and substance use (tobacco, alcohol, drugs).

Results demonstrated a weak negative relationship between physical health QoL and

alcohol use ($r(82) = -.226$, $p = .041$, 95% CI [-.413, -.033]) as well as drug use ($r(82) = -

.221$, $p = .046$, 95% CI [-.402, -.054]). There was an unexpected finding of a moderate

positive relationship between tobacco use and environmental QoL ($r(82) = .385$, $p < .001$,

95% CI [.187, .545]) .

Table 6.2. Quality of Life and substance use correlations. Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7
1. Physical Health QoL (r)	13.26	2.622	--						
2. Psychological Health QoL (r)	11.68	2.738	.562** [.355, .706]	--					
3. Social and relationships QoL (r)	13.60	3.121	.281* [.037, .528]	.458** [.251, .635]	--				
4. Environment QoL (r)	13.54	2.474	.631** [.454, .768]	.571** [.353, .729]	.303** [.098, .502]	--			
5. Tobacco score (r)	4.35	1.201	.150 [-.075, .366]	.174 [-.047, .369]	.154 [-.122, .417]	.385** [.187, .545]	--		
6. AUDIT score (r)	11.96	8.814	-.226* [-.413, -.033]	.193 [.023, .371]	-.054 [-.243, .130]	-.040 [-.255, .149]	-.320** [-.507, -.139]	--	
7. DUDIT score (r)	10.98	11.554	-.221* [-.402, -.054]	.207 [.038, .388]	-.030 [-.212, .161]	-.098 [-.276, .073]	-.419** [-.551, -.275]	.830** [.726, .905]	--

Note. M and SD represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Gender Role Conflict. Table 6.3 shows correlations between the four factors of the GRCS and substance use (tobacco, alcohol, drugs). Tobacco was not significantly correlated to any GRC factors.

Results showed that both alcohol and drug use were correlated with three of the four factors: SPC, RE, RABBM. Concerning the SPC factor, alcohol use had a moderate positive correlation ($r(82) = .371, p = .001$, 95% CI [.200, .541]) and drug use had a weak positive correlation ($r(82) = .280, p = .013$, 95% CI [.098, .460]). Concerning the RE factor, there was a weak positive correlation with both alcohol use ($r(82) = .238, p = .036$, 95% CI [.031, .434]) and drug use ($r(82) = .235, p = .039$, 95% CI [.051, .433]). Finally, the RABBM factor had a moderate correlation with both alcohol use ($r(82) = .451, p < .001$, 95% CI [.282, .618]) and drug use ($r(82) = .492, p < .001$, 95% CI [.320, .652]).

Table 6.3. Gender Role Conflict Scale and substance use correlations. Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7
1. SPC (r)	44.46	11.597	--						
2. RE (r)	37.14	10.679	.372**	--					
			[.106, .587]						
3. RABBM (r)	25.28	8.626	.570**	.701**	--				
			[.365, .735]	[.587, .800]					
4. CBWFR (r)	20.47	5.242	.496**	.235*	.289*	--			
			[.289, .672]	[-.041, .509]	[.066, .515]				
5. Tobacco score (r)	4.35	1.201	-.043	-.209	-.179	-.031	--		
			[-.301, .192]	[-.469, .062]	[-.416, .069]	[-.279, .198]			
6. AUDIT score (r)	11.96	8.814	.371**	.238*	.451**	.214	-.320**	--	
			[.200, .541]	[.031, .434]	[.282, .618]	[.029, .400]	[-.507, -.139]		
7. DUDIT score (r)	10.98	11.554	.280*	.235*	.492**	.132	-.419**	.830**	--
			[.098, .460]	[.051, .433]	[.320, .652]	[-.077, .355]	[-.551, -.275]	[.726, .905]	

Note. M and SD represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Gender Minority Stress and Resilience. For reasons of available space Table 6.4

shows correlations between the nine constructs of the GMSR and substance use (tobacco,

alcohol, drugs) and Table 6.5 shows the respective confidence intervals. The constructs of

ND and CC were found to have no significant associations with the use of any substance.

Tobacco use had weak negative correlations with three constructs: the construct V

($r(82) = -.280$, $p = .011$, 95% CI [-.477, -.038]), the construct R ($r(82) = -.256$,

$p = .019$, 95% CI [-.499, -.006]), and the construct D ($r(82) = -.223$, $p = .044$, 95% CI [-.418,

-.025]).

Alcohol use had a weak positive correlation with two constructs: the construct D

($r(82) = .244$, $p = .044$, 95% CI [.074, .464]), and the construct R ($r(82) = .258$, $p = .019$,

95% CI [.093, .445]). The use of alcohol also had a moderate positive correlation with four

constructs: the construct NE ($r(82) = .311$, $p = .004$, 95% CI [.115, .508]), the construct P

(r(82) = .359, p = .001, 95% CI [.190, .528]), the construct IT (r(82) = .363, p = .001, 95% CI [.209, .512]), and the construct V (r(82) = .382, p < .001, 95% CI [.189, 598]).

Drug use had a weak positive correlation with five constructs: the construct NA (r(82) = .220, p = .047, 95% CI [.038, .404]), the construct IT (r(82) = .260, p = .018, 95% CI [.090, .428]), the construct R (r(82) = .260, p = .018, 95% CI [.080, 451]), the construct NE (r(82) = .285, p = .009, 95% CI [.098, .478]), and the construct D (r(82) = .292, p = .008, 95% CI [.103, .519]). The use of drugs also had a moderate positive correlation with two constructs: the construct P (r(82) = .390, p < .001, 95% CI [.224, .544]), and the construct V (r(82) = .452, p <.001, 95% CI [.281, .652]).

Table 6.4. Gender Minority Stress and Resilience measure and substance use correlations including means and standard deviations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Discrimination (r)	4.29	2.052	--											
2. Rejection (r)	5.32	2.863	.692**	--										
3. Victimisation (r)	4.23	2.856	.557**	.704**	--									
4. Non-affirmation (r)	12.77	6.632	.216	.288**	.311*	--								
5. Internalised Transphobia (r)	16.43	8.579	.246*	.207*	.320**	.394**	--							
6. Pride (r)	13.95	6.450	.128	-.011	.078	.201	-.228*	--						
7. Negative Expectations (r)	19.93	7.478	.273*	.283*	.362**	.523**	.430**	.273*	--					
8. Non-disclosure (r)	13.18	4.536	.072	.046	.057	.137	.333**	-.392**	.135	--				
9. Community Connectedness (r)	10.68	4.234	-.050	-.166	-.197	.200	-.314**	.273*	-.104	-.033	--			
10. Tobacco score (r)	4.35	1.201	-.223*	-.256*	-.280*	-.118	-.166	-.023	-.135	.013	.073	--		
11. AUDIT score (r)	11.96	8.814	.244*	.258*	.382**	.202	.363**	.359**	.311**	-.070	-.156	-.320**	--	
12. DUDIT score (r)	10.98	11.554	.292*	.260*	.452**	.220*	.260*	.390**	.285**	-.071	-.107	-.419**	.830**	--

Note. M and SD represent the mean and standard deviation, respectively. See table 6.5 for confidence intervals for each correlation value. * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Table 6.5. Gender Minority Stress and Resilience measure and substance use correlation confidence intervals, with means and standard deviations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Discrimination (*r*)	4.29	2.052	--											
2. Rejection (*r*)	5.32	2.863	[.540, .803]	--										
3. Victimisation (*r*)	4.23	2.856	[.375, .720]	[.537, .828]	--									
4. Non-Affirmation (*r*)	12.77	6.632	[.013, .447]	[.054, .514]	[.077, .526]	--								
5. Internalised Transphobia (*r*)	16.43	8.579	[.020, .489]	[.020, .505]	[.126, .513]	[.142, .598]	--							
6. Pride (*r*)	13.95	6.450	[-.069, .361]	[-.268, .254]	[-.138, .305]	[-.036, .422]	[-.455, .025]	--						
7. Negative Expectations (*r*)	19.93	7.478	[.017, .510]	[.061, .498]	[.158, .547]	[.351, .661]	[.210, .610]	[.057, .478]	--					
8. Non-Disclosure (*r*)	13.18	4.536	[-.161, .274]	[-.150, .248]	[-.138, .238]	[-.061, .333]	[.093, .530]	[-.569, -.183]	[-.084, .332]	--				
9. Community Connectedness (*r*)	10.68	4.234	[-.127, .158]	[-.383, .062]	[-.404, .005]	[-.041, .418]	[-.541, -.096]	[.020, .477]	[-.379, .139]	[-.270, .221]	--			
10. Tobacco score (*r*)	4.35	1.201	[-.418, -.025]	[-.499, -.006]	[-.477, .038]	[-.356, .151]	[-.421, .083]	[-.273, .220]	[-.364, .083]	[-.208, .236]	[-.170, .307]	--		
11. AUDIT score (*r*)	11.96	8.814	[.074, .464]	[.093, .445]	[.189, .598]	[.029, .376]	[.209, .512]	[.190, .528]	[.115, .508]	[-.272, .123]	[.046, -.107]	[-.507, -.139]	--	
12. DUDIT score (*r*)	10.98	11.554	[.103, .519]	[.080, .451]	[.281, .652]	[.038, .404]	[.090, .428]	[.224, .544]	[.098, .478]	[-.261, .111]	[-.303, .074]	[-.551, -.275]	[.726, .905]	--

Note. M and SD represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation (see table 6 for correlation values.

Psychopathological Symptoms. For reasons of available space Table 6.6 shows

correlations between all 12 dimensions of the SCL-90-R and substance use (tobacco, alcohol,

drugs) and Table 6.7 shows the respective confidence intervals. Typically, GSI (the average

score of all 90 items of the measure) is thought to be the best indicator for the current level of

the symptoms (Derogatis, 1994).

Tobacco use had a negative correlation with all three global indices, indicating that

the use of tobacco was associated with fewer psychopathological symptoms. There was a

weak negative correlation with PST ($r(82) = -.260$, $p = .018$, 95% CI [-.467, -.055]) and with

GSI ($r(82) = -.290$, $p = .008$, 95% CI [-.505, -.085]), and there was a moderate negative

correlation with PDSI ($r(82) = -.316$, $p = .004$, 95% CI [-.527, -.068]).

Tobacco use was also negatively correlated with eight of the nine symptoms

dimensions; there was no correlation between tobacco use and depression. There was a weak

negative correlation with PAR ($r(82) = -.218$, $p = .049$, 95% CI [-.405, -.028]), INS ($r(82) =$

$-.227$, $p = .040$, 95% CI [-.448, -.005]), SOM ($r(82) = -.259$, $p = .019$, 95% CI [-.453, -.096]),

PHO ($r(82) = -.285$, $p = .009$, 95% CI [-.496, -.071]), and PSY ($r(82) = -.291$, $p = .008$, 95%

CI [-.473, -.107]). There was also a moderate negative correlation with OBC ($r(82) = -.300$, p

$= .006$, 95% CI [-.496, -.096]), HOS ($r(82) = -.301$, $p = .006$, 95% CI [-.488,-.109]), and

ANX ($r(82) = -.314$, $p = .004$, 95% CI [-.527, -.095]).

Alcohol use had a positive correlation with all three global indices. There was a

moderate correlation with PSDI ($r(82) = .389$, $p < .001$, 95% CI [.193, .566]), and there was a

strong correlation with GSI ($r(82) = .667$, $p < .001$, 95% CI [.526, .768]) and with PST ($r(82)$

$= .673$, $p < .001$, 95% CI [.549, .773]).

Alcohol use was also positively correlated with all nine symptom dimensions. There

was a moderate correlation with OBC ($r(82) = .416$, $p < .001$, 95% CI [.237, .577]) and DEP

(r(82) = .424 , p < .001, 95% CI [.239, .594]). There was a strong correlation with PHO

(r(82) = .567, p < .001, 95% CI [.417, .691]), INS (r(82) = .602, p < .001, 95% CI [.450,

.723]), ANX (r(82) = .636, p < .001, 95% CI [.512, .742]), SOM (r(82) = .676, p < .001, 95%

CI [.536, .778]), PAR (r(82) = .724, p < .001, 95% CI [.589, .824]), HOS (r(82) = .736, p <

.001, 95% CI [.627, .821]), and PSY (r(82) = .746, p < .001, 95% CI [.633, .833]).

Drug use had a positive correlation with all three global indices. There was a

moderate correlation with PSDI (r(82) = .360, p < .001, 95% CI [.183, .523]), and there was a

strong correlation with GSI (r(82) = .660, p < .001, 95% CI [.524, .763]) and PST (r(82) =

.697, p < .001, 95% CI [.588, .788])

Drug use was also positively correlated with all nine symptom dimensions. There was

a moderate correlation with DEP (r(82) = .373, p = .001, 95% CI [.196, .541]) and OBC

(r(82) = .424, p < .001, 95% CI [.259, .582]). There was a strong correlation with INS (r(82)

= .543, p < .001, 95% CI [.381, .682]), PHO (r(82) = .609, p < .001, 95% CI [.463, .726]),

ANX (r(82) = .627, p < .001, 95% CI [.495, .732]), SOM (r(82) = .702, p < .001, 95% CI

[.570, .805]), PAR (r(82) = .719, p < .001, 95% CI [.576, .819]), HOS (r(82) = .740, p < .001,

95% CI [.595, .845]), and PSY (r(82) = .773, p < .001, 95% CI [.684, .844]).

Table 6.6. Symptom Checklist – 90 - Revised and substance use correlations with means and standard deviations.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. SOM (*r*)	1.3994	.89252	--														
2. OBC (*r*)	2.0000	.93843	.764**	--													
3. INS (*r*)	1.7344	.96071	.810**	.864**	--												
4. DEP (*r*)	1.8039	.91488	.687**	.840**	.884**	--											
5. ANX (*r*)	1.5866	.93092	.863**	.856**	.894**	.848**	--										
6. HOS (*r*)	1.3313	1.00051	.867**	.732**	.797**	.672**	.846**	--									
7. PHO (*r*)	1.5244	.99154	.830**	.828**	.860**	.794**	.898**	.860**	--								
8. PAR (*r*)	1.2683	.95033	.804**	.619**	.726**	.622**	.800**	.766**	.713**	--							
9. PSY (*r*)	1.3085	.98623	.880**	.723**	.823**	.731**	.875**	.886**	.844**	.859**	--						
10. GSI (*r*)	1.5640	.84725	.914**	.889**	.940**	.879**	.962**	.900**	.928**	.831**	.927**	--					
11. PST (*r*)	60.41	26.613	.902**	.810**	.877**	.878**	.907**	.876**	.884**	.851**	.912**	.951**	--				
12. PSDI (*r*)	2.1650	.52059	.641**	.824**	.795**	.834**	.794**	.637**	.743**	.510**	.643**	.794**	.613**	--			
13. Tobacco score (*r*)	4.35	1.201	-.259*	-.300**	-.227*	-.166	-.314**	-.301**	-.285**	-.218*	-.291**	-.290**	-.260*	-.316**	--		
14. AUDIT score (*r*)	11.96	8.814	.676**	.416**	.602**	.424**	.636**	.736**	.567**	.724**	.746**	.667**	.673**	.389**	-.320**	--	
15. DUDIT score (*r*)	10.98	11.554	.702**	.424**	.543**	.373**	.627**	.740**	.609**	.719**	.773**	.660**	.697**	.360**	-.419**	.830**	--

Note. *M* and *SD* represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation.
* Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

Table 6.7. Symptom Checklist – 90 - Revised and substance use correlation confidence intervals with means and standard deviations.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. SOM (r)	1.3994	.89252	--														
2. OBC (r)	2.0000	.93843	[.667, .843]	--													
3. INS (r)	1.7344	.96071	[.718, .883]	[.784, .925]	--												
4. DEP (r)	1.8039	.91488	[.540, .806]	[.755, .905]	[.822, .928]	--											
5. ANX (r)	1.5866	.93092	[.788, .919]	[.794, .906]	[.848, .930]	[.779, .902]	--										
6. HOS (r)	1.3313	1.00051	[.817, .911]	[.637, .821]	[.710, .867]	[.550, .778]	[.786, .894]	--									
7. PHO (r)	1.5244	.99154	[.757, .896]	[.751, .893]	[.776, .925]	[.700, .865]	[.843, .938]	[.803, .903]	--								
8. PAR (r)	1.2683	.95033	[.719, .866]	[.467, .747]	[.598, .833]	[.464, .754]	[.702, .876]	[.645, .852]	[.577, .828]	--							
9. PSY (r)	1.3085	.98623	[.829, .918]	[.615, .818]	[.741, .892]	[.620, .821]	[.828, .914]	[.828, .927]	[.776, .900]	[.791, .907]	--						
10. GSI (r)	1.5640	.84725	[.874, .948]	[.838, .930]	[.911, .961]	[.821, .922]	[.944, .976]	[.855, .934]	[.889, .959]	[.748, .896]	[.893, .953]	--					
11. PST (r)	60.41	26.613	[.869, .931]	[.725, .874]	[.813, .921]	[.681, .862]	[.871, .937]	[.840, .910]	[.842, .919]	[.797, .893]	[.886, .935]	[.932, .965]	--				
12. PSDI (r)	2.1650	.52059	[.488, .771]	[.700, .910]	[.661, .888]	[.676, .928]	[.672, .885]	[.497, .757]	[.598, .842]	[.308, .689]	[.482, .771]	[.657, .895]	[.424, .760]	--			
13. Tobacco score (r)	4.35	1.201	[-.453, -.057]	[-.496, -.096]	[-.448, -.005]	[-.400, .077]	[-.527, -.095]	[-.488, -.109]	[-.496, -.071]	[-.405, -.028]	[-.473, -.107]	[-.505, -.085]	[-.467, -.055]	[-.527, -.068]	--		
14. AUDIT score (r)	11.96	8.814	[.536, .778]	[.237, .577]	[.450, .723]	[.239, .594]	[.512, .742]	[.627, .821]	[.417, .691]	[.589, .824]	[.633, .833]	[.526, .768]	[.549, .773]	[.193, .566]	[-.507, -.139]	--	
15. DUDIT score (r)	10.98	11.554	[.570, .805]	[.381, .682]	[.381, .682]	[.196, .541]	[.495, .732]	[.595, .845]	[.463, .726]	[.576, .819]	[.648, .844]	[.524, .763]	[.588, .788]	[.183, .523]	[-.551, -.275]	[.726, .905]	--

Note. M and SD represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation (see table 6 for correlation values.

Personality. Table 6.8 shows the correlations between the seven dimensions of the TCI-140-R and substance use (tobacco, alcohol, drugs).

Tobacco use had a weak negative correlation with ST ($r(82) = -.281$, $p = .011$, 95% CI [-.471, -.090]) and a moderate negative correlation with NS ($r(82) = -.470$, $p < .001$, 95% CI [-.628, -.266]). Tobacco use also had a weak positive correlation with SD ($r(82) = .228$, $p = .040$, 95% CI [-.001, .421]).

Alcohol use had a weak negative correlation with RD ($r(82) = -.248$, $p = .025$, 95% CI [-.425, -.060]), a moderate negative correlation with HA ($r(82) = -.419$, $p < .001$, 95% CI [-.573, -.251]), and a strong negative correlation with CO ($r(82) = -.594$, $p < .001$, 95% CI [-.732, -.444]). Alcohol use also had a strong positive correlation with ST ($r(82) = .571$, $p < .001$, 95% CI [.417, .690]).

Drug use had a moderate negative correlation with HA ($r(82) = -.436$, $p < .001$, 95% CI [-.607, -.278]), and a strong negative correlation with CO ($r(82) = -.524$, $p < .001$, 95% CI [-.719, -.318]). Drug use also had a weak positive correlation with NS ($r(82) = .240$, $p = .030$, 95% CI [.081, .389]) and a strong positive correlation with ST ($r(82) = .608$, $p < .001$, 95% CI [.455, .727]).

Table 6.8. Temperament and Character Inventory – 140 - Revised and substance use correlations. Means, standard deviations, and correlations with confidence intervals

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Novelty Seeking (r)	59.87	9.701	--									
2. Harm Avoidance (r)	69.92	13.941	-.189 [-.440, .036]	--								
3. Reward Dependence (r)	63.50	10.837	.103 [-.165, .356]	.337** [.122, .536]	--							
4. Persistence (r)	62.12	12.795	.013 [-.277, .298]	-.195 [-.407, .050]	-.032 [-.329, .285]	--						
5. Self-directedness (r)	56.66	10.502	-.254* [-.486, .052]	-.262* [-.438, -.052]	.094 [-.173, .352]	.367** [.099, .571]	--					
6. Cooperativeness (r)	68.84	11.375	-.114 [-.414, .169]	.450** [.266, .641]	.522** [.321, .669]	-.085 [-.358, .134]	.108 [-.191, .362]	--				
7. Self-transcendence (r)	44.97	10.292	.383** [.217, .540]	-.301** [-.561, -.067]	.113 [-.110, .304]	.131 [-.080, .361]	-.264* [-.439, -.064]	-.334** [-.556, -.118]	--			
8. Tobacco score (r)	4.35	1.201	-.470** [-.628, -.266]	.043 [-.148, .250]	.014 [-.218, .281]	-.096 [-.362, .181]	.228* [-.001, .421]	.113 [-.102, .338]	-.281* [-.471, -.090]	--		
9. AUDIT score (r)	11.96	8.814	.175 [-.011, .377]	-.419** [-.573, -.251]	-.248* [-.425, -.060]	.050 [-.151, .242]	-.161 [-.342, .035]	-.594** [-732, .444]	.571** [.417, .690]	-.320** [-.507, -.139]	--	
10. DUDIT score (r)	10.98	11.554	.240* [.081, .389]	-.436** [-.607, -.278]	-.197 [-.383, -.022]	.077 [-.109, .269]	-.212 [-.383, -.032]	-.524** [-.719, -.318]	.608** [.455, .727]	-.419** [-.551, -.275]	.830** [.726, .905]	--

Note. M and SD represent the mean and standard deviation, respectively. Values in square brackets are the 95% confidence interval for each correlation.
* Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level.

6.2. Inferential Statistics

In the same manner as phase one, separate multiple regression analyses using the forward method were carried out for the outcome variables of alcohol and drug use to investigate whether the predictor variables which most highly correlated with those outcomes could significantly predict participant's AUDIT and DUDIT scores, respectively. A binary logistic regression was conducted between the variables which most highly correlated with smoking to investigate if they could predict whether an individual was a current smoker or non-smoker.

For a predictor variable to be included in the regression analyses the inclusion criteria was a correlation coefficient of $r \geq .35$ and a p-value of $p \leq .01$.

6.2.1. Binary Logistic Regression – Smoking Status

Based on the inclusion criteria stated above, two predictor variables were included which were Environment QOL and Novelty Seeking (NS). A binary logistic analysis was conducted to explore if Environment and NS could significantly predict whether an individual was a non-smoker smoker or a current smoker.

82 cases were included in the analysis and the full model significantly predicted smoking status (omnibus χ^2 = 23.27, df = 2, p < .001). The model could account for between 24.7% and 33% of variance in smoking status, with 69.8% of current smoking status successfully predicted and 61.5% of current non-smoking status successfully predicted. The overall prediction rate was 65.9%. Please see Table 6.9 for coefficients, Wald statistics, probability values, and standardised beta (with 95% confidence intervals). Overall, 65.9% of predictions were accurate. NS significantly contributed to predicting smoking status (p < .001); for each point increase in NS, participants were 0.86 times less likely to be a current smoker.

Table 6.9. Binary Logistic Regression predicting current smoking status (smoker/non-smoker).

Variable	df	Sig.	B	SE	Exp(β) [95%CI]
Constant	1	.000	8.904	2.446	7363.179
Novelty Seeking (NS)	1	.000**	-.151	.041	.860 [.794, .931]

Note. Omnibus χ^2 = 23.274, df = 1, p <.001. R^2 = .330 (Nagelkerke). R^2 = .247 (Cox & Snell).
***Significant at the .001 level.

6.2.2. Multiple Regression – Alcohol Use

Based on the inclusion criteria ($r \geq .35$ and a p-value of $p \leq .01$), ten predictor variables were included. Please see Appendix L for the correlations and p-values. These were Success, Power, and Control (SPC), Restricted Affectionate Behaviour Between Men (RABBM), Pride (P), Internalised Transphobia (IT), Victimisation (V), Positive Symptom Total (PST), Positive Symptom Distress Index (PSDI), Harm Avoidance (HA), Cooperativeness (CO), and Self-Transcendence (ST). A multiple regression analysis using the forward method was conducted to explore if the ten predictor variables could significantly predict alcohol use.

82 cases were included in analysis, with three cases excluded for missing data in any of the ten predictor variables. In total 79 cases were analysed, and the results indicated that the model which was the most significant predictor of AUDIT scores was model 2 (see Table L.1), which included two predictors: PST ($p < .001$) and HA ($p < .001$). This model could account for 60.4% of variance and was a significant predictor of alcohol use status, $F(2, 78) = 58.038$, $p < .001$, $R^2 = .604$ (see Table 6.10). The final predictive model was:

$$\text{AUDIT score} = 16.60 + (.212*\text{PST}) + (-.250*\text{HA})$$

AUDIT score increased by .212 for each point increase in PST and decreased by .25 for each point increase in HA.

Table 6.10. Multiple regression of AUDIT using forward method, Model 2: PST and HA

Variable	B	SE B	β	t	p
(Constant)	16.601	3.472		4.782	.000**
PST	.212	.023	.654	9.068	.000**
HA	-.250	.044	-.409	-5.673	.000**

Note: B = unstandardized beta, *SE B* = standard error for unstandardized beta,
β = standardized beta.
** Significant at the 0.001 level.

6.2.3. Multiple Regression– Drug Use

Based on the inclusion criteria previously stated ($r \geq .35$ and a p-value of $p \leq .01$), eight predictor variables were included. Please see Appendix M for the correlations and p-values. These were Restricted Affectionate Behaviour Between Men (RABBM), Pride (P), Victimisation (V), Positive Symptom Total (PST), Positive Symptom Distress Index (PSDI), Harm Avoidance (HA), Cooperativeness (CO), and Self-Transcendence (ST). A multiple regression analysis using the forward method was conducted to explore if the eight predictor variables could significantly predict drug use.

82 cases were included in analysis, with one case excluded for missing data in any of the eight predictor variables. In total 81 cases were analysed, and the results indicated that the model which was the most significant predictor of DUDIT scores was model 3 (see Table M.1), which included the predictor variables PST ($p < .001$), HA ($p < .001$), and V ($p = .022$). This model could account for 68% of variance and was a significant predictor of drug use status, $F(3, 80) = 54.428$, $p < .001$, $R^2 = .68\ 9$ (see Table 6.11). The final predictive model was:

$$\text{DUDIT score} = 13.752 + (.272 * PST) + (.653 * V) + (-.316 * HA)$$

DUDIT score increased by .272 for each point increase in PST and increased by .653 for each point increase in V. DUDIT score decreased by .316 for each point increase in HA.

Table 6.11. Multiple regression of DUDIT using forward method, Model 3: PST, HA, and V

Variable	B	$SE\ B$	β	t	p
(Constant)	13.752	4.409		3.119	.003**
PST	.272	.029	.632	9.291	.000**
HA	-.316	.054	-.386	-5.830	.000**
V	.653	.279	.163	2.341	.022*

Note: B = unstandardized beta, $SE\ B$ = standard error for unstandardized beta,
β = standardized beta.
* Significant at the 0.05 level. ** Significant at the 0.001 level.

6.3. Longitudinal Statistics

Twelve months separated TESUP-1 (November 2019) and TESUP-2 (November 2020). A one-way analysis of variance (ANOVA) was conducted between all independent variables to investigate if there were any statistically significant differences between the variables. To account for multiple comparisons, p-values were adjusted using the Bonferroni method. It is important to note that because 23 participants who completed TESUP-1 did not participate in TESUP-2, the mean for each variable given in the ANOVA results is based on the 82 participants who completed all the measures in both phase one and two and is therefore different to the means stated in TESUP-1 (see Table 3.3 in Chapter 3).

6.3.1. Substance use

Tobacco Use. A one-way repeated measures ANOVA (See Table 6.12) determined that there was no significant difference in mean rates of tobacco use between TESUP-1 and TESUP-2 ($F(1, 81) = .391, p = .534$, $\eta_p^2 = .005$).

Alcohol Use. In TESUP-1 the mean AUDIT score was 7.26 (SD = 6.21), with 49.5% ($N = 52$) of the sample meeting the cut-off of 8 points (indicating harmful alcohol use), and

6% ($N = 7$) of these meeting the cut-off of 20 points (indicating alcohol dependence). In

TESUP-2 the mean AUDIT score increased to 11.96 (SD = 8.81) which exceeds the cut-off

of 8 points; 56.1% ($N = 46$) of the sample met the cut-off of 8 points and 26.8% ($N = 22$) met

the cut-off of 20 points.

A one-way repeated measures ANOVA (See Table 6.12) determined that the mean

AUDIT scores significantly differed between TESUP-1 and TESUP-2 ($F(1, 81) = 15.609$, $p <$

.001, $\eta_p^2 = .162$). Mean AUDIT scores increased by 4.707 points, 95% CI [2.337, 7.078].

Drug use. In TESUP-1 the mean DUDIT score was 5.11 (SD = 6.83); with 43.8% (N

= 46) of the sample meeting the cut-off score of 6 points. In TESUP-2 the mean DUDIT

score increased to 10.98 (SD = 11.55) which exceeds the cut-off of 6 points; 51.2% ($N = 42$)

of the sample met the cut-off of 6 points.

A one-way repeated measures ANOVA (See Table 6.12) determined that mean

DUDIT scores were statistically significantly different between TESUP-1 and TESUP-2

($F(1, 81) = 20.501$, $p < .001$, $\eta_p^2 = .202$). Mean DUDIT scores increased by 5.866 points,

95% CI [3.288, 8.444].

Table 6.12. Analysis of Variance (ANOVA) in Tobacco Use, AUDIT score, DUDIT score, age, stage of transition, and education between Phase 1 and Phase 2. Means and standard deviations.

Measure	Phase 1		Phase 2		$F(1, 81)$	η_p^2
	M	*SD*	*M*	*SD*		
Tobacco	4.48	1.434	4.35	1.201	.391	.005
AUDIT	7.25	6.210	11.96	8.814	15.609**	.162
DUDIT	5.11	6.831	10.98	11.554	20.501**	.202
Age	25.26	6.39	26.09	6.202	.232	.003
Stage of Transition	3.09	1.028	3.37	.908	3.189	.039
Educational level	4.68	1.729	5.05	1.679	1.912	.024

Note. M and SD represent the mean and standard deviation, respectively.
** Significant at the 0.001 level.

6.3.2. Demographics

A one-way repeated measures ANOVA explored significant differences in three demographics variables (age, stage of transition, education) between TESUP-1 and TESUP-2 (See Table 6.12). It was determined that there were no significant differences in the mean scores of any of the three demographic variables.

6.3.3. Quality of life

A one-way repeated measures ANOVA explored significant differences in four QOL domains between TESUP-1 and TESUP-2 (See Table 6.13). It was determined that there were no significant differences in the mean scores of any of the four QOL domains.

Table 6.13. Analysis of Variance (ANOVA) in the 4 domains of QOL between Phase 1 and Phase 2. Means and standard deviations.

Measure	Phase 1		Phase 2		$F(1, 81)$	η_p^2
	M	SD	M	SD		
Physical Health QOL	13.96	3.106	13.26	2.622	2.895	.035
Psychological Health QOL	11.46	3.173	11.68	2.738	.226	.003
Social and Relationships QOL	13.34	3.703	13.60	3.121	.192	.002
Environment QOL	13.32	2.848	13.54	2.474	.353	.004

Note. M and SD represent the mean and standard deviation, respectively.
** Significant at the 0.01 level.

6.3.4. Gender Role Conflict

A one-way repeated measures ANOVA explored significant differences in four GRC domains between TESUP-1 and TESUP-2 (See Table 6.14). It was determined that there were no significant differences in the mean scores of any of the four GRC domains.

Table 6.14. Analysis of Variance (ANOVA) in the 4 domains of GRCS between Phase 1 and Phase 2. Means and standard deviations.

Measure	Phase 1		Phase 2		$F(1, 81)$	η_p^2
	M	*SD*	*M*	*SD*		
SPC	42.06	11.898	44.46	11.597	1.771	.022
RE	36.44	10.929	37.14	10.679	.175	.002
RABBM	23.86	8.830	25.58	8.626	.987	.013
CBWFR	19.17	5.785	20.47	5.242	1.863	.024

Note. *M* and *SD* represent the mean and standard deviation, respectively.
** Significant at the 0.01 level.

6.3.5. Gender Minority Stress and Resilience

A one-way repeated measures ANOVA explored significant differences in nine GMSR sub-domains between TESUP-1 and TESUP-2 (See Table 6.15). It was determined that there were no statistically significant differences in the mean scores of the GMSR sub-domains of Gender-related Discrimination ($F(1, 81) = .201$, $p = .201$, $\eta_p^2 = .020$), Gender-related Victimisation ($F(1, 81) = 2.769$, $p = .100$, $\eta_p^2 = .033$), Non-affirmation ($F(1, 81) = .062$, $p = .062$, $\eta_p^2 = .001$), Internalised Transphobia ($F(1, 81) = 1.8$, $p = .183$, $\eta_p^2 = .022$), Non-disclosure ($F(1, 81) = 0$, $p = .988$, $\eta_p^2 = 0$), and Community Connectedness ($F(1, 81) = .063$, $p = .063$, $\eta_p^2 = .042$).

The mean scores that significantly differed between TESUP-1 and TESUP-2 were Gender-related Rejection (R) ($F (1, 81) = 6.246$, $p = .014$, $\eta_p^2 = .072$) which increased by 1.024, 95% CI [.209, 1.840]; Pride (P) ($F (1, 81) = 4.775$, $p = .032$, $\eta_p^2 = .056$) which increased by 2, 95% CI [.179, 3.821]; and Negative Expectations for the Future (NE) ($F (1, 81) = 4.767$, $p = .032$, $\eta_p^2 = .056$) which increased by 2.451, 95% CI [.217, 4.685].

Table 6.15. Analysis of Variance (ANOVA) in the 9 domains of GMSR between Phase 1 and Phase 2. Means and standard deviations.

Measure	Phase 1		Phase 2		$F(1, 81)$	η_p^2
	M	*SD*	*M*	*SD*		
Discrimination	3.88	2.213	4.29	2.052	1.665	.020
Rejection	4.29	2.706	5.32	2.863	6.246*	.072
Victimisation	3.48	3.171	4.23	2.856	2.769	.033
Non-affirmation	12.50	7.354	12.77	6.632	.062	.001
Internalised Transphobia	14.74	8.550	16.43	8.579	1.800	.022
Pride	11.95	6.543	13.95	6.450	4.775*	.056
Negative Expectations	17.48	8.291	19.93	7.478	4.767*	.056
Non-disclosure	13.17	5.298	13.18	4.536	0	0
Community Connectedness	12.00	5.038	10.68	4.234	3.554	.042

Note. *M* and *SD* represent the mean and standard deviation, respectively.
* Significant at the 0.05 level.

6.3.6. Psychopathological Symptoms

A one-way repeated measures ANOVA explored significant differences in nine symptoms dimensions and three global indices (See Table 6.16). It was determined that there was no statistically significant difference in the mean scores of the symptoms dimensions of Obsessive-Compulsive (OBC) ($F(1, 81) = 3.71$, $p = .058$, $\eta_p^2 = .046$), Interpersonal Sensitivity (INS) ($F(1, 81) = 3.197$, $p = .078$, $\eta_p^2 = .040$), Depression (DEP) ($F(1, 81) = 1.263$, $p = .264$, $\eta_p^2 = .016$), Paranoid Ideation (PAR) ($F(1, 81) = 3.692$, $p = .058$, $\eta_p^2 = .046$), or the global index of Positive Symptom Distress Index (PSDI) ($F(1, 81) = 2.136$, $p = .148$, $\eta_p^2 = .027$).

The mean symptom dimension scores that significantly differed between TESUP-1 and TESUP-2 were: Somatisation (SOM) ($F (1, 81) = 7.933$, p $= .006$, $\eta_p^2 = .093$) which increased by .342, 95% CI [.100, .584]; Anxiety (ANX) ($F (1, 81) = 5.267$, p $= .024$, $\eta_p^2 = .064$) which increased by .329, 95% CI [.044, .615]; Hostility (HOS) ($F (1, 81) = 3.590$, p $= .044$, $\eta_p^2 = .051$). which increased by .303, 95% CI [.008, .599; Phobic Anxiety (PHO) ($F (1, 81) = 13.758$, p $< .001$, $\eta_p^2 = .152$) which increased by .548, 95% CI [.254, .842; and

Psychosis (PSY) (F (1, 81) = 8.051, p = .006, η_p^2 = .095) which increased by .362, 95% CI

[.108, .615]

The mean global index scores that were statistically significantly different between

TESUP-1 and TESUP-2 were: Global Severity Index (GSI) (F (1, 81) = 5.292, p = .024, η_p^2 =

.064) which increased by .287, 95% CI [.039, .536], and Positive Symptom Total (PST) (F

(1, 81) = 4.092, p = .047, η_p^2 = .050) which increased by 7.397, 95% CI [.115, 14.680].

Table 6.16. Analysis of Variance (ANOVA) in the 9 symptom dimensions and 3 global indices of SCL-90-R between Phase 1 and Phase 2. Means and standard deviations.

Measure	Phase 1		Phase 2		F(1, 81)	η_p^2
	M	SD	M	SD		
SOM	1.0278	.73299	1.3994	0.89252	7.933**	.093
OBC	1.6782	.94850	2.0000	0.93843	3.709	.046
INS	1.4530	.88722	1.7344	0.96071	3.197	.040
DEP	1.6218	.91215	1.8039	0.91488	1.263	.016
ANX	1.2321	.90302	1.5866	0.93092	5.267*	.064
HOS	.9915	.88473	1.3313	1.00051	4.174*	.051
PHO	.9542	.94438	1.5244	0.99154	13.758**	.152
PAR	1.000	.77478	1.2683	0.95033	3.692	.046
PSY	.9256	.75152	1.3085	0.98623	8.051**	.095
GSI	1.2550	.73981	1.5640	0.84725	5.292*	.064
PST	52.60	23.623	60.41	26.613	4.092*	.050
PSDI	2.0061	.56514	2.1650	0.52059	2.136	.027

Note. M and SD represent the mean and standard deviation, respectively.
* Significant at the 0.05 level. ** Significant at the 0.01 level.

6.3.7. Personality

A one-way repeated measures ANOVA explored significant differences in seven TCI

domains between TESUP-1 and TESUP-2 (See Table 6.17). It was determined that there

were no statistically significant differences in the mean scores of any of the seven TCI

domains.

Table 6.17. Analysis of Variance (ANOVA) in the 7 domains of TCI-140 between Phase 1 and Phase 2. Means and standard deviations.

Measure	Phase 1		Phase 2		$F(1, 81)$	η_p^2
	M	*SD*	*M*	*SD*		
Novelty Seeking	60.58	9.086	59.87	9.701	.106	.001
Harm Avoidance	71.90	15.078	69.92	13.941	.396	.005
Reward Dependence	64.66	11.498	63.50	10.837	.279	.004
Persistence	60.85	13.014	62.12	12.795	.669	.009
Self-directedness	58.21	12.330	56.66	10.502	.456	.006
Cooperativeness	71.64	11.710	68.84	11.375	1.682	.036
Self-transcendence	43.01	10.520	44.97	10.292	.993	.014

Note. *M* and *SD* represent the mean and standard deviation, respectively.
* Significant at the 0.05 level.

6.4. TESUP-2 TA Results

6.4.1. Impact of COVID-19 on Substance Use

Tobacco Use. Participants' reports of the impact of COVID-19 on tobacco use were varied and most of the participants who reported currently smoking in TESUP-1 reported no changes to this in TESUP-2. Those who had reported increased tobacco use had experienced redundancy or changes to their employment (See Box 6.1: 1.1.1), increased anxiety due to longer waits for gender identity services (GIS) appointments (1.1.2) or had experienced an increase in alcohol use which was the primary context for their tobacco use (1.1.3). Participants who had decreased their use of tobacco had often done so as a consequence of COVID-19 lockdown measures reducing social smoking opportunities (1.1.4).

Box 6.1: Theme 1: Impact on Substance Use - participant extracts

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1.1 Tobacco Use

1.1.1. "I've been smoking more tobacco because I was made redundant in the middle of a pandemic!" - *R_004,aged 40.*

1.1.2. "I smoke more when I'm anxious such as waiting so long for a GIC appointment because of COVID, it has increased my anxiety and depression and therefore I am smoking more" -*R_083, aged 35.*

1.1.3. "I smoke more now, it's when I've had a drink which I've been doing more recently" -*R_035, aged 24.*

1.1.4."I have smoked less tobacco in the last year due to coronavirus. I am mostly a social smoker and therefore have not been many times to socialise, or smoke" – *R_050, aged 32.*

1.2. Alcohol Use

1.2.1. "My alcohol intake has increased a very small amount, although this is because I'm more likely to have a casual drink at dinner rather than get drunk" – *R_034, aged 19.*

1.2.2. "I've drank more alcohol during lockdown periods, including drinking during the day and not just evenings" – *R_039, aged 30.*

1.2.3. "I drink more often than I did last year and when I do drink, I drink a higher volume of alcohol" – *R_038, aged 19.*

1.2.4. "I feel guilty for spending money on alcohol, or remorseful if I get hungover" – *R_053, aged 29.*

1.2.5. "I have drunk less alcohol as I haven't been going out due to COVID. – *R_009, aged 24*

1.3. Drug Use

1.3.1. "My cannabis intake is up quite a bit more due to being at home more" – *R_004, aged 40.*

1.3.2. "The pandemic has put much more pressure on my life and work, I increased the use of marijuana to relax" – *R_073, aged 29.*

1.3.3. "I have started to take stronger drugs and more frequently to deal with stress" – *R_032, aged 20.*

1.3.4. "I've used MDMA a lot since lockdown but I've being doing it at home alone rather than at gigs like I used to, I think this is bad and I don't like myself for doing it" – *R_082, aged 35.*

Alcohol Use. Participant reports of increased alcohol use during COVID-19 were frequent. Some participants described how, due to COVID-19, they were more often 'casually' consuming alcohol in their home (1.2.1). In these contexts, participants reported that drinking alcohol now occurred throughout the day rather than solely on weekends or evenings (1.2.2). Other participants reported both an increased frequency and quantity of alcohol consumption (1.2.3), these participants (who could be described as engaging in binge-drinking) also reported feelings of guilt about the financial impact or impact on their health (1.2.4). Some participants described a reduction in alcohol use; most of these participants reported that they only drank alcohol in social situations and had not been able to do so due to COVID-19 lockdown measures (1.2.5).

Drug Use. Most of the participants who indicated they used drugs or had used drugs in the last year reported that their drug use had increased during COVID-19. Many participants who detailed their use of cannabis explained that as they had more time at home due to lockdown their intake of cannabis had increased (1.3.1). Due to increased stress in the past year, some participants had begun to use cannabis more frequently to help them relax (1.3.2) or had started to take stronger drugs (1.3.3). Participants who used drugs other than cannabis did not typically respond in the optional text entry boxes; of those that did, one individual indicated that they had started using MDMA in their house, alone, and reported feeling ashamed of this (1.3.4).

6.4.2. Impact of COVID-19 on Transition

Disruption of Transition-Related Interventions. Due to reduced access to non-urgent healthcare in the COVID-19 pandemic, many participants reported disruptions to ongoing treatment. Most commonly, limitations to appointments with a GP or nurse resulted in delays of testosterone injections (Box 6.2: 2.1.1). Furthermore, multiple participants had transition-related surgeries postponed, which caused significant personal distress (2.1.2). Moreover, participants who were non-UK nationals experienced additional difficulties due to differences in responses to COVID-19 between countries (2.1.3).

Box 6.2: Theme 2: Impact on Transition – participant extracts

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2.1. Disruption of Transition-Related Interventions
2.1.1. "Earlier in the year I did have issues booking an appointment with the nurse at my local GP to administer my injection" – *R_013, aged 27.*
2.1.2. "My top surgery has postponed due to COVID-19 which caused a large amount of stress as I have been waiting for years for this surgery" – *R_005, aged 20.*
2.1.3. "The pandemic has significantly slowed down my legal transition as the courts in my country have closed during lockdown" – *R_104, aged 21.*

2.2. Difficulties accessing GIS
2.2.1. "[COVID-19] has delayed medical appointments at the GIC, making an already long waiting list even longer" – *R_040, aged 35.*
2.2.2. "Everything about my transition has been put on pause this year, I feel as if I am stuck and unable to progress in a lot of ways" – *R_050, aged 32.*
2.2.3. "I've had no support from the GIC" – *R_044, aged 24.*
2.2.4. "Before lockdown the GIC referred me to various services to make sure I was healthy for medical transition. That all stopped. I've been left without any contact at all and now I feel like shit" – *R_027, aged 24.*

Difficulties accessing GIS. Service provision from GIS was disrupted due to COVID-19, resulting in cancelled appointments, thus increasing already long waiting times (2.2.1). The psychological impact of this was frequently reported by participants, who had experienced increased distress and uncertainty about their medical transition (2.2.2). Furthermore, participants reported a lack of support and communication from the GIS (2.2.3) which left them feeling 'stuck', both in their transition and in life. Difficulties communicating with the GIS often resulted in an impact on the mental health and self-esteem of participants (2.2.4).

6.4.3. Impact of COVID-19 on Gender Minority Stress

Transphobia in Society. Many participants reported that a major source of gender-related stress was facing discrimination and transphobia in UK society, which had been compounded by the distress and isolation they were experiencing due to COVID-19. Negative depictions of transgender people in the news and in media which were perceived to

be increasing in the past year was a significant source of distress (Box 6.3: 3.1.1), and

participants described that with transgender discussions so frequent in the media, this past

year had felt like a constant debate for transgender rights (3.1.2). Participants reported

experiencing transphobia in public, such as being harassed in male toilets (3.1.3), as well as

experiencing transphobia online (3.1.4). These direct and indirect experiences of transphobia

and discrimination were highly detrimental to the mental health and self-esteem of all those

who reported these situations, and sometimes resulted in internalised transphobia (i.e., shame

and hatred about one's transgender identity) (3.1.5). Participants also reported experiencing

harassment and discrimination from employers and fellow employees alike (3.1.6). To avoid

discrimination, some participants described how they felt they had to 'go stealth' (i.e., not

disclosure their gender identity). However, as a result of non-disclosure they also experienced

anxiety over being 'outed' at work which might risk their job (3.1.7).

Box 6.3: Impact on Gender Minority Stress – participant extracts

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3.1. Transphobia in Society

3.1.1. "Recent raises in transphobia in the UK have really messed with my mental health and my comfort with my gender. There's been a lot of awful transphobic news and rhetoric. I receive a lot more direct hatred and discrimination from other people" – *R_027, aged 24.*

3.1.2. "With transgender-focused discussions being so central in the media this year I've had to argue my rights more this year than ever before. With the pandemic it was already a hard year and the constant media debates about my rights is unpleasant to say the least. There has been an increase in trans related attacks and murders too this year, so I have to pay a lot more attention to my surroundings" – *R_023, aged 25.*

3.1.3. "I was harassed in a bar, while using a stall in the men's room a security guard forced open the door on me and kicked me out" – *R_045, aged 20.*

3.1.4. "This year I experienced for the first time transphobic abuse online from people quizzing me on my right to have my pronouns respected. I felt ashamed to correct people misgendering me" – *R_040, aged 35.*

3.1.5. "I just really hate being trans … I often see negativity and hatred of trans people online, and it makes me angry that I have to be like this. I feel like I have some kind of incurable disease which people are allowed to make horrible comments about. I just wish I wasn't like this as I feel like I will be depressed and unhappy forever" – *R_029, aged 22.*

3.1.6. "I had to leave 2 jobs this year. In one my boss wouldn't recognise my identity, the other is that my colleagues made fun of me. This brought tremendous pressure to my life and work. – *R_073, aged 29.*

3.1.7. "If I tell more people about being trans it increases the risk of others I don't want to know finding out, which increases my anxiety. It would be great to be open to more people but it risks people at work finding out and it could risk losing my job" – *R_039, aged 30.*

6.4.4. Impact of COVID-19 on Mental Health

Worsening of Pre-Existing Mental Health Conditions. Many participants indicated that they had experienced a decline in their mental health conditions. Individuals who indicated that they had a mental health diagnosis described experiencing a worsening of symptoms during lockdown (Box 6.4: 4.1.1). The effect of COVID-19 on one individual's mental health had caused worsening of symptoms to the extent that it warranted admittance as an inpatient (4.1.2). Participants who indicated that they had a diagnosis of a neurodevelopmental condition such as attention deficit hyperactivity disorder (ADHD) or autism spectrum disorder (ASD) also experienced additional difficulties which they attributed to COVID-19. Participants with ASD had found lockdown measures to be distressing and described having trouble regulating their emotions (4.1.3), while participants with ADHD reported struggles with executive functioning and memory (4.1.4).

Box 6.4: Theme 4: Impact of COVID-19 on Mental Health – participant extracts

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4.1. Worsening of Pre-Existing Mental Health Conditions
4.1.1. "This year I have come to understand that I suffer from obsessive compulsive disorder and anxiety on a daily basis, I've had persistent and difficult symptoms most recently in the last few months" – *R_050, aged 32.*
4.1.2. "It's had a massive effect, so much that recently I had to have a 3-month inpatient stay" – *R_003, aged 25.*
4.1.3. "I feel anxious and angry when I see people wearing masks because of my autism I can't read people's eyes, so now strangers look faceless and threatening. I find myself feeling increasingly angry and hopeless." – *R_029, aged 22.*
4.1.4. "My symptoms have been affecting my day-to-day life even more [during COVID-19], especially the symptoms of trouble focusing and poor short-term memory which have begun to seriously impede my personal and work life" – *R_038, aged 19.*

4.2. Anxiety, Isolation, and Loneliness
4.2.1. "My anxiety has severely increased. My future feels extremely uncertain, I feel disconnected from the world and any opportunities" – *R_009, aged 24.*
4.2.2. "I suffered from panic attacks quite frequently this year, mostly around the growth of the virus. I felt very anxious mostly about giving the virus to someone who was vulnerable. This spiralled into thoughts about mortality, that I will inevitably lose people that I love in my lifetime, and that I could die at any point, and that I'm not ready to die" – *R_012, aged 24.*
4.2.4. "I've struggled with anxiety which feels overpowering most days. I have going outside like I have trouble eating or drinking in public and I feel like I am being watched by others while I'm out" – *R_016, aged 28.*

4.3. Mitigating the Impact of COVID-19 on Mental Health
4.3.1. "I developed anxiety, and started taking medication for it, which has considerably improved my mental health" – *R_097, aged 19.*
4.3.2. "I found the initial lockdown hard as I didn't have anything to occupy myself with, however getting a job and volunteering at a hospital helped my mental health greatly – *R_005, aged 20.*

Anxiety, Isolation, and Loneliness. An often-reported concern that the participants had was anxiety about the future; feeling overwhelmed and uncertain about themselves and the world was a consequence of this anxiety (4.2.1). Additionally, worries about transmission of COVID-19 to loved ones was reported, which resulted in frequent rumination about illness and death (4.2.2). For some participants, increased anxiety also led to feelings of agoraphobia and paranoia (4.2.3).

Mitigating the Impact of COVID-19 on Mental Health. Due to an increase in psychopathological symptoms as a consequence of COVID-19 there was a need to find methods of managing these symptoms. Some participants found relief in medications to manage their mental health (4.3.1), while others were able to mitigate the impact of COVID-19 on their mental health by gaining employment or a volunteer position (4.3.2).

6.4.5. Impact of COVID-19 on Quality of Life

Psychological and Physical Health. Due to the pandemic, many participants expressed feelings of anxiety about the potential impact of their deteriorating mental health (See Box 6.5; 5.1.1). Participants who had experienced a worsening of pre-existing mental health conditions reported that their quality of life had been particularly affected (5.1.2). Some participants also mentioned that during the pandemic they engaged in more trans rights activism, but that this had resulted in 'activism burnout' (5.1.3). Where participants did indicate an improvement in their QOL related to psychological or physical health, this was typically due to reaching a milestone in their transition, such as starting testosterone (5.1.4).

Box 6.5: Theme 5: Impact of COVID-19 on Quality of Life – participant extracts

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5.1. Psychological and Physical Health

5.1.1. "Lately it's been harder to ignore my anxiety and depression. I've been taking antidepressants but I do worry about the long term impact of the pandemic on my mental health in the future" – *R_016, aged 28.*

5.1.2. "I already had severe mental health issues and the pandemic has been terrible for me … I've lost so much and it has completely ruined my already not-great quality of life" – *R_025, aged 33.*

5.1.3. "The situation in the UK is getting worse for trans people so since I had more time I was doing more activism. But this resulted in exhaustion from activism burnout and had a bad effect on my mental health" – *R_050, aged 32.*

5.1.4. "My quality of life has increased over the last year. I started testosterone which really positively impacted my mental health" – *R_097, aged 20.*

5.2. Social and Environmental QOL

5.2.1. "It's been harder to look forward to the future and plan things. I'm unable to see friends or anyone I care about, and I feel stuck in a cycle of waking up, going to work, and coming home to sleep" – *R_016, aged 28.*

5.2.2. "I feel like my quality of life has decreased because I've lost so much freedom and been so isolated. I haven't seen anyone or gone anywhere in months and I just feel like this isn't much of a life" – *R_028, aged 22.*

5.2.3. "My quality of life initially wasn't great because I had an unpleasant living situation – but now I've moved and I feel much better" – *R_011, aged 27.*

5.2.4. "My relationship with my fiancé has gotten so much better because we've had lots of time to spend together" – *R_053, aged 29.*

Social and Environmental QOL. Some participants reported that due to disruptions in their social lives as a result of COVID-19, they had been feeling isolated, and found it difficult to make plans or look forward to the future (5.2.1). Many of the participants who described these social difficulties also reported that isolation due to COVID-19 had a negative impact on their mental health (5.2.2). However, some participants described how moving house had a positive impact on their quality of life (5.2.3) and others had been able to improve their relationship with their partner(s), due to having more free time (5.2.4).

6.4.6. Impact of COVID-19 on GRC and Masculinities

Trans Masculinities. The majority of participants ($N = 41$) who left a comment about GRC and masculinities indicated that there had been no changes in this area. Some participants who reported being 'stealth' in their daily lives discussed restricted expression of emotions (See Box 6.6; 6.1.1). Additionally, some participants made a distinction between

how they express masculinity around cis men versus transmasculine people (6.1.2). For some, the extra time alone at home due to lockdown meant that they could explore their gender expression further without fear of judgement from others (6.1.3). Additionally, one participant discussed gender performativity and questioned whether they change their gender expression depending on if others are around (6.1.4). This brings up interesting questions regarding the purpose of gender roles and why people *do* gender. The previous quote (6.1.3) implies a difference between doing gender for oneself and doing gender for others, and this theme is continued in the participants' distinction between performativity of gender around cisgender men vs. other transmasculine people. This implies multiple functions of gender performativity, both personal and social.

Box 6.6: Theme 6: Impact of COVID-19 on GRC and Masculinities – participant extracts

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6.1. Trans Masculinities

6.1.1. "Being stealth I do feel under pressure to conform to a masculine role, I try to do more physical jobs at work and to be more emotionally stoic, I generally avoid talking about emotions" – *R_012, aged 24.*

6.1.2. "I can't always find the words to express my feelings, but when I do it's usually because I'm more comfortable around other trans men than I am with cis men" – *R_034, aged 19.*

6.1.3. "Since I'm home alone I am trying to be more comfortable with femininity, since I am the only person who sees it" – *R_032, aged 20*

6.1.4. "I'm not sure if I'm more feminine or masculine when I work from home. If someone doesn't see performativity of gender, did it happen? Is gender in the expression or the perception?" *R_015, aged 35*

6.4.7. Impact of COVID-19 on Personality Traits

Positive Impacts. The responses regarding changes to personality traits were varied. Many participants did not think there had been any impact on their personality, and where they did it was typically a negative impact. However, some participants who had started testosterone reported that it had made them more confident and decisive (See Box 6.7; 7.1.1). Others said that due to being unable to socialise with others they had become more confident about doing activities alone which had increased their sense of independence (7.1.2).

Negative Impacts. It was more common for participants to report that COVID-19 had a negative effect on their personality traits and attitudes to others and the world in general. Some participants reported that they had become cynical and suspicious, particularly of the government, due to their attitudes toward the trans community and the response to COVID-19 (7.2.1). Some people thought they had become anti-social and lazy, due to lockdown restrictions (7.2.2), whereas others had lost self-confidence after struggling with employment and mental health during the pandemic (7.2.3).

Box 6.7: Theme 7: Impact of COVID-19 on Personality Traits – participant extracts

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7.1. Positive Impact

7.1.1. "I started taking testosterone and it's made it easier to make decisions without second-guessing myself and I now feel more confident" – *R_004, aged 40.*

7.1.2. "I've become more independent and confident, I've been doing more things without needing another person to be with me which feels really good" – *R_012, aged 24.*

7.2. Negative Impact

7.2.1. "I feel like I've become quite cynical in general. I've become a lot more suspicious and mistrusting of the government lately. The general transphobia and all the vague or confusing rules in COVID have meant I've been pushed away from other people and a resentment of being told what to do" – *R_028, aged 22.*

7.2.2. "Now that I've been able to be more anti-social without it being an issue I think I've also become quite lazy" – *R_019, aged 30.*

7.2.3. "I think I've lost a lot of confidence since losing my job, plus my mental health is worse which hasn't helped" – *R_030, aged 32.*

6.5. TESUP-2 IPA Results

The qualitative TESUP-2 study involved re-interviewing the same participants from TESUP-1, one year after the original interview. Nine of the original thirteen participants agreed to take part in the second interview. It is important to note that the AUDIT and DUDIT scores of two participants in the low-risk group (Darren and Cody) increased to such a degree that they could be reclassified as high-risk. However, to keep comparisons

consistent, the responses from participants have been organised according to their original

grouping of low- or high-risk. The following results were identified across both the low- (L)

and high-risk (H) groups and are discussed in a longitudinal context. Overall, four themes

(see Table 6.18) were identified across both groups and each theme included up to three sub-

themes. The themes are: (1) Navigating Healthcare during COVID-19; (2) Coping with

Gender Minority Stress; (3) Psychosocial Influences on Substance Use: Life in Lockdown;

and (4) Novelty Seeking and Harm Avoidance in Substance Use. Participant extracts from

each group are provided to illustrate each theme.

Table 6.18. TESUP-2 IPA results: themes and related sub-themes

Themes	Sub-Themes
1. Navigating Health and Healthcare during COVID-19	1.1. Barriers to Transition-Related Healthcare
	1.2. Maintaining Health and Wellbeing during COVID-19
2. Coping with Gender Minority Stress	2.1. The Personal Impact of Pervasive Transphobia in the UK
	2.2. Negotiating Identity: Authenticity, Pride, and Disclosure
3. Psychosocial Influences on Substance Use: Life in Lockdown	3.1. COVID-19: Isolation, Mental Health, and Substance Use
	3.2. Distress Intolerance and Maladaptive Coping Mechanisms
	3.3. Strategies to Reduce Substance Use
4. Novelty Seeking and Harm Avoidance in Substance Use	4.1. Novelty Seeking and Impulsivity
	4.2. Harm Avoidance

6.5.1. Navigating Health and Healthcare during COVID-19

Barriers to Transition-Related Healthcare. Many participants across both the low-

and high-risk groups reported that transition-related healthcare had been substantially

disrupted due to COVID-19 which resulted in feelings of frustration and hopelessness. For

example, Rowan (H; Box 6.8; 8.1), who had received a referral to GIS in 2019, described

how he had been told that it would be another two-year wait until he received his first

appointment. This news understandably had a negative effect on his mental health, and he reported that he had been considering "DIY" hormones (self-administering hormones not prescribed to him) but was afraid of potential negative consequences from doing this (8.2). Some participants reported that due to COVID-19 their planned surgical interventions had been cancelled or delayed. Owen (H; 8.3) had been attempting to schedule top surgery with a private surgeon but due to the pandemic it had been cancelled three times, which was a significant cause of stress. Similarly, Zack (H; 8.4) had to cancel his top surgery due to testing positive for COVID-19; much to the concern of his friends, this event prompted an increase in alcohol use, and he began smoking cigarettes after previously quitting.

In contrast to Zack's experience of surgical delays negatively impacting his substance use, Jeremy (L; 8.5) reported that, despite his initial concerns expressed in the first interview about surgical cancellations affecting his ability to manage his alcohol use, this was not the case. Citing his improved ability to recognise the risk factors which could trigger an increase in alcohol use, Jeremy reported that the delay in the next stage of lower surgery was "not as big of a thing as I had thought or I had worried it would be".

Participants voiced their concern about the lack of communication between GIS and themselves, and in a similar manner to the first interviews, this lack of communication led some participants, such as Owen (H), to question the motivations and decision-making processes of the GIS (8.6). Furthermore, participants again mentioned feeling like both private and GIS doctors expected a linear, one-size-fits-all process of transition, and that they felt like they were expected to "jump through all these hoops in order" (Ezra, L; 8.7). This led participants feeling "incredibly stressed" and feeling as though they "constantly have to perform" in order to have their gender identity taken seriously by doctors and gain access to transition-related healthcare (Bailey, L; 8.8).

Box 6.8. Representative extracts for "Barriers to Transition-related Healthcare" in "Navigating Health and Healthcare during COVID-19". Quotes are from both low substance use group (L) and high substance use group (H).

8.1	"[my transition] is basically stalled at the moment just because of the NHS wait … I'm two years behind currently of where they are so they're just now seeing people from October 2017 […] I got referred in 2019 so it'll be a few years yet" (**Rowan, H**)
8.2	"I'm becoming more and more tempted to go DIY with hormones … just to feel normal … but I'm so scared of the consequences … the implications of it … that's the thing I'm very worried about and … I dunno I just want to feel … normal … but if I do that will it knock me out of healthcare further down the line" (**Rowan, H**)
8.3	"I've been having private consultations with multiple surgeons across the globe and there was three surgery dates that I was offered … but they were all cancelled because of COVID … so the pandemic has had a big negative impact on being able to access anything like that and it's so frustrating … and you look at the waiting lists of all the GICs and frankly it's horrendous" (Owen, H)
8.4	"It was a few weeks after I'd had COVID and I already had the date confirmed … but then she said I couldn't get it for like three months after I'd tested negative after that I immediately kind of reached out to my friends in my area because I still couldn't leave the house and I got my friend to buy me some beer some vodka and a packet of cigarettes ... and I got atrociously drunk that night ... and then the next night I got even more drunk ... I drank a disgusting amount of it ... it was kind of my way of dealing with the bad news ... and some of my friends kind of expressed concern like hey you were quite drunk that night and you're getting drunk this night ... and I was like yeah but this is my way of dealing with it I'm really upset about this I'm just gonna get really drunk" (**Zack, H**)
8.5	"[delayed lower surgery] was not as big of a thing as I had thought or had worried it would be … even though at the moment it's at the point of potentially requiring two more operations … and is likely to be three years plus … because I think now I've learned that it's more when a series of stressors build up that tends to push me to the point of … I will look for ways to harm myself to cope … but it's been easier to manage those stressors earlier since recognising that" (Jeremy, L)
8.6	"I tried to set up an appointment and [the GIS] cancelled it … then I tried to set up another one but they never got back to me … and a lot of people have this experience … so it leaves you wondering what they're doing … like they aren't accepting new patients but they're not servicing the existing patients and … like where's the time and resources going at the moment … like what are they really doing … the lack of communication just drives you crazy" (**Owen, H**)
8.7	"[GIS] have this set way that you're meant to do it … like you're meant to go through stage A then B then C and you're meant to jump through all these hoops in order" (Ezra, L)
8.8	"I just hit roadblock after roadblock and I get incredibly stressed … I feel like I constantly have to perform … and if I don't then they will criticise you and … they keep acting like I'm not taking it seriously enough because I'm not jumping through the hoops quickly enough" (Bailey, L)

Maintaining Health and Wellbeing During COVID-19. Each participant in both the low- and high-risk groups described the challenges of maintaining good physical health and mental wellbeing during the COVID-19 pandemic and the related lockdown measures in the UK[3]. One participant was briefly homeless and had to sleep on friends' sofas due to

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[3] The interviews took place in July and August 2021. At this time the participants were beginning to adjust to the removal of local and national lockdown measures after three national lockdowns since March 2020, and varying numbers of local lockdowns, depending on where the participants were located in the UK.

unstable housing in the pandemic (Cody, L; See Box 6.9; 9.1). Other participants experienced unemployment (Jeremy, L; 9.2) which had a substantial negative effect on their mental health. Another participant was struggling to adjust to working from home (Rowan; H; 9.3) which was causing him to feel isolated and resulted in difficulties maintaining his physical health. Additionally, Darren (L) compared being in lockdown to "being in jail" because his "already small world just got even smaller". For Darren (9.4), the consequences of the pandemic such as losing potential friendships and establishments or activities which were shut down, caused him to frequently ruminate about how his life could have been different or better if it were not for COVID-19. Each of these participants reported that the stress of their situations sometimes gave them the urge to drink alcohol to cope with the stress, though they did not always give in to these urges.

However, not all participants reported negative experiences as a result of the pandemic. Parker (H; 9.5) described how initially he was struggling with lockdown measures due to where he was living, but after moving house his mental health improved and he now had a more positive outlook. Another participant, Ezra (L; 9.6) reported that because both himself and his partner had to shield very strictly for much of the pandemic — due to his fiancé being immunocompromised — their relationship has become stronger, and they were able to enjoy their time at home without financial worries because they received COVID grants. It is notable that the participants who did not perceive the pandemic to be an entirely negative experience had a secure financial situation and were in a stable, committed relationship. This is in comparison to participants such as Rowan, Jeremy, Darren, and Cody who reported difficulties in their interpersonal relationships, isolation from living alone or working from home, or unstable housing.

A commonly reported concern in both the low- and high-risk groups was the worry of themselves or their loved ones contracting COVID-19. Rowan (H; 9.7) described how their

worry about getting COVID-19 and accidentally spreading it to people gave them a lot of anxiety. Similarly, Bailey (L; 9.8) described feeling "paranoid" about leaving the house due to worries about contracting COVID-19, and so they tended to just stay inside with their family. This led to increased alcohol use to cope with the stress of caring for their child with ASD, who was struggling with the changes due to lockdown measures.

Box 6.9. Representative extracts for "Maintaining Health and Wellbeing During COVID-19" in "Navigating Health and Healthcare during COVID-19". Quotes are from both low substance use group (L) and high substance use group (H).

9.1.	"I was briefly homeless right in the centre of the pandemic … it was a crossover of tenancies and I couldn't find anywhere … because of the pandemic … so I had a few weeks of sleeping on friends' sofas" (**Cody, L**)
9.2.	"About a year ago I was made redundant during the pandemic … it was for about three months and I was really struggling … I'm the type that if I'm not doing something productive then it's a really big stressor for me … it damaged my mental health quite a lot" (**Jeremy, L**)
9.3.	"I got this job and it's working from home full time and it's a good job but … I get so tired and when I started this job it became much harder to keep myself exercising regularly … and it's very isolating because I work from home so some days I don't see another person … you're just online all day and alone" (**Rowan, H**)
9.4.	"I was beginning to make friendships and then suddenly we don't talk anymore … and my previous [sport team] is totally gone now … I quite often think about how things could have worked out if everything was normal … I wonder if I'd have been better off if things had worked out normally … I just want things back to how they were" (**Darren, L**)
9.5.	"It was last winter I was really struggling with my mental health with everything from the lockdown … and where I was living wasn't good … there was mould and water damage and kind of a dodgy street … but since moving I swear to god I've been so happy it's really helped my mental health" (**Parker, H**)
9.6.	"my fiancé is immunocompromised … so every lockdown we have to shield **hard** …it sucked for a while but we got COVID grants and we didn't struggle financially … we got some DIY stuff done in the house that we wouldn't have done if COVID hadn't happened … and I think our relationship has gotten stronger … we supported each other quite a lot" (**Ezra, L**)
9.7.	"I have a fear of spreading [COVID-19] to people … not even the fear of catching it but it's the fear of giving it to other people … just a feeling of a lot of anxiety when I do go out and it's really off-putting and I just worry the whole time … I think it's best to just stay in" (**Rowan, H**)
9.8.	"I don't really want to go out anywhere because I'm so paranoid now … even though I'm double vaccinated I don't want to risk it … and so my youngest … who's quite autistic … is having epic meltdowns all the time then my partner gets quite grumpy and doesn't want to deal with anything because he's reached his limit and I've reached mine … so when you finally get [the child] to bed it's like 'Ah let's have a drink' … so you have a drink … and sometimes you have a second drink and it's quite a generous drink (!) … just to deal with the stress of it all" (**Bailey, L**)

6.5.2. Coping with Gender Minority Stress

The Personal Impact of Pervasive Transphobia in the UK. All nine participants in this study had experienced transphobia, the majority of these events had occurred in the past year, since the first interview. For many participants these experiences had an impact on how they perceived themselves and their choice to disclose or not disclose their trans status to others (see section 6.5.2.2.). Some participants described a nationwide sense of antipathy and normalised victimisation toward transgender people, describing the UK as "TERF Island". Ezra (L; see Box 6.10; 10.1) stated that although the increasing levels of transphobia in the UK had not directly affected his transition, it consistently affected him "on an emotional level". Rowan (H; 10.2) also referenced the hostile climate of the UK toward trans people, and the suicide of trans activist, Sophie Gwen Williams[4], as affecting them and their worries about accessing transition-related healthcare.

Many participants described how a lot of their recent experiences with transphobia occurred in online spaces; through interactions on social media and the increasing focus of UK media and news outlets on debating trans rights. For example, when Parker (H; 10.3) would post videos of themselves online they would "rack up thousands of negative comments … really transphobic stuff", which they found extremely distressing. They also reported that they noticed transphobic comments online had increased in the past year. Bailey (L; 10.4) described how logging onto social media sites such as Facebook and Twitter felt like "wading into a battle" because they felt like they consistently had to defend the existence and rights of transgender people. This led to them feeling "exhausted" and "depressed" and occasionally gave them the urge to cope by drinking alcohol.

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[4] Sophie Gwen Williams, artist, activist, and co-founder of the trans health charity *We Exist*, committed suicide after being on the waiting list in Northern Ireland for her first appointment for four years, moving to London, and discovering she would face a further wait of five years to access transition-related healthcare.

Although much of the participants' experiences of transphobia occurred online, it also happened in their daily lives too. Jeremy (L; 10.5) detailed his experience of being fired from his job due to being transgender and reported that "these experiences have continued in other jobs as well". Another participant had experienced transphobia at work, but from customers, not their colleagues. Cody (L; 10.6) described how they received transphobic abuse from customers when they were at work in an LGBT café. They stated that it was not until the police were called and the situation was over that it sunk in how scared they felt. Despite not explicitly connecting their substance use to these events, many of these participants reported that they would want to drink or take drugs in response to stress or if they had a bad day.

Box 6.10. Representative extracts for "The Personal Impact of Pervasive Transphobia in the UK" in "Coping with Gender Minority Stress". Quotes are from both low substance use group (L) and high substance use group (H).

10.1.	"I feel a global sense of discrimination … not personally directed at me but just from living in the UK … a lot of people have dubbed it 'TERF Island' … like with all the court cases and the Kira Bell thing … on a personal level it hasn't directly affected my transition but it really does affect me on an emotional level" (**Ezra, L**)
10.2.	"I've been feeling pretty shit lately … I saw earlier this year on the news about [Sophie Gwen Williams] and I was like this is ridi- I can't … I'm just so frustrated and tired all the time with this … and I worry about how long the waiting takes … what it takes to get to that point that she was at" (**Rowan, H**)
10.3.	"I definitely get a lot of abuse online … especially if I post videos online … they always rack up thousands of negative comments … really transphobic stuff … sometimes even private messages and things *Interviewer: when you experience this online abuse how do you deal with that in the moment?* Parker: sometimes it's okay … like it's the same shit over and over no one says anything new … but time where I'm having a bad day or my dysphoria is bad it can be very upsetting … sometimes I literally have to go to bed to just hide under the covers for an hour to ride out the bad feelings" (**Parker, H**)
10.4.	"Facebook is really bad … and Twitter is just a cesspool … [transphobia] even comes up in mainstream news and it's quite shocking how mainstream this crap is … it's exhausting because you log on and you're constantly having to defend your own existence and the existence of people like you … **every day** you have to do this … it's like wading into a battle … and it just gets to a point where it feels insurmountable and it's exhausting … it can be a bit depressing for me … and yeah sometimes I do get to the point where all I want is to get off Facebook and drink a glass of wine" (**Bailey, L**)
10.5.	"when I changed my name and started presenting in a masculine way … [the boss] basically said yeah I'm getting rid of you … one of the bullshit reasons was that they thought I was going to have a mental heath breakdown and they didn't want to deal with it … all because I'm trans … so that was a big stressor and these experiences have continued in other jobs as well" (**Jeremy, L**)
10.6.	"I work at a café that is LGBT focused and recently we had some people yelling and trying to get in … it was like abuse and slurs aimed at being gay and trans … but it wasn't until afterwards when my manager phoned the police that I was like 'oh shit … that was scary' … it's not happened again but now I feel jumpy when I'm in the shopping centre at night … it makes you very hyper-aware" (**Cody, L**)

Negotiating Identity: Authenticity, Disclosure, and Pride. The negative experiences of transphobia, discrimination, and victimisation described in the previous sub-theme, had a substantial influence on the participants. They disclosed the effects these experiences had on how they perceived their own identity, their feelings about being transgender, and on-going decision-making about to whom they should disclose their trans identity and when it is safe to do so. For example, Bailey (L; see Box 6.11; 11.1) described how an increase in transphobic encounters online has the potential to expand offline, causing anxiety and fear of future discrimination.

Some of the participants described a complicated relationship with their transgender identity, much of it being informed by a fear of receiving negative reactions from other people when they disclose their trans status. For example, Rowan (H; 11.2) experienced transphobia from a colleague who told him that they would "never see [him] as a man", which led to Rowan's decision to not-disclose their trans status in the future and, if questioned, he would tell people that he has a hormone disorder in order to "protect [himself] from assumptions". He also reported that while he has feelings of pride about the history of the trans community, he does not feel pride in his own identity and lamented that "if [he] was born cis then life would be a lot easier" (11.3).

Other participants, who chose not to disclose their trans status to other people, did so in order to be perceived as their authentic self, or, similarly to Rowan, to avoid being 'othered' when people found out that they are trans. However, they indicated that, although they found many benefits in not disclosing to others that they are trans, this also came with risk. For example, Owen (H; 11.4) valued being "stealth" because it gave him "control over [his] own story". However, he also went into detail about some of the risk involved in not disclosing his trans status, such as worries about how people might react if they found out

and concern about personal safety, citing "horror stories of people taking someone home from a club, they find out they're trans and they beat them or try to kill them" (11.5). The stress and anxiety that arose from concealing his trans status sometimes led to an increase in alcohol use for Owen (11.6).

There was one participant whose experiences over the past year had a substantial impact on his identity, beliefs, and feelings about being transgender. In the TESUP-1 interviews, Darren was the only participant who felt anger at being transgender and perceived no positives from his identity or his transition (See Box 5.1; 1.10, 1.11). He reported feeling intense gender dysphoria and described how his rejection from online trans communities and his own internalised transphobia led to an increase in alcohol consumption (See Box 5.3; 3.8). In Darren's second interview his perspective had changed profoundly. He reported that since the TESUP-1 interview he had "distanced [himself] from any kind of LGBT related discussions or groups" and because of that he realised "I don't **have** to be anything … I don't have to look or act a certain way to fit in to my community or my culture" (See Box 6.11; 11.7). As a result, he reported that his dysphoria had lessened, and his self-image had improved. Where previously he had implied that people who identified as non-binary were not "**actually** trans" (See Box 5.3; 3.7), he now disagreed with that idea. He described how he now rejects the label of 'trans' and uses 'he/him' or 'they/them' pronouns, perceives gender roles and gender identity as "too restrictive" and does not "really think of [himself] in terms of gender anymore".

Box 6.11. Representative extracts for "Negotiating Identity: Authenticity, Disclosure, and Pride" in "Coping with Gender Minority Stress". Quotes are from both low substance use group (L) and high substance use group (H).

11.1.	"My local community has a Facebook group […] one guy called me a 'lib-tard tranny' … and I was like 'shit' … like they live around here somewhere … like that's a worry … because I do find that there is a fear of discrimination … and it makes me anxious … like that you might come out to someone and they react badly" (**Bailey, L**)
11.2.	"In my last job someone said to me "I'll use whatever pronouns but I'll never see you as a man" … people can just say shit and question you when you're transgender … and I've decided that from now on if someone asks I'm just gonna say that I have a hormone disorder … just to protect me from assumptions … I hate that when people find out you're trans you're not yourself … you're just a man with an asterisk" (**Rowan, H**)
11.3.	*"Interviewer: How do you feel about being transgender?* Rowan: I feel pride in the history … like all the people who came before me and the community history … but other than that I feel frustrated … because if I was born cis then life would be a lot easier" (**Rowan, H**)
11.4.	"The appeal of being able to be stealth is the fact that I have control over my story and how I tell my story … rather than my story being told for me by the way I look for example and being stealth I find I can relate to others easier because we have something in common … and that being the identity of being a man […] because I feel like the label of trans is so arbitrary and … like in the same way my nationality is not a core part of my identity … it just doesn't convey much information about who I am as a person … whereas identities which relate to my interests and what I do give a lot more relevant information" (**Owen, H**)
11.5.	"Obviously there are downsides to being stealth … like a worry of what will they do if they find out … will they feel like I lied to them … will they start to see me as a medical curiosity or treat me as a man asterisk essentially … and you worry because there's these horror stories of people taking someone home from a club, they find out they're trans and they beat them or try to kill them … so it does make you worry … and then the longer it goes on the more stressful it becomes because you know that if they were to find out they will be mad at you … so you're risking your relationship with that person" (**Owen, H**)
11.6.	"I am an anxious person so having a few beers will help me relax in social situations … like when I joined a sports team ... I felt quite intimidated like … will they clock me … like I wanted to socialise with these guys but I was so guarded … so having a few beers helps me relax about that stuff … and then you know … if anything bad happened – which it didn't … but previously when I have experienced transphobia then having a drink is a way to chill out … so I don't have to deal with it" (**Owen, H**)
11.7.	"Over the past year I've distanced myself from any kind of LGBT related discussions or groups … I'm just doing stuff my own way now … and since then I've realised that I don't **have** to be anything … I don't have to look or act a certain way to fit in to my community or my culture … I used to feel like there was something wrong with me because I didn't have things in common with other trans people … but since I stopped being involved in all that I feel a lot better about myself … I don't get as much dysphoria and I've gotten a better self-image" (**Darren, L**)

6.5.3. Psychosocial Influences on Substance Use: Life in Lockdown

COVID-19: Isolation, Mental Health, and Substance Use. All but two participants (Ezra, L and Bailey, L) reported that over the course of the pandemic and throughout national and local lockdown measures, their substance use had increased. For many of these participants an increase in substance use coincided with struggles with their mental health,

and those with pre-existing mental health diagnoses reported a worsening in symptoms which they thought had been exacerbated by the pandemic.

Darren (L; see Box 6.12; 12.1), who has a diagnosis of ASD, found it difficult to adjust to the frequent changes during the pandemic (such as changes to social distancing, mask wearing etc.), and reported high levels of anxiety because of his "intolerance of uncertainty". Although he denied that he would turn to alcohol to cope with negative emotions (12.2), he did recall having "some drinks" while watching football to relax and "to do something that [he] thinks other people do" (12.3). Additionally, he disclosed that when he is "struggling with [his] mental health" he is more likely to turn to alcohol to "slow down [his] thoughts and reset [his] brain a bit", although he admitted that this sometimes makes him feel worse (12.4). Rowan (H; 12.5) reported a similar experience of turning to alcohol to cope with the frustration and confusion he was feeling about the pandemic but finding that his "bad feelings would come back anyway".

Some participants reported that their mental health and substance use were interconnected; when they struggled with one, they also struggled with the other. They also reported that being in lockdown would prompt a worsening of both mental health and substance use. For example, Zack (H; 12.6) described how his mental health and level of substance use would often fluctuate. He identified the UK lockdown measures as an event that triggered struggles with his mental health and an increase in using alcohol and drugs to cope with isolation and boredom. Similarly, Owen (H; 12.7) disclosed that "since the pandemic hit [he is] drinking and consuming drugs a lot more than [he] used to" and that he frequently has a desire to consume alcohol and drugs; he believed this was "a symptom of [his] mental health not being as good as it used to". Additionally, Owen (12.8) described that due to being unable to socialise and feeling isolated, he would drink or smoke cannabis alone in his room in order to "emulate a social experience without actually having anyone to

socialise with". He described his increased substance use as "a really easy brute force way to turn [his] brain off" and reported that he turned to alcohol and drug use to cope with negative emotions because his previous coping mechanisms, such as socialising and swimming, were not available due to the pandemic (12.9). Likewise, Jeremy (L; 12.10) reported that he also felt like his typical coping mechanisms were not available to him during the pandemic, and that increased stress and interpersonal issues as a result of the pandemic made him more inclined to use substances and engage in binge-eating as a way to cope.

Some participants who had experienced an increase in substance use whilst in lockdown reported that they consequently found it difficult to reduce their use when they realised it was having a negative effect on their lives. Parker (H; 12.11) described how at the beginning of the pandemic they found that drinking regularly, during the day, or alone had become normalised through social media, and this behaviour continued throughout the national lockdowns. They reported that they then struggled to stop drinking when they realised it had become a problem for them, and they found it difficult to break out of their daily routine of drinking alcohol (12.12). Cody (L; 12.13) reported that they had begun drinking more in the first national lockdown. When those measures were eased, and they were able to go to pubs with their friends their substance use increased even more, and they found it difficult to stop. They stated that this increase in alcohol use didn't bother them "until [they] get the withdrawal" when they could not access it.

Box 6.12. Representative extracts for "COVID-19: Isolation, Mental Health, and Substance Use" in "Psychosocial Influences on Substance Use: Life in Lockdown". Quotes are from both low substance use group (L) and high substance use group (H)

12.1. "I have a lot of anxiety lately … I have an intolerance of uncertainty … and that's a big thing I like knowing what's going to happen and how things work … and all this stuff of the random rules that keep changing … I'm just not keen on all that like suddenly one thing is normal then the next you're told that you can't do that … you can't plan anything or look toward the future because it all might suddenly disappear" (**Darren, L**)

12.2. "I only ever drink because I like that taste and that's all it is … I don't use it as a coping mechanism ever" (**Darren, L**)

12.3. "A few weeks ago I had some drinks and watched the football … it was nice to chill out a bit and have some time to … I don't really want to say it was to feel like a normal person … but I'm not really into football … but it was kind of just to do something that I think other people do and … try relax or something" (**Darren, L**)

12.4. "When I'm struggling with my mental health and my thoughts are going too fast then … I know with alcohol it can kind of … slow down my thoughts and reset my brain a bit … it's like a diversion to see if it helps but I know it might make things worse sometimes so I'm hesitant about doing that sometimes" (**Darren, L**)

12.5. "At the beginning of the pandemic especially … I felt so frustrated and didn't get what was going on I just wanted to feel better so I would just get up and drink … as a way to like regulate my bad moods … I know it's a bad thing to wake up at 10 o'clock in the morning and have a glass of wine or whatever … but I felt so lost … but it didn't even make me feel better … my bad feelings would come back anyway (**Rowan, H**)

12.6. "I've periodically gone through times of not really drinking or doing drugs back to doing excessive amounts of both … because of lockdown … I mean it's not great for your mental health and mine would get worse being stuck in the house … then you're stuck inside and bored and can't do anything so you may as well have a drink or … do a line and watch cartoons … or smoke some weed just to do something and feel better (**Zack, H**)

12.7. "Since the pandemic hit I'm drinking and consuming drugs a lot more than I used to … from what I've seen from others I think that's a common experience during the pandemic … it's a bit worrying because it feels like it's a symptom of my mental health not being as good as it used to be because now it's becoming more of a constant wish to drink alcohol or have drugs essentially" (**Owen, H**)

12.8. "Before the pandemic I would regularly drink on the weekend with my girlfriend … but over the pandemic I can't do that and … like if I'm in the mood to drink and socialise I will just do that on my own in a desperate attempt to emulate a social experience without actually having anyone to socialise with … or I will smoke weed alone in my room and watch something that I would usually watch with friends … just to simulate that experience" (**Owen, H**)

12.9. "I'm a naturally anxious person and I overthink a lot … so I think that having a substance like alcohol and weed is just … a really easy brute force way to turn my brain off … because usually the coping mechanisms and distractions I would have outside of the pandemic aren't there anymore … like I would meet up with a friend or go for a swim but I can't do that … so I've had to find a new way to distract myself essentially" (**Owen, H**)

12.10. "lockdown was very much a stressor … everything about how I lived had changed and with the difficulties in my relationship with my partner … he described it as he can't cope with a long-distance relationship and he kind of thought 'why bother' with it all … and so I was feeling abandoned on that front … it was a trigger into … a slip into bad behaviour with alcohol … to get to a level where I don't have to think about these things … and even with things like binge-eating worsened for a time" (**Jeremy, L**)

12.11. "I started drinking more at the beginning of the first lockdown … I think the boredom and the stress … and I think seeing other people doing it too … I felt like everyone was drinking more and I saw it on Facebook like people ordering cocktails to their house in the morning … or being on a Zoom call you would just always get a drink … like people would drink alone on a Monday morning and you had that exposure to it … like this is now a normal thing and this drinking culture had been intensified" (**Parker, H**)

12.12. "This drinking continued throughout lockdown … and it was only a week before I started work again I tried to stop … I was drinking every single day and as soon as I started I couldn't stop … day to day I find it hard to go without a drink and I was increasing the amount too because my tolerance was increasing" (**Parker, H**)

12.13. "In the first lockdown it was like if I had a hard day then I would sit in the house and drink … then when the pubs re-opened it was like finally you can go out and you can see your friends … so now that's what I want to do all the time … like we started going every night and then it's like even if we don't go to the pub we still drink every night … but it's 100% social and it doesn't bother me until I'm getting the withdrawal from it … then it's shit" (**Cody, L**)

Distress Intolerance and Maladaptive Coping Mechanisms. As stated in the previous sub-theme, many of the participants reported distressing and stressful experiences related to the pandemic, and because some of their usual methods of coping with stress were not available to them, sometimes they would turn to substance use to cope. Additionally, the same participants mentioned situations from TESUP-1 that would prompt substance use, showing that they were facing similar difficulties and responded to them in a consistent manner.

Rowan (H) was still struggling to manage his symptoms of ADHD which had been mentioned in the TESUP-1 interview (see Box 5.8; 8.3). His difficulties with executive functioning affected his mood during the day, and his sleeping problems at night sometimes led him to combine sleeping tablets and alcohol to get some restful sleep (See Box 6.13; 13.1). Similarly, Parker (H) described in the TESUP-1 interview (See Box 5.6; 6.2) how interpersonal difficulties with their partner would trigger the urge to drink alcohol to cope. In the TESUP-2 interview they expanded on this, explaining that their difficulties in managing stress and anxiety arising from their relationship would lead them to use alcohol or Valium in order to try to sleep, "manage overwhelming emotions", or to "feel more in control" (see Box 6.13; 13.2).

For some participants, substance use was directly related to their experiences as a transmasculine person. For example, Owen (H; 13.3) reported that drinking alcohol would give him the confidence to come out as trans to people because he would not focus on any potential negative outcomes. Additionally, Owen (13.4) described how smoking cannabis would reduce his dysphoria, because it would "create an artificially strange experience in [his] body" which would distract him from focusing on bodily dysphoria. Zack (H) also related his substance use issues with being transgender. In the TEP1 interview (see Box 5.8; 8.5) he reported that substance use was sometimes a form of self-harm, but also that it was

connected to the pursuit of masculinity. In the TEP2 interview, Zack (see Box 6.13; 13.5) echoed his previous statements about substance use being a form of self-harm; he felt that because he is transgender it is "easier to get depressed". He said that when he is in a "depressive episode" he will engage in excessive substance use as "a mixture of self-punishment and escapism". When he would be experiencing a depressive episode, he described feeling like "the world doesn't care about me and I don't care about the world … so I'm just gonna destroy myself". He stated that this feeling had been so consistent throughout his life it had become "comfortable" (13.6).

Box 6.13. Representative extracts for "Distress Intolerance and Maladaptive coping Mechanisms" in "Psychosocial Influences on Substance Use: Life in Lockdown". Quotes are from both low substance use group (L) and high substance use group (H).

13.1.	"At the minute I've been struggling with executive dysfunction during the day which affects my mental health … it gets really fatiguing … but then it gets to night and I can't sleep … I know you're not supposed to take sleeping pill while you're drinking … but the only time I can ever get good sleep is when I have the pills … and I'll have that with some alcohol to help it work better" (**Rowan, H**)
13.2.	"My wife went out for lunch and didn't come back until like three in the morning … and she does this sometimes and so I was getting super panicky by midnight and was just in a general panic … kind of a mix of concern and being a bit annoyed … so I ended up taking a Valium that I was keeping and had a little drink … I just wanted to sleep really and just to manage overwhelming emotions and … just feel more in control" (**Parker, H**)
13.3.	"At the thought of coming out … my brain going into a billion directions of what horrible events could go down … but once I've had a few drinks then that quiets down and … I can speak freely without thinking so much of the consequences" (**Owen, H**)
13.4.	"I've noticed when I have a joint it will create an artificially strange experience in my body and it makes it much easier to forget about the … like it will stop me from lingering on the less fun bits … it's a very easy way to trick my brain into not thinking about the bits that cause dysphoria essentially" (**Owen, H**)
13.5.	"I think that being trans it's much easier to get quite depressed … and when I receive bad news in my transition it makes me go 'fuck it' with the drinking again … I just kinda say 'fuck it' and I just become destructive … I guess because I'm sad and annoyed and I just want to take it out on myself when I get into a depressive episode … I think it's a mixture of self-punishment and escapism" (**Zack, H**)
13.6.	"When I'm in a depressive episode it's like … a whirlwind of pain … and it gets quite comfortable when you think like … the world doesn't care about me and I don't care about the world … so I'm just gonna destroy myself … *Interviewer: Why would you say that it feels comfortable?* Zack: I think because for so much of my life … it's just been the status quo for so long it's just familiar … spending so much of my life depressed or facing so much alcohol and substance abuse … it's just comfortable like that" (**Zack, H**)

Strategies to Reduce Substance Use. Although substance use had increased in the year separating the two interviews for most of the participants in this study, many of them also recognised that it had become problematic for them in their daily lives and described the steps that they took to reduce their substance use.

As stated in the sub-theme "COVID-19: Isolation, Mental Health, and Substance Use", Parker (H; see Box 6.12; 12.11) found it difficult to stop drinking once they had started and described how their alcohol consumption had increased during lockdown. However, they had successfully reduced their use over time by employing various tactics such as avoiding situations where they might purchase alcohol (see Box 6.14; 14.1) and finding a productive distraction such as gardening or gaming when they felt the urge to drink (14.2). Ezra (L; 14.3), who did not experience an increase in substance use, attributed this to starting testosterone and not wanting to drink on his own or alone with his partner.

Some participants who had been struggling with both their mental health and substance use found that learning about what might trigger an episode of poor mental health, or seeking help for their symptoms, would have a positive impact on their ability to reduce substance use. For example, Jeremy (L; 14.4) had recently been diagnosed with borderline personality disorder (BPD) and reported that he had been able to better manage his substance use by identifying situations that typically caused a "flare-up of symptoms". Additionally, Zack (H; 14.5) had begun to try to reach out to friends in times of crisis and found it to be a constructive coping mechanism. Zack (14.6) also emphasised that despite his belief that being transgender had a negative impact on his mental health and substance use, he perceived his mental health to be continuously improving throughout his transition journey and the gender euphoria that he feels through this is a substantial positive influence on his life. He indicated that barriers in accessing transition-related healthcare had a negative effect on his substance

use, but that he was proud of being transgender and that transitioning has had a "beyond phenomenal" effect on his quality of life (14.7).

Box 6.14. Representative extracts for "Strategies to Reduce Substance Use" in "Psychosocial Influences on Substance Use: Life in Lockdown". Quotes are from both low substance use group (L) and high substance use group (H).

14.1.	"Sometimes I won't go to the shop for food because I know if I go then I'll buy alcohol … so I avoid putting myself in that situation … so I'll just get a takeaway instead or something and like if I was at a party with people doing lines or something … then I know I'd have to leave" (**Parker, H**)
14.2.	I've got an allotment so sometimes I would go there … plant something and check up on things … just a distraction like … quite often I will play PlayStation instead" (**Parker, H**)
14.3.	"I would say my alcohol intake has lessened since we last spoke … largely because I've started testosterone and … they have to monitor your liver and kidneys so that's always in the back of my mind … as well as like … the idea of myself and [David; fiancé] sitting in the house drinking by ourselves [laughs] it's not really appealing to me" (**Ezra, L**)
14.4.	"It was suggested to me that I might have borderline personality disorder … and looking into it … it almost felt like a relief now that there's a kind of known entity and it has made things like substance use a lot easier to manage … by becoming more aware of what triggers a flare up of symptoms I can look at it more logically … although it's still a challenge at the moment … it has been easier in terms of alcohol to avoid overdoing it (**Jeremy, L**)
14.5.	"I've been trying to reach out to friends a bit more … I mean I don't want to worry them … but I realised recently that isolating myself isn't the best … and talking with them and reaching out a bit more is more constructive" (**Zack, H**)
14.6.	"I just wanted to say as difficult and as bad as my mental health has been as well as the substance abuse issues … that transitioning has impacted my life beyond positively … like every time I reach a transition milestone I feel so much euphoria and it does improve my mental health" (**Zack, H**)
14.7.	"My quality of life has gotten so much better since I've been able to transition … and it's the barriers to transitioning … especially in the past year with COVID that do have a negative effect … but I'm very very proud of being trans and I feel so incredibly happy … as painful as it is to not get the healthcare you need … it's just very beautiful to be your authentic self and the effect of transitioning on my quality of life is beyond phenomenal" (**Zack, H**)

6.5.4. Novelty Seeking and Harm Avoidance in Substance Use

Novelty Seeking and Impulsivity. Following on from findings in TESUP-1 which indicated that novelty-seeking and impulsivity were related to substance use, all participants in the TESUP-2 interviews were asked whether they considered themselves to be an impulsive person. It is noteworthy that all four participants in the high-risk group said that they did think they act impulsively and that this impacts their substance use. Additionally, the majority of participants in the low-risk group said that they did not consider themselves to be

impulsive, although it is interesting that Cody (whose AUDIT and DUDIT scores increased from TESUP-1 to TESUP-2, moving them from low- to high-risk) did consider themself to be impulsive, particularly in relation to substance use.

All participants in the high-risk group considered themselves to be impulsive with substance use. Zack (H; see Box 6.15; 15.1) reported that he is "incredibly" impulsive and that he will often take substances to the point of "blackout drunk" which has resulted in consequences such as "nice shaky tattoos from far too much alcohol". Owen (H; 15.2) also discussed consequences of substance use-related impulsivity, such as saying or doing things that he would not have done if he was sober. Rowan (H; 15.3) believed his impulsivity stemmed from ADHD and being unable to "see negative consequences in the long term". Rowan's response was similar to Cody's (L; 15.4) who also reported that they "don't actually think about the consequences of what [they're] drinking or doing" which led to increased substance use.

Jeremy (L; 15.5) reported that he could sometimes be impulsive with alcohol but that he believed that this was related to his BPD symptoms in that he was only impulsive when he was feeling "heightened emotions". However, his concerns about personal safety and concerns about becoming the victim of transphobic violence (on a night out while drinking, for example) typically prevented impulsive behaviours to do with alcohol.

Box 6.15. Representative extracts for "Novelty Seeking and Impulsivity" in "Novelty Seeking and Harm Avoidance in Substance Use". Quotes are from both low substance use group (L) and high substance use group (H).

15.1.	"I think I'm incredibly impulsive … I find it very difficult to manage my impulses and so I like completely just get blackout drunk quite a lot … and because I have my own tattoo gun I now have some very nice shaky tattoos from far too much alcohol" (**Zack, H**)
15.2.	"There are times that I just drank too much on an impulse … and those are the times that I might say stuff that is embarrassing or do stuff that I wouldn't do while sober" (**Owen, H**)
15.3.	"I think I am impulsive … because I have ADHD I can't see negative consequences in the long term … so it's very difficult for me to not do something … like in the way I think and the things I say … if I think about something then I really have to have it so in that way I'm impulsive with alcohol too" (**Rowan, H**)
15.4.	"I'm definitely impulsive when it comes to like alcohol and drugs … I don't actually think about the consequences of what I'm drinking or doing … I don't think like 'will this impact me later' … I don't think about what it means or how I feel or anything I just do it" (**Cody, L**)
15.5.	"For me I think that when I **am** impulsive … typically it's related to symptoms in that I have to feel very heightened emotions … and then I might indulge in alcohol in an unhealthy way … but I am quite analytical to the point of being immobilised and this typically overrides the impulsivity … for example if I were to be on a night out and there's an opportunity for a no-strings attached hook-up … well safety is a big thing and being quite a small person who is physically vulnerable … and the UK laws about fraud for example it would prevent the impulsivity" (**Jeremy, L**)

Harm Avoidance. In a similar manner to Jeremy, the remaining participants in the low-risk group (with the exception of Cody), considered themselves to be quite cautious people, and often stated that their safety and wellbeing was a major factor in deciding whether or not to engage in substance use. For example, Ezra (L; see Box 6.16; 16.1) described himself as being "anxious or paranoid" about the potential negative effect of drugs, and so would "err on the side of caution" and not engage in drug use.

Physical and mental health was a prominent consideration for the participants in the low-risk group; this was not mentioned as a concern for participants in the high-risk group. For example, Darren (L; 16.2) was conscious of the possible negative influence that alcohol can have on his mental health and would "be mindful of how [he was] feeling that day and whether it is appropriate to drink". Similarly, Bailey (L; 16.3) was concerned about getting headaches from drinking alcohol (they previously had struggled with migraines in the past) and would not drink if they thought "it isn't worth the headache". However, they did state

that they believed themselves to be susceptible to peer pressure and would "just go along with it" if their family or friends were drinking, regardless of their personal concerns about their health (16.4). Bailey's attitude of "just [going] along with it" may be reflective of a different type of harm avoidance, rather than avoidance of personal harm, they may be avoiding social harm; not wanting to be seen as different or become othered for refusing to drink. They reported previous experiences of this when they had to abstain from alcohol for a few years due to medication and disclosed that it affected their social life and that they "lost their entire social circle" (16.5).

Box 6.16. Representative extracts for "Harm Avoidance" in "Novelty Seeking and Harm Avoidance in Substance Use". Quotes are from both low substance use group (L) and high substance use group (H).

16.1.	"I think I typically err on the side of caution … with alcohol I know where my lines are and I tend not to cross them … and with drugs I'm always like … anxious or paranoid that I'll have a bad trip and ruin the mood" (**Ezra, L**)
16.2.	"I think I'm quite cautious really … a big thing is … like how my mental health is doing … so typically I will be mindful of how I'm feeling that day and whether it is appropriate to drink … I try to do that with everything like whether I'm eating healthy food or too much sugar … it's good to keep an eye on it" (**Darren, L**)
16.3.	"*Interviewer: Do you think you can be an impulsive person or not?* Bailey: no not really … I do sit and think about things I'm doing *Interviewer: Do you think this influences the way you consume alcohol?* Bailey: yeah I think so … I do sit and think like … is it worth the headache … I don't want to feel unwell you know … so like I will question 'do I actually want to drink" (**Bailey, L**)
16.4.	"I think I'm fairly susceptible to peer pressure to be honest … if people around me are drinking I'll just go along with it … it becomes very passive and … my family will drink a lot of wine and it's a very passive thing of having my glass refilled and … yeah I'll just go along with it really" (**Bailey, L**)
16.5.	"When I went teetotal because of my medical needs I lost my entire social circle … they maybe thought I wasn't fun anymore or … I don't know … but they stopped inviting me out and I got quite bitter about it at the time" (**Bailey, L**)

6.6. TESUP-2 Discussion

This study investigated correlates and experiences of substance use in transmasculine individuals. TESUP-1 highlighted areas of concern regarding gender minority stress, psychopathological symptoms, access to healthcare, masculinities and social expectations, and the influence of personality traits on substance use. The aim of TESUP-2 was to investigate changes to substance use over time and explore how these areas of concern contributed to substance use in transmasculine individuals. The COVID-19 pandemic took place in between TESUP-1 and TESUP-2, therefore the concerns of participants and the effect of the variables which were investigated were inherently influenced by this event. This changed the original aim of the study from exploring naturally occurring change to substance use over time, and any potential influence of stage of transition, to exploring the impact of the COVID-19 pandemic on substance use.

The central research question for this study was: What are the factors that contribute to the development and maintenance of substance use in transmasculine individuals? In TESUP-2 the main research question was: How did the COVID-19 pandemic affect substance use in transmasculine individuals?

For the quantitative stage, 82 participants out of 105 from the TESUP-1 completed the same questionnaire as they had one year earlier. The TESUP-2 questionnaire included free-text boxes to enable further investigation in change over time, this data was analysed using thematic analysis (TA). For the following qualitative stage nine participants out of the 13 who were also interviewed in TESUP-1 took part in a follow-up interview, this data was analysed using interpretative phenomenological analysis (IPA). The TESUP-2 interviews focused on exploring the participants' perspective on changes in their life since the first interview, in addition to discussing topics specific to each individual which were based on the issues that they had emphasised in TESUP-1.

This chapter presents an integrated discussion of quantitative and qualitative findings in a longitudinal context. First the TESUP-2 findings are presented and discussed in a longitudinal context. To compare results from TESUP-1to TESUP-2, all findings are presented in the context of the same four core themes from TESUP-1 (The core themes are: Transition, Masculinities, and the Function of Substance Use; Contexts of Substance Use and Meaning-Making; Risk Factors in Substance Use; and Protective Factors in Substance Use). Second, to consider new findings which emerged from TESUP-2, and incorporate findings from TESUP-1, each core theme in TESUP-2 contains different sub-themes from TESUP-1 which are discussed. Finally, the chapter concludes with a discussion of practical implications, recommendations for future research, and limitations.

6.6.1. A General Overview of Changes to Substance Use

Before beginning to discuss the correlates and experiences of change in substance use, I will first outline how the quantity and frequency of tobacco, alcohol, and drug use changed between TESUP-1 and TESUP-2.

Tobacco Use. A one-way repeated measures ANOVA indicated that the rate of current tobacco use had not significantly changed. In TESUP-1 ($N = 82$) 41 participants reported current use of tobacco, compared with 43 participants in TESUP-2 ($N = 82$). In both phases smoking manufactured or hand-rolled cigarettes were the most common methods of consumption. The thematic analysis of text-box data in the questionnaire demonstrated support for these results; most participants did not report experiencing any change in their tobacco use. Some participants reported an increase in frequency of tobacco use due to anxiety related to long waits for GIC appointments, or because they typically smoked when using alcohol and their alcohol use had increased. Studies which have focused on smoking

behaviours during the COVID-19 pandemic have indicated that individuals who smoke daily experienced an increase in the frequency of tobacco use, whereas those who do not smoke every day did not experience any change (Busse et al., 2021; Gendall et al., 2021). This is similar to the findings of the current study; the majority of participants were not daily smokers, which may be why there was no significant change in tobacco use. Additionally, in the TA results, those who reported an increase in tobacco use frequency had typically indicated that they smoked tobacco daily and had increased their use in response to increased stress.

Alcohol Use. The TESUP-2 questionnaire results indicated that both the mean AUDIT score had increased (indicating more harmful or dependent alcohol use) in addition to the number of participants who met these criteria increasing, which indicates that participants who previously did not meet the criteria for high-risk alcohol use now did one year later. A one-way repeated measures ANOVA indicated a statistically significant increase of 4.7 points in AUDIT scores between TESUP-1 ($M = 7.26$, $SD = 6.21$) and TESUP-2 ($M = 11.96$, $SD = 8.81$). These results support a recent study which indicated that COVID-19 lockdown measures were a risk factor for increased alcohol consumption in people with alcohol use disorders, as well as alcohol use in people who were previously abstinent (Kim et al., 2020). The findings from Kim et al. support why some participants who previously did not have an alcohol use disorder did in TESUP-2 (an additional 13 participants in TESUP-2 reached the cut-off of 8 points, indicating high-risk alcohol use). TA results indicated that 'casual' daily drinking was commonplace during lockdown, and some participants engaged in frequent binge-drinking. Many of these participants indicated that this increase in alcohol use had a negative effect on their mental health. For the few participants who reported a decrease in alcohol use, this was typically because their ability to socialise had been limited due to lockdown, and they only drank alcohol in social situations. These experiences and the factors

which contributed to a change in alcohol use will be discussed in more detail in the following sections.

  Drug Use. The TESUP-2 questionnaire results indicated that the mean DUDIT score had significantly increased by 5.87 points, from 5.70 to 10.98 points. Similar to the AUDIT results, an additional 13 participants met the cut-off score of 6 points, indicating high-risk drug use. The most common drug of choice in both TESUP-1 and TESUP-2 was cannabis, though the number of participants who reported cannabis use increased (TESUP-1 $N = 25$, TESUP-2 $N = 38$). This result indicates that individuals who did use drugs, but not cannabis, had begun using cannabis in the year between TESUP-1 and TESUP-2. Additionally, the frequencies of the use of different drugs indicates that while the use of cannabis increased, the use of stimulants (such as MDMA, ecstasy etc.) had decreased which could indicate that participants had changed the type of drug they typically use due to COVID-19 lockdown measures. This is supported by initial investigations into drug use patterns which indicate a shift from drugs such as MDMA to more cannabis and psychoactive substances (Jemberie et al., 2020). This finding is further supported by the TA results; participants who reported drug use in TESUP-1 indicated that they had increased their use of cannabis, largely due to lockdown and related increases in stress. This finding is mirrored in recent studies which have reported that cannabis use was particularly increased for individuals who were self-isolating during COVID-19 and were using cannabis as a coping mechanism (Bartel et al., 2020). It is notable that in TESUP-1 no participants indicated the use of heroin, but in TESUP-2, four participants reported using heroin. While it is possible that they had begun using heroin during the pandemic, it may also be the case that they elected not to disclose this information during TESUP-1. Participant experiences of drug use, and the factors which contributed to a change in drug use, will be discussed in more detail in the following sections.

6.6.2. Transition, Masculinities, and the Function of Substance Use

Stage of Transition and Access to Transition-Related Healthcare. Previous studies looking at treatment-seeking transgender people have reported that when transgender people receive the medical interventions they require (such as HRT or surgery), their mental health and quality of life improves (Nobili et al., 2018; Baker et al., 2021). Based on these findings, it was initially hypothesised that individuals at a later 'stage' of transition, who have potentially had more transition-related medical interventions, would have lower levels of alcohol and drug use. It was also hypothesised that this effect would be seen in the longitudinal analysis between TESUP-1 and TESUP-2; the prediction was that participants who had accessed transition-related healthcare between the two phases would show a reduction in substance use. However, neither of these hypotheses were confirmed through quantitative analysis of TESUP-1 and TESUP-2 data.

As was mentioned in the TESUP-1 discussion (see *5.4.2.1. Stage of Transition*), the operationalisation of the concept of 'stage of transition' was not as robust as originally thought and therefore the results are limited by the subjective nature of 'stage of transition', in addition to the self-defined category options (ranging from pre- to post-transition). In a similar manner to TESUP-1, the correlation analysis of 'stage of transition' found no associations with substance use. However, a comparison of the descriptive statistics regarding stage of transition (Table 3.3) reveals that very few participants had categorised themselves as being in a different stage in TESUP-2 than they were in TESUP-1. Taking into account that 23 participants did not complete the TESUP-2 questionnaire, these results reveal that only two participants re-categorised themselves from pre-transition to early transition (both indicating that they had started testosterone). Additionally, four participants re-categorised themselves from mid-transition to late transition, and one participant changed category from mid-transition to post-transition. Overall, only seven participants out of 82 reported any

changes to their self-defined stage of transition in the year between questionnaires, which is much lower than was expected.

The TA and IPA results indicate that most of the participants who had experienced delays in their transition said that this was due to the COVID-19 pandemic. Participants reported that access to healthcare had been severely reduced as a consequence of the pandemic, and for some, on-going transition-related healthcare (such as HRT or surgical interventions) had been delayed or halted. Access to GIS had been limited and the resulting longer waiting times left participants feeling hopeless about the progress of their transition; this can be seen as reflected in the significant increase in Negative Expectations for the Future (NE) from the GMS which includes expectations of being denied appropriate medical care. Furthermore, the resultant anxiety and uncertainty of their situation can be seen in the significant increase in anxiety symptoms and GSI (an overall measure of severity of distress). Due to increased waiting times for initial GIS appointments, some participants, such as Rowan (H = High-risk group), considered self-medicating (or "DIY") HRT. van der Miesen et al.'s (2020) research about access to transition-related healthcare during the pandemic highlights that reduced access and longer waiting times may have resulted in an increase in self-medication of transition-related medication, and higher levels of stress, and anxiety; all of which are seen in the present study.

The barriers to transition-related healthcare which were reported as being largely due to COVID-19 restrictions compounded the existing difficulties which were expressed by participants in TESUP-1. In a similar manner to the first interviews, multiple participants raised the issue of poor communication between GIS and themselves, which led to feelings of suspicion and a general lack of trust. The language used by participants in TESUP-2 to describe their experiences was strikingly similar to TESUP-1, the same phrases were used by participants, such as "you're meant to jump through all these hoops in order" (Ezra, L = Low-

risk group) and "I feel like I constantly have to perform" (Bailey, L). These extracts not only reveal the disconnect between service-user and GIS perceptions of what it means to be trans, but also the consistency between phases, and how often it was mentioned, indicates that this is an on-going problem for many transmasculine individuals seeking transition-related medical interventions. Due to these barriers to healthcare increasing the potential for harm to transgender individuals, it is recommended that when reintroducing healthcare as normal post-COVID, gender-affirming care and access to transition-related treatment should be prioritised, and increased communication with service-users should be considered crucial to mitigate anxiety and stress arising from longer waiting times.

Additionally, for some participants these delays and cancellations resulted in increased substance use. For example, when Zack's (H) top surgery was cancelled because he tested positive for COVID-19 his alcohol use increased and he began smoking cigarettes again as a way to cope with not getting the surgery he needed. Interestingly, in contrast to Zack's experience, when Jeremy (L) experienced delays in getting the next stage of phalloplasty, he reported that it was "not as big of a thing as I had thought". In TESUP-1 Jeremy had concerns that any delay in surgery would cause an increase in alcohol use, but for him this was not the case. It is notable that Zack was in the high-risk group and Jeremy was in the low-risk group; this might partially explain their differing reactions to a similar event. Furthermore, the concept of distress (in)tolerance may be a contributing factor to why Zack experienced an increase in substance use, but Jeremy did not. Throughout his interview, Zack reported multiple instances of struggling to cope with stress and would typically use alcohol to or drugs to regulate his emotions. However, while Jeremy did report experiencing some difficulties in tolerating distress, he described how he had recently been able to better manage his substance use through introspection and regular sessions with his therapist. These results build on the findings of TESUP-1, which indicated that distress intolerance was a common

difficulty for transmasculine individuals and provides further support to the suggestion that DBT-ST (Warner & Murphy, 2021) may be a beneficial psychological intervention for this community. It may be particularly helpful because numerous participants indicated that they felt they had no healthy coping methods, or their usual ones were unavailable due to lockdown measures. DBT-ST would give individuals a variety of adaptive coping skills and may increase their ability to tolerate negative emotions and distressing events (Muhomba et al., 2017).

Gender Minority Stress, Resilience, and Substance Use. As previously mentioned, there was a statistically significant difference between the GMS sub-scales of gender-related rejection and negative expectations for the future between TESUP-1 and TESUP-2. This difference may be partially explained by the difficulties in accessing healthcare that many participants discussed; however, the TA and IPA results reveal that there were additional areas of difficulty that may have contributed to this difference in scores.

Participants frequently described an increase in their experiences of rejection at work, in public, and online. As a result of this, many individuals experienced an increase in anxiety, lower self-esteem, and feelings of alienation. They also cited that discriminatory media coverage debating transgender rights compounded feelings of isolation and mental health struggles that arose as a result of COVID-19. These qualitative findings are supported by recent studies into experiences of rejection and discrimination of LGBTQ+ people during the COVID-19 pandemic (Kneale & Becares, 2020), which demonstrated that transgender individuals experienced a higher increase in discriminatory experiences during the pandemic compared to cisgender LGB individuals, although reports of discrimination were raised for all LGBTQ groups. Previous research has demonstrated the harmful effects of rejection (R), and the expectation for rejection or other negative events (NE) on the mental health of transgender individuals (Rood, et al., 2016), as well as contributing to increased substance

use (Connolly & Gilchrist, 2020). These studies indicate that the increase in GMS for participants in this study may be linked to the significant increase in alcohol and drug use from pre-pandemic to during the pandemic that was demonstrated, in addition to the significant increase in the overall measures of psychological distress: GSI and PST.

The role of resilience at the individual-level as conceptualised as Pride in one's identity (P) significantly increased from pre- to during pandemic levels. This was an unexpected finding, particularly when considering the increases in R and NE, in addition to GSI and PST – indicating increased psychological and gender-related distress. Singh, Hays, and Watson (2011) reported that a crucial aspect in building identity pride is to embrace one's own self-worth, which enables the individual to more strongly advocate for themselves in a cisnormative world. While the present study's significant increase in P may be at odds with some of the participant excerpts regarding the COVID-19 impact on gender minority stress, Breslow et al.'s (2015) research into the moderating role of resilience measures (Pride and Community Connections) between GMS and psychological distress indicates that the moderating role of resilience was not supported. This result suggests that although pride in one's identity is an important facet of one's personality in the face of distress and trauma, it is perhaps not as effective as external factors such as peer community connectedness (Bockting, et al., 2013), as is indicated by similar research into resilience to minority stress.

The results of this study do not support the hypothesised protective role of identity pride; this construct was moderately correlated with the use of alcohol and drugs. Although the correlational analysis did not reveal any significant association between non-disclosure and substance use, the interview participants who described themselves as 'stealth' reported having a complex relationship between non-disclosure, identity pride, and substance use. For example, Owen (H) valued having the choice whether to disclose his trans identity to others because it gave him "control over [his] own story". However, he also reported that there was

an element of risk in not disclosing that he is trans to others, and his concern about his personal safety regarding being 'outed' as trans would sometimes result in an increase in alcohol use. Other participants voiced similar concerns in both TA and IPA results; hiding one's transgender status requires constant monitoring of one's appearance, speech, and behaviours (Beauregard et al., 2021) which leads to an increase in the allostatic load (physiological consequences of chronic stress) of the individual. This can then result in worse mental and physical health outcomes (Juster et al., 2019), and for the participants in the present study, sometimes led to an increase in substance use to manage their stress and anxiety.

Given the potentially harmful effect of lockdown measures on people's ability to socialise and connect with peer groups and communities, measures to promote community connections for transgender people would be a potential method to mitigate the increases to GMS and psychopathological symptoms which the results of this study indicate. However, it is important to note that for some participants, attempts to connect with the transgender community could have a negative impact as well. In TESUP-1, Darren (L) went into detail about his experiences of rejection from trans communities online, and how this had a negative impact on his substance use and resulted in poor self-esteem and internalised transphobia. In TESUP-2, Darren had "distanced [himself] from any kind of LGBT related discussion or groups", and this had led to a decrease in dysphoria and a better self-image. This indicates that there may be differences in the positive influence of building community connections online vs. offline, and future research should focus on comparisons between the wellbeing of transgender individuals who mainly socialise online or offline.

Finally, one element of GMS which was associated with tobacco, alcohol and drug use also significantly contributed to an increase in DUDIT score – this was experiences of gender-related victimisation. Although there was no significant increase in this domain

between TESUP-1 and TESUP-2, across both phases there was a significant correlation between it and all types of substance use. The qualitative findings also revealed that an increase in gender-related victimisation, particularly receiving verbal harassment, was something that was noted by multiple participants. Participants such as Bailey (L) and Parker (H) shared that their experiences of receiving verbal harassment online led to feelings of emotional exhaustion and depression. Additionally, Cody (L) recalled how an incident of transphobic verbal abuse at work had increased their anxiety while in public and had caused them to become hypervigilant about their surroundings. Although Cody (L) and Parker (H) did not explicitly link these specific events to an increase in substance use, they both reported that "a stressful day at work" (Cody) or if "something big and bad happened" (Parker) they would feel the urge to use alcohol or drugs to cope. This finding supports the limited extant literature regarding the impact of gender minority stress. Dermondy et al. (2016) found that experiences of gender-related victimisation were related to an increase in binge-drinking, and Bouman et al. (2016) reported that verbal transphobic victimisation was correlated with an increase in four SCL subscales (somatisation, anxiety, phobic anxiety, and paranoid ideation). Bouman et al.'s results are particularly relevant to the present study, which found that scores in somatisation, anxiety, and phobic anxiety all significantly increased between TESUP-1 and TESUP-2. Overall, this suggests that for transmasculine individuals, experiences of gender-related victimisation are damaging to their mental health and are a risk factor for drug use disorders. Therefore, interventions aimed at reducing substance use, particularly in the case of drug use disorders, should take a trauma-informed approach within a gender minority stress framework.

Gender Role Conflict and Masculinities in Substance Use. Although the longitudinal analyses revealed that no domain of the GRCS had significantly increased between TESUP-1 and TESUP-2, the correlational analysis found that in addition to RABBM

being associated with alcohol and drug use as in TESUP-1, the domains of RE and SPC were also associated with both alcohol and drug use. Similar results emerged from the thematic analysis of questionnaire responses. Numerous participants found it increasingly difficult to recognise and express their emotions and reported that this was due to social isolation and lockdown measures over the past year. It is noteworthy that, in a similar manner to those who were interviewed in TESUP-1, some participants differentiated between how they embody masculinity among other transmasculine people and among cisgender men. Generally, participants felt more comfortable and less self-conscious around other transmasculine people, whereas among cis men, they sometimes felt pressure to act more masculine and were more aware of how they were being perceived by others. This finding is reflected in previous literature that has indicated that GRC is dependent on context (Vandello & Bosson, 2013). Multiple participants reported employing compensatory masculinity around cisgender men, and in TESUP-1, this was connected to an increase in substance use. This indicates that socialising with cis men is a salient situational cue that prompts increased GRC and substance use. Further investigation into the role of compensatory masculinity for transmasculine individuals is necessary in order to understand its possible contributions to increased GRC.

It is interesting to note that in the TESUP-1 interviews almost all of the participants mentioned the relationship between masculinity and substance use, with members of both the low- and high-risk groups voicing the opinion that if they did not consume substances in a masculine manner then they would not be perceived as male. However, in the TESUP-2 interviews, none of the participants discussed masculinity in this context. It is possible that this was due to lockdown measures limiting opportunities for socialising in the time between TESUP-1 and TESUP-2 interviews. This brings up an important question posed by one participant in the questionnaire: "If someone doesn't see performativity of gender, did it happen? Is gender in the expression or the perception?". That participants in TESUP-2 were

less concerned about appearing masculine through substance use, yet their use of alcohol and drugs had increased, implies that the function of masculinity in the context of substance use is often to communicate gender to others. This finding aligns with Butler's (1990) theory of gender performativity which states that one is discursively compelled to perform gender within the regulatory norms of their culture so as to assert their gender identity to others. Studies which have focused on the relationship between GRC and social support have reported that men who perceived themselves to have a strong social support network have lower GRC and less psychological distress. Given the findings from this study that suggested socialising with other men prompted engaging in compensatory masculinity, which included increased substance use, further research into the role of socialising and social support as it relates to GRC in transmasculine individuals is recommended.

6.6.3. Contexts of Substance Use and Meaning-Making

Navigating Health and Healthcare during COVID-19. Throughout the interviews with both low- and high-risk participants, the challenge of maintaining good physical and mental health during the COVID-19 pandemic and related lockdown measures was discussed frequently. The difficulties that people faced were varied; from unstable housing and unemployment to anxiety about themselves or their loved ones contracting COVID-19. What was consistent throughout the IPA interviews was that the majority of participants had experienced increased stress, anxiety, and isolation, which sometimes triggered the urge to drink alcohol to cope. For participants who did not report that the pandemic had had negative effects on their health and wellbeing, such as Parker (H) and Ezra (L), it was observed that they tended to have secure housing and finances, as well as stable romantic relationships. Recent literature regarding inequalities during the COVID-19 pandemic has revealed that the

gap between high and low SES groups is widening (Binns & Low, 2021). Low SES groups have been disproportionately affected by COVID-19, in part due to crowded or unstable housing and having to work to maintain an income, making it difficult to effectively socially distance or self-isolate (Basu et al., 2021). Additionally, some studies have revealed that those people in a relationship during the pandemic reported less stress than did single people (Kowal et al., 2020), as well as lower levels of depression and anxiety (Odriozola-Gonzalez et al., 2020). However, neither of these studies assessed relationship quality or stability. Therefore, it is possible that it is not simply being in a romantic relationship that mitigated the effect of the pandemic, but that the support and security that the relationship offers is an important factor, as was observed in the interviews in this study.

An interesting finding is that despite almost all the interview participants suggesting that their quality of life had been negatively affected by COVID-19, the repeated measures ANOVA did not indicate any statistically significant change to any of the four QOL domains (physical health, psychological health, social relationships, and environmental health). This was an unexpected result, particularly because many participants in the questionnaire and interviews reported that their social life and interpersonal relationships had been negatively affected by the pandemic and by lockdown measures.

When comparing the QOL scores of participants in this study to the results of QOL in four different population samples (see Appendix G), it is demonstrated that the transmasculine sample in the present study had noticeably lower scores than the general population sample (Hawthorne et al., 2006), and are much more similar to the Spanish transgender sample (Gomez-Gil et al., 2013) and the UK psychiatric conditions sample (Skevington & McCrate, 2012). Like the psychiatric conditions and general population samples, the results of the present study indicate that psychological health was the lowest-rated QOL domain; however, the scores from the present study were lower in each of the four

domains of the QOL. This trend makes sense when considering the TA and IPA results. Struggling to maintain good mental health was the most frequently mentioned factor in the TA results which had a negative effect on participant's QOL. This was also mirrored in the IPA results; participants with pre-existing diagnoses reported a worsening of symptoms during the pandemic and almost all participants mentioned feelings of anxiety. These results indicate that, although poor QOL was not associated with an increase in substance use, struggles to attain a good QOL were common for participants in this study. This finding supports previous studies which indicate that transgender people have worse psychological health QOL than cisgender people (Nobili et al., 2018). It is important to note that the psychological QOL domain includes the question "are you able to accept your bodily appearance?". This question likely takes on a different meaning for transgender people compared to cisgender people. For example, in the present study only 23.5% ($N = 19$) of participants indicated that they were able to accept their bodily appearance, whereas the remaining 76.5% ($N = 63$) ranged from entirely unable to somewhat able to accept their bodily appearance. Previous studies have demonstrated that, when transgender people can access the transition-related medical interventions they require, their QOL improves (Newfield et al., 2006; Baker et al., 2021).

There was an unexpected finding that environmental QOL was positively correlated with tobacco use, indicating that feeling secure and safe in one's environment was associated with being a current smoker. Başar et al. (2016) found that high levels of perceived discrimination were associated with worse environmental QOL. In the present study tobacco use was associated with better environmental QOL and fewer experiences of gender-related discrimination, rejection, and victimisation, which lends support to Başar et al.'s findings. It also raises questions regarding the specific relationship between tobacco use, gender minority stress, and QOL. Were current smokers exposed to less gender minority stress because they

had a safer environment? Or does tobacco use have a mediating role in the effect of GMS on QOL? Further research is necessary to explore tobacco use in transmasculine individuals, particularly because of its negative association with alcohol and drug use, distal gender minority stressors, in addition to psychopathological symptoms in this study.

Social Substance Use and Peer group Influences. One of the biggest differences between the interviews between TESUP-1 and TESUP-2 was the change in the nature of social and peer influences on substance use. In the TESUP-1 interviews, peer pressure and complying with social expectations were frequently mentioned as factors which increased substance use. However, in the TESUP-2 interviews, the participants had been in lockdown, taking social distancing measures, or self-isolating due to COVID-19, and therefore had not been socialising in the same way as they had in TESUP-1. Unlike the TESUP-1 interviews, where participants identified socialising as increasing their substance use, many individuals in TESUP-2 reported that feeling isolated and being unable to socialise as normal had resulted in an increase in substance use. It is notable that most of the participants who connected their increased substance use to isolation as a result of the pandemic were in the high-risk group. This provides support for recent research which has indicated that individuals who struggled with substance use prior to COVID-19 have been particularly affected by lockdown measures and increases to substance use (MacMillan et al., 2021).

One participant (Owen, H) described how he would drink alcohol or smoke cannabis alone in order to "emulate a social experience". For Owen, prior to the pandemic, substance use mainly occurred in social situations, therefore using substances alone was an attempt to recreate the positive emotions he would normally feel while socialising. However, it is also apparent from Owen's extracts that his substance use was not only to replicate socialising, but also to manage anxiety which stemmed from the pandemic. He described his alcohol and cannabis use as an "easy brute force way to turn [his] brain off" – from these extracts it is

apparent that he was struggling to manage the effects of lockdown on his mental health. Similar findings have been reported in recent qualitative studies into the effect of UK lockdowns on health and wellbeing. Dedryver and Knai (2021) describe how people turned to online platforms to recreate a feeling of normalcy in their social lives, though it should be noted that the participants in their study reported that doing so was an unsatisfactory substitute for offline socialising. Additionally, participants in Smith et al.'s (2021) investigation into the effects of COVID-19 on individuals in recovery from SUD described how loneliness, boredom, and the loss of their usual social support prompted a relapse event. These studies demonstrate that Owen's experiences of increased substance use in response to isolation and worsening mental health have been noted in many young adults during the pandemic.

A desire to "feel like a normal person" (Darren, L), or efforts to establish a 'new normal', was frequently spoken of throughout the interviews. Difficulties with managing frustration, confusion, and loneliness were often met by an increase in substance use. Some participants (like Darren and Owen (H)) found comfort and escape from distress by simulating social situations through substance use. Other participants, such as Parker (H) and Cody (L), embraced the 'new normal' of increased alcohol use that they observed online at the beginning of the first lockdown. They both reported that they perceived drinking alone and drinking during the day to have been normalised through social media and cited that frequent exposure to alcohol consumption on social media platforms, such as Facebook, prompted their own increased alcohol use. Emerging research has indicated that exposure to alcohol references on social media is related to increased alcohol consumption (Geusens & Beullens, 2021). Interestingly, Geusens and Beullens reported that although the number of references on social media and traditional media (e.g., television and films) was comparable, traditional media was not associated with alcohol consumption. Furthermore, an analysis of

alcohol marketing campaigns during the first UK national lockdown found that 22% of online alcohol advertisements encouraged drinking at home by framing alcohol use as a method of alleviating boredom (Atkinson et al., 2020). As the COVID-19 pandemic is an on-going situation at the time of writing (late 2021), the long-term effects of increased social media use and increased substance use is not fully known. However, the participants in this study reported symptoms of alcohol dependence, including escalating alcohol use in response to tolerance, and subsequent withdrawal symptoms when unable to consume alcohol. This is an immediate concern; alcohol withdrawal syndrome is characterised by hallucinations, seizures, and in severe cases can result in coma (Mirijello et al., 2015). Therefore, as the UK attempts to recover normality or adjust to the 'new normal' it is of the utmost importance that healthcare services attend to the increase in SUD and the potential for harmful side-effects if individuals attempt to reduce substance use.

6.6.4. Personal and Psychological Risk Factors in Substance Use

The Symbiotic Relationship of Mental Health and Substance Use. A common finding throughout the TA and IPA extracts was the participants in this study experienced worsening mental health which they perceived to be a result of COVID-19 and related lockdown measures. The quantitative analysis of SCL-90-R symptom dimensions and global index scores also reflects this finding; somatisation (SOM), anxiety (ANX), hostility (HOS), phobic anxiety (PHO), and psychosis (PSY) all significantly increased between TESUP-1 and TESUP-2. Additionally, global severity index (GSI) and positive symptom total (PST) both significantly increased.

It is striking that of the five symptom dimensions that had a statistically significant increase, four (SOM, ANX, HOS, PHO) are related to anxiety and thus may represent

variation in symptoms of anxiety or reactions to anxiety (Holi, 2003). The TA results found that increased anxiety was reported by many participants; worries about the future, rumination about illness and death, and feelings of agoraphobia characterised the struggles that participants were experiencing. Participants described the nature of their anxiety as "overpowering and constant", "persistent and difficult", and "severely increased". These extracts demonstrate the intense impact that increased anxiety was having on their daily lives. Furthermore, these findings were mirrored in the IPA results: Bailey (L) described feeling "paranoid" about catching COVID-19 which led to reluctance to leave the house and a consequential increase in alcohol use as a method of coping with stress. Literature regarding the effect of COVID-19 on the mental health of UK adults has indicated an 11.8% increase (from 25% to 36.8%) in the prevalence of poor mental health since the beginning of the pandemic, primarily affecting young adults (Smith et al., 2020). Furthermore, results from an investigation into COVID-19-related anxiety across the UK population has demonstrated that anxiety was significantly associated with an increase in somatic symptoms (Shevlin et al., 2020). Anxiety and somatic symptoms have been documented as commonly co-occurring alongside SUD though the specific nature of the relationship between them is not well understood (Hassan & Ali, 2011). These studies have particular relevance for the results of the present study and provides some insight into the significant increase of ANX, PHO, and SOM that was demonstrated by quantitative analyses. However, further investigation is required to clarify the association between anxiety, somatic symptoms, and substance use, and evaluate the potential impact of COVID-19 in these co-occurring disorders.

The negative effects of COVID-19 and lockdown measures on mental health were particularly pronounced in participants who had previously reported a psychiatric or neurodevelopmental diagnosis in TESUP-1. Darren (L) had disclosed his ASD diagnosis in TESUP-1, and in TESUP-2 it was apparent that the uncertainty and ambiguity of rule

changes during COVID-19 lockdown measures had a negative impact on his mental health. The difficulties he was facing in coping with the lockdown were complicated by his ASD. Difficulties in coping with change and struggling to interact with others are core symptoms of ASD (Simonoff et al., 2020), and studies conducted prior to the current pandemic have demonstrated that failure to cope with change and poor interpersonal interaction have a negative effect on symptoms of depression and anxiety (Rodgers et al., 2019). One mixed-methods longitudinal analysis of the effects of COVID-19 on the mental health of autistic adults (Bundy et al., 2021) demonstrated that there was a substantial variation on how COVID-19 affected participants. Although Bundy et al.'s quantitative analysis showed that engaging in social activities and maintaining a routine contributed to lower levels of depression and anxiety, the themes derived from the qualitative analysis indicated that worries about the future and the ambiguity in government COVID-19 guidance left many participants feeling distressed. The findings of Bundy et al. are echoed in the experiences reported by Darren, in addition to numerous individuals in the TA results. Considering that research now indicates that ASD is up to 6.36 times more common among transgender individuals (Warrier et al., 2020), particularly among transgender men (Murphy et al., 2020), it is important that future research should focus on the long-term impact of COVID-19 on transgender individuals with ASD. People with a diagnosis of ASD (Calleja et al., 2019) and transgender people alike (Valentine & Shipherd, 2018) are minority groups who experience barriers to healthcare, stigma, and discrimination. Therefore, interventions aimed at mitigating the impact of COVID-19 in this population should pay particular attention to considerations of intersectionality and the unique stressors that autistic transgender people might face.

In order to investigate whether the variables which were most highly correlated with substance use could significantly predict current smoking, AUDIT, and DUDIT scores,

regression analyses were conducted. The multiple regression analyses for alcohol use and for drug use both indicated that positive symptom total (PST) was a statistically significant predictor. For each point increase in PST, the AUDIT score increased by .212 and the DUDIT score increased by .272. This was a difference from the multiple regression analyses in TESUP-1 which indicated that global severity index (GSI), not PST, significantly contributed to the DUDIT score. It should be noted that GSI was excluded from the multiple regressions in TESUP-2 due to a high variance inflation factor (VIF) value which indicated multicollinearity between GSI and PST. GSI was excluded because it had the highest VIF value, indicating that its influence on the outcome variable was captured by other predictor variables (O'brien, 2007). This indicates that although both GSI and PST were highly correlated with alcohol and drug use, and both significantly increased between TESUP-1and TESUP-2, it was PST that better captured the influence on substance use. Some previous studies have indicated that PST is higher for SUD samples than the general population (Mercier et al., 1992; Miovsky et al., 2021); however, the relationship between PST and SUD in transgender populations is not known. Although previous studies have used the SCL-90 for transgender samples, none have reported PST scores in their analysis (Haraldson & Dahl, 2000; Auer et al., 2013; Castelo-Branco et al., 2021). This is possibly because GSI is typically thought to be the best global indicator of psychopathology (Derogatis, 1994); however, the results of the present study indicate that for transmasculine individuals PST may represent an important and overlooked factor which contributes to SUD. Future research should focus on exploring this relationship in more detail.

Distress (In)tolerance and Emotional Regulation. In a similar manner to the TESUP-1 interviews, participants who were re-interviewed in TESUP-2, described their struggles with tolerating distress and regulating their emotions, and how many would use alcohol or drugs to manage these difficulties. It was observed that in TESUP-2, participants

described how the same situations would result in an increase in substance use as in TESUP-1. For example, in both TESUP-1 and TESUP-2 interviews Rowan (H) reported struggling with symptoms of ADHD such as executive dysfunction and insomnia, which would lead him to combine sleeping pills and alcohol to go to sleep. Additionally, in both interviews Parker (H) described how it was typically interpersonal difficulties with their partner that would lead them to use alcohol or Valium, often to try to sleep. These results indicate that across both time points, participants were struggling with the same situations that would consistently trigger an increase in substance use. Furthermore, the similarities between Rowan (H) and Parker's (H) narratives are striking. Although their difficulties with emotional regulation and achieving restful sleep seemed to stem from different sources, it is clear from their interviews that a low mood during the day would have a negative impact on their ability to sleep later that night. Butler et al. (2020) demonstrated that transgender adults have short sleep duration and worse quality sleep compared to both cisgender and LGB groups, which they suggest is due to GMS and the increased prevalence of mood disorders in the transgender adult population. Furthermore, Auer et al. (2017) investigated sleeping problems in transgender individuals and reported that 81.2% of their trans male sample reported high sleep disturbances which had a significant negative impact on their QOL. Taking this research into account and considering studies which have demonstrated that insomnia causes alcohol dependence and cannabis initiation (Pasman et al., 2020), further research into this area is recommended. Research that focuses on the relationship between distress intolerance, sleep disorders, and related substance use would be particularly valuable, based on the findings from the longitudinal IPA results.

Some participants made a direct connection between their experiences as a transmasculine person and their substance use. The relationship between these two phenomena was exemplified in Owen's (H) narrative. He reiterated in TESUP-2, as in

TESUP-1, how his experiences of coming out to others as transgender typically happened under the influence of alcohol. He also went into detail about how smoking cannabis would "create an artificially strange experience in [his] body" which would then distract him from bodily dysphoria. For Owen, the use of cannabis was not only to mitigate feelings of loneliness and anxiety (as was discussed in section *6.6.4.2. Social Substance Use and Peer group Influence*), but it was also a method of positively relating to his own body and reducing distress that arose from dysphoria. This is a particularly interesting finding which builds on the theory that individuals choose different substances to cope with different types of distress that was proposed in the TESUP-1 discussion (see section *5.4.4.2. Distress (In)Tolerance and Emotional Regulation*). The increase in drug use that Owen experienced in response to both anxiety and dysphoria is clear in his DUDIT score which rose from 3 points in TESUP-1 (low-risk drug use) to 27 points in TESUP-2 (high-risk drug use). This further supports the theory that different types of distress might prompt seeking relief in different substances; specifically, coping with dysphoria using drugs that have a dissociative or psychedelic effect (as was the case for participants in the present study). Previous studies have explored the influence of personality traits on drug of choice with inconclusive results (Conway et al., 2002; Le Bon et al., 2004; Ruiz-Olivares et al., 2019), but recent research has revealed that emotional regulation is a mediator for SUDs (Okasha et al., 2021). However, to the author's knowledge no such investigations have been conducted that focus on transgender participants. It is important to note that IPA does not seek to make generalisations, therefore it cannot be said that this phenomenon will occur in different samples or populations. However, this was a consistent finding between TESUP-1 and TESUP-2 that was observed in multiple participants, therefore the potential importance of this result warrants further exploration in future research.

Personality Traits. A repeated measures ANOVA indicated that there was no significant change in any personality trait between TESUP-1 and TESUP-2. This finding aligns with extant literature which suggests that character traits are somewhat changeable, but this happens slowly over time, typically aligning with age (Clonginger, 2006). The temperament traits are thought to be relatively stable over time and have a neurobiological foundation (Cloninger, Pryzbeck & Svrakic, 1999). Quantitative analyses revealed that the personality profile of individuals engaged in high-risk substance use remained stable and was characterised by high levels of NS and ST, and low levels of HA and CO. A notable change was that HA contributed more to the outcome variables of alcohol or drug use in TESUP-2, whereas it was NS in TESUP-1 which had more of a contribution. In TESUP-2, NS was excluded from inclusion in the multiple regression analyses of alcohol and drug use, following the inclusion criteria of correlation coefficient of $r >= .35$ and p-value of $p <= .01$. In TESUP-2 NS was not correlated with alcohol use, and only had a weak correlation with drug use ($r(82) = .240$, $p = .03$). In order to investigate whether this may have occurred due to the attrition of 23 participants between phases and two a one-way between groups ANOVA was conducted. This showed that there was no statistically significant difference in tobacco, alcohol, or drug use between the 82 participants who completed both questionnaires and the 23 who only completed the first questionnaire (see Table 6.19).

Table 6.19. Analysis of Variance (ANOVA) in Tobacco Use, AUDIT score, DUDIT score, between those who completed both or just the first questionnaire. Means and standard deviations.

Measure	Group 1 (only completed 1st questionnaire)		Group 2 (completed 1st and 2nd questionnaires)		$F(1, 104)$	Sig.
	M	*SD*	*M*	*SD*		
Tobacco	4.91	.996	4.48	1.434	1.88	.173
AUDIT	8.30	4.656	7.26	6.211	.565	.454
DUDIT	7.78	5.134	5.11	6.831	3.03	.085

Note. *M* and *SD* represent the mean and standard deviation, respectively.

Following up with TESUP-1 results which indicated that perceived impulsivity was an indicator of high NS and also substance use, the TESUP-2 interviews focused on exploring the participants self-perception in the context of impulsivity and caution. Analysis of interview data revealed that all participants in the high-risk group conceptualised themselves as being impulsive, particularly in relation to substance use. Many of the participants who considered themselves impulsive described how they did not consider consequences in the moment, and some felt they were unable to "see negative consequences in the long term". Despite all high-risk participants describing negative consequences of substance use, they did not take this into consideration later when making the decision whether to engage in substance use or not. This finding is reflected in the literature regarding decision-making and substance use. Chen et al. (2020) conducted a meta-analysis and meta-regression review into this topic and found that participants who used most substances (except cannabis) had significantly higher levels of risky-decision making compared to control groups. Furthermore, some studies have shown that impulsive decision-making is related to difficulties in achieving and maintaining abstinence and recovery from SUD (Stevens et al., 2014; Sliedrecht et al., 2021). Taken together, this evidence indicates that impaired decision-making is related to traits of impulsivity, and likely confers an increase in high-risk substance use and difficulty reducing substance use.

The finding that individuals categorised as low-risk did not perceive themselves to be impulsive, whereas the high-risk group did, is a potentially important result which could have implications for clinical assessment of risk. This finding is supported by further exploration of the participants' narratives of substance use and risk. For example, one participant whose AUDIT and DUDIT scores increased to such a degree that he was recategorized from low-risk to high-risk, reported that he did consider himself to be impulsive. It would be interesting

to explore whether self-perception of impulsivity, particularly in the context of substance use, is associated with the development or maintenance of a SUD. It may also be promising to investigate whether self-reported impulsivity may predict future risk of escalating substance use. Further research is necessary because if self-reported impulsivity is related to high-risk substance use, as it was in this study, clinicians could use this information to make faster assessments of risk which would be advantageous in primary care or emergency settings. Furthermore, it would enable healthcare professionals to implement tailored interventions to reduce substance use and related harm.

6.6.5. Protective Factors in Substance Use

Personal and Community-Level Resilience. Although many of the participants in this study reported an increase in substance use, psychopathological symptoms, and overall distress in the year between TESUP-1 and TESUP-2, they also demonstrated substantial resilience in response to their struggles. The repeated measures ANOVA which explored differences in psychopathological symptoms revealed that although the mean PST (number of symptoms reported) had increased by 7.81 points between TESUP-1 (52.6) and TESUP-2 (60.41), there was no statistically significant change to PSDI (intensity of distress). This finding indicates that, despite experiencing more psychopathological symptoms, the participants did not report an increase in related distress. In the questionnaire and interviews, numerous participants described taking an active role in trying to seek help or improve their mental health. In the TESUP-2 questionnaire 28 participants chose to provide additional information about their mental health. Eight of these participants had started taking medication in the past year and all reported experiencing considerable improvements to their mental health as a result. Similarly, Jeremy (L) described how being diagnosed with

borderline personality disorder (BPD) had given him a better understanding of his mental health and what might trigger "a flare-up of symptoms". This enhanced understanding of himself and how he relates to others resulted in improvements to emotional regulation and a decrease in using substances to cope with distress.

The results of TESUP-1 indicated that the data did not support the hypothesised roles of identity pride (P) and community connectedness (CC) as protective factors. Quantitative analysis of TESUP-2 data confirms these findings: CC had no associations with the use of any substance and P was moderately correlated to high-risk alcohol and drug use. High-risk alcohol and drug use, in addition to P, all significantly increased between TESUP-1and TESUP-2 and displayed moderate to high correlations with each other. To further investigate this unexpected finding, all interview participants were asked to go into detail about whether they felt pride in their transgender identity and what 'identity pride' meant to them.

Participants in both the low- and high-risk groups made a distinction between feeling pride in their personal transgender identity vs. feeling pride for the transgender community as a whole. Every participant who made this distinction reported feelings of pride toward the transgender community and the shared history, particularly regarding advocacy for trans rights. However, feeling pride in their own trans identity was not reported as frequently as pride for the community. Participants such as Cody (L) and Rowan (H) described how despite having admiration for the trans community, they did not personally feel proud to be trans because of the difficulties they had experienced. Similarly, Bailey (L) and Ezra (L) reported that although they did feel pride in their identity, it was difficult to express or appreciate this due to widespread transphobia in the general population.

Personal identity pride (a positive view of one's own transgender identity) and community pride (a positive view of other people who share that identity) are both

components of the concept of identity pride within Testa et al.'s (2015) model of gender

minority stress. Recent research which has utilised the gender minority stress framework to

develop psychological interventions for transgender people has highlighted the positive

influence of community-level resilience on individual resilience. The Transgender Resilience

Intervention Model (TRIM) proposed by Matsuno and Israel (2018) identifies community,

group, and individual interventions which can increase both individual-and community-level

resilience for transgender people. Pilot studies which have used TRIM as a guide for

providing interventions to increase positive appraisals of identity and wellbeing have

demonstrated promising results. Clements et al., (2021) reported that participating in a

strengths-based group intervention increased positive feelings about one's trans identity, in

addition to increased levels of happiness and life satisfaction. Furthermore, Smith et al.

(2021) propose a revised framework of adaptive coping methods that foster resilience in

transgender people; these are psychological affirmations (such as self-belief and self-

definition of identity) and social affirmations (such as advocacy and trans community

connections). The authors propose that coping responses that enable gender affirmation

provide resilience against gender minority stress.

Notably, the participants who did report feeling pride in their transgender identity also

reported a feeling of belonging within the transgender community, had strong connections

with other transgender people, and many of them engaged in advocacy and awareness work.

This finding supports the frameworks proposed by Matsuno and Israel (2018) and Smith et al.

(2021); not only did these participants report both individual and community pride, but they

also provided positive and gender-affirmative reasoning for their pride. Although, similarly to

TESUP-1, these same participants also reported that associating with other transgender

people and participating in trans-focused events tended to increase their substance use. The

difference here may be due to attitudes of peers toward substance use; as stated in the

TESUP-1 discussion, positive peer influences have been shown to significantly predict

decreased substance use and improvements to mental health (Coyle et al., 2015). In addition

to this, Matsuno and Israel (2018) suggest that group-level interventions that encourage

finding, and becoming, a role model in the trans community can buffer negative effects of

GMS. Therefore, future research should focus on developing interventions in order to build

resilience and community connections within the transgender community, and which

encourage positive peer influence and teach community leadership skills.

Harm Avoidance. Quantitative analysis into the influence of harm avoidance on

substance use indicated that the personality trait of harm avoidance (HA) was moderately

correlated with lower alcohol and drug use. Furthermore, multiple regression analyses

revealed that AUDIT scores decreased by .25 and DUDIT scores decreased by .316 for each

point increase in HA. These results suggest that high HA is a protective factor against

developing an alcohol or drug use disorder. Previous research into the role of HA in SUD has

had mixed results. Some studies indicate that SUD populations have higher scores in HA

compared to the general population (Le Bon et al., 2004; Hashemi et al., 2019). However,

Cloninger et al., (1993) suggest that low HA is associated with SUD. Kim et al. (2007)

compared the personality traits of patients with SUD, depression, and schizophrenia, and

found that SUD patients had the lowest scores in HA compared to the other two groups,

which offers support for Cloninger et al.'s (1993) theory.

In a similar manner to TESUP-1, the interview participants went into detail about

their experiences of HA in the context of personality traits, as well as the measures they take

to reduce potential harm when using alcohol or drugs. As was noted in the previous section

(*6.6.5.3. Personality traits*), participants were asked whether they considered themselves to

be impulsive and there was a distinct split between the low- and high-risk groups. Most of the

participants in the low-risk group characterised themselves as cautious people, particularly in

the context of substance use. Jeremy (L) and Ezra (L) were concerned about personal safety when using substances and neither of them engaged in drug use. Additionally, Darren (L) was very concerned about the possible negative effects that alcohol use could have on his mental health and was careful to "be mindful of how [he was] feeling that day" when deciding whether to drink. The personality trait of HA includes feeling of anticipatory worry and fear of uncertainty (Cloninger et al., 1993), both of which are demonstrated in the participant extracts about their caution regarding using substances. These results provide support for the quantitative finding that high HA is associated with lower substance use and offer an insight into attitudes towards substance use from the perspective of individuals at low risk of SUD.

A point to consider in relation to HA and substance use is the different types of perceived harm and whether that might influence engagement in substance use. For instance, Bailey (L) reported that they thought of themselves as a cautious person, and the potential for physical harm from alcohol use (in their case, migraines) would stop them from drinking. However, they also pointed out that if they felt pressure from family or friends to drink some alcohol they would "just go along with it" regardless of the effect on their health. This can be seen as avoidance of social harm, rather than the previously cited avoidance of physical or emotional harm that was reported by the rest of the low-risk group. It is recommended that future research should focus on how HA operates in different contexts, and the decision-making process of whether or not to engage in substance use in the context of perceived harm and HA.

6.6.6. Conclusions

The results from TESUP-2 confirm the conclusions of TESUP-1 which indicated that high-risk substance use is a common issue for transmasculine individuals, and that COVID-19 had a substantial negative impact on substance use, mental health, and overall wellbeing. Rates of tobacco use stayed relatively stable between the two time points; however, the mean AUDIT and DUDIT scores significantly increased. This indicates that people were consuming more alcohol and drugs between TESUP-1 and TESUP-2. Additionally, many participants had changed the typical drugs they use; the use of stimulants such as MDMA had decreased, whereas the use of cannabis had increased.

A commonly reported concern for the participants was the closure of non-essential healthcare during COVID-19 which delayed access to transition-related healthcare. The increased waiting times, delayed or cancelled surgeries, and barriers to access on-going treatment, were all cited as events which would increase anxiety, distress, and substance use. Related to this, quantitative analyses revealed a significant increase in experiences of R and NE, and it was discovered that experiences of victimisation significantly contributed to an increase in drug use. These increases in GMS were felt to be due to higher levels of discriminatory media coverage of transgender people which had had a harmful effect when compounded by feelings of isolation and struggles with mental health that occurred as a result of COVID-19 lockdown measures. Therefore, as healthcare services are reintroduced, it is recommended that transition-related services and substance use recovery services should be prioritised and should take a trauma-informed approach within a gender minority stress framework.

It was found that although almost all participants reported that COVID-19 had a negative effect on their mental health or quality of life, it was participants who had secure

housing, finances, and a stable romantic relationship who were less affected. Although there was no statistically significant decrease to any QOL domain, many participants indicated that they believed their QOL had worsened as a result of COVID-19. Additionally, it was found that good environmental QOL was associated with current tobacco use. This was an unexpected finding that raises questions about the specific relationship between QOL, GMS, and tobacco use, and warrants further investigation.

The IPA results demonstrated that many participants were striving to restore a sense of normality in their lives during the pandemic, and for some, this culminated in an increase to alcohol and drug use. Participants in the high-risk group tended to increase substance use as a method of coping with isolation and loneliness. Some participants attempted to recreate social situations through the use of alcohol and cannabis. Whereas other participants tried to embrace online methods of social connection but reported that they were frequently exposed to a normalisation of frequent alcohol use that increased how often they drank and resulted in alcohol dependence and escalating use in response to increased alcohol tolerance.

Many participants reported worsening mental health during the pandemic, and this was confirmed by a significant increase in five symptom dimensions and two global distress dimensions. It is particularly notable that although PST significantly increased between the two phases, and it was a statistically significant predictor of increased alcohol and drug use, measures of overall distress did not increase as much. This indicates that although the participants experienced more symptoms their distress was not significantly increased. Because this was an unexpected finding and taking into consideration the lack of literature which explores PST in relation to substance use and transmasculine individuals, further research is recommended. Additionally, a particularly striking finding was the disproportionate impact that COVID-19 and related lockdown measures had on individuals with ASD. Due to this finding, and the barriers to healthcare that already exist for both

autistic and transgender individuals, interventions aimed at mitigating the negative effects of COVID-19 in this population should have a comprehensive understanding of intersectionality and incorporate this into assessment and treatment plans.

TESUP-2 narratives of distress intolerance were largely unchanged from TESUP-1, indicating that the same individuals were experiencing the same struggles, and continued to respond to these events in a dysfunctional manner, typically by using alcohol and drugs to cope. It was noted that low mood during the day had a particularly disruptive effect on sleep and symptoms of insomnia. Considering the high prevalence of sleep disorders among transmasculine individuals, further research into the relationship between distress intolerance and sleep disorders, and the potential impact on substance use, is recommended. Additionally, there was a novel finding of participants using dissociative and psychedelic drugs to distract themselves from gender dysphoria and create a more positive relationship with their own body. This indicates that specific types of distress may dictate which drug an individual may choose as a coping mechanism; to the author's knowledge there are no investigations related to this and the potential importance of this result warrants further research.

It was established that personality traits have a substantial influence on substance use – with some traits, such as high levels of NS being associated with increased substance use – and other traits, such as high levels of CO and HA, being associated with decreased substance use. All interview participants in TESUP-2 who categorised themselves as cautious were in the low-risk group and all of those who categorised themselves as impulsive were in the high-risk group. It was interesting that participants in the low-risk group in TESUP-1 whose substance use increased to such a level that they were recategorized as high-risk in TESUP-2 categorised themselves as impulsive, similarly to the other high-risk participants. These findings suggest that an individual's assessment of themselves as cautious or impulsive may

dictate their risk level as it relates to substance use and further experimental investigations are required with a larger sample size, as this finding was based only on the nine participants who were interviewed twice. Various protective factors were identified, most of these related to harm avoidance, which implies that personality traits are a major factor in relative risk of engaging in hazardous substance use or developing a SUD.

7. Conclusions

7.1. Summary of Findings

This thesis aimed to investigate factors associated with high-risk substance use in transmasculine individuals and to understand their lived experiences related to substance use. This was achieved by using a longitudinal mixed-methods design that enabled a wide-ranging exploration of the relationship between substance use and multiple contributing factors, in addition to an in-depth analysis of the lives of transmasculine individuals and what substance use meant to them.

This chapter will summarise the overall findings of this study and directly address the research questions that led to this investigation. The novel contributions that this thesis has made will be related to substance use disorders and trans studies. I will relate these key findings to theory and practice and will provide suggestions for future research. This chapter will conclude with a discussion of the limitations of this thesis.

The results of this thesis indicate that high-risk substance use is a prevalent issue affecting the transmasculine population; over half of the sample in this study engaged in high-risk substance use, and individuals who did not currently use substances had often experienced substance use-related issues in the past. Quantitative analysis revealed that gender minority stress, psychopathological symptoms, and personality traits were all major contributors to the development and maintenance of substance use for transmasculine individuals. Difficulties accessing transition-related healthcare, widespread transphobia in UK society, and navigating masculinities and social expectations were commonly reported experiences in this study which were associated with significant distress and often resulted in high-risk substance use. The impact of COVID-19 was substantial in this community. Alcohol and drug use significantly increased during this time, and the pandemic had a

damaging effect on mental health and gender minority stress, which further contributed to high-risk substance use.

7.2. Addressing the Research Questions

7.2.1. Is Stage of Transition Related to Substance Use?

In this study stage of transition was not related to substance use; however, specific difficulties throughout the process of transition were observed to trigger an increase in substance use. Typically, long waiting times and difficulties accessing transition-related healthcare, lack of communication with GICs, and experiences of discrimination or stigma in healthcare settings were events that were associated with an increase in substance use. The closure of non-essential healthcare during COVID-19 had a disproportionate effect on transgender individuals, and the resulting barriers to healthcare and delays in receiving treatment were all observed to increase distress, anxiety, and substance use.

This project has revealed that there are many possible avenues for mitigating the difficulties that this population experiences. Crucially, given the difficulties that the majority of participants in this study had experienced in accessing transition-related healthcare, and in light of worsening accessing during the COVID-19 pandemic, it is recommended that a shift be made to the Informed Consent Model of transgender healthcare delivery in the UK. Not only would this model empower transgender service-users to make informed choices in collaboration with healthcare professionals, but by de-pathologising trans identities (specifically, removing the requirement for a DSM-5 diagnosis of Gender Dysphoria), there is the possibility for decreasing waiting times for gender identity services, and decreasing the frequency of discrimination and transphobia in healthcare settings, which in the present study were related to increased substance use and poorer mental health.

It is important to note that the findings related to 'stage of transition' may be limited by the operationalisation of the concept. Stage of transition was measured through participant self-identification with a specific 'stage' with no beginning or end point suggested by the author, which meant the experiences of participants in each 'stage' varied considerably. Although the questions regarding 'stage of transition' were co-developed with transmasculine individuals in a focus group setting, Vincent (2018) notes that there is significant linguistic nuance within the trans community, and highlights that generational, classed, and socio-economic differences influence the accessibility of language. Therefore, future efforts to adjust the operationalisation of 'stage of transition' should prioritise participatory research methods within the transgender community, in order to more accurately explore issues that may affect individuals at different 'stages' of transition.

7.2.2. Is Low QOL Associated with High-Risk Substance Use?

This thesis indicates that transmasculine individuals have worse QOL compared to previous studies on cisgender samples, particularly in the domain of psychological health. However, there was no association between psychological health QOL and substance use within the transgender group studied. In TESUP-1 drug use had a weak correlation between low physical health QOL and low environmental QOL, though this finding was not replicated in TESUP-2. Additionally, in TESUP-2 although there was no statistically significant change in any QOL domain, there was an unexpected relationship between being a smoker and better environmental QOL. Considering the similar relationship between being a smoker and having fewer experiences of gender-related discrimination, rejection, and victimisation, it is possible that current smokers were exposed to less gender minority stress because they had a safer environment. However, it is also possible that tobacco use mediates the relationship between

GMS and QOL, or alternatively it is possible that this unusual finding is a type 1 error, in which a statistically significant effect has been found that does not truly exist. Further research to clarify the specific role of tobacco use as it relates to QOL is necessary.

7.2.3. Does Increased GRC Correlate with Higher Substance Use?

High levels of GRC in the domain of RABBM were consistently associated with high-risk alcohol and drug use, and in TESUP-2, RE and SPC were also associated with high-risk alcohol and drug use, though to a lesser degree. This is an important finding as this is the first research to explore GRC in transmasculine individuals. However, the validity of the GRCS when used for transmasculine samples was called into question. Feedback from participants indicated that many of the questions were not applicable to non-binary individuals, and many participants indicated that their answers were dependent on social context, particularly regarding non-disclosure and perceived safety. Furthermore, in interviews, the concept of compensatory masculinity was often connected to both an increase in GRC and in substance use, which potentially indicates unique experiences of GRC that affect transmasculine individuals, but not cisgender individuals. I argue that transgender people have an inherently disparate experience of gender socialisation compared to cisgender people, which raises further questions regarding the application of the GRCS to transmasculine populations in its current form. Given these issues, I suggest that a separate version of the measure should be developed and validated for use with transmasculine individuals, with particular attention given to the inclusion of masculine non-binary individuals.

7.2.4. Does Increased GMS Correlate with Higher Substance Use?

The results reveal that experiencing gender minority stress was common for the participants of this study, and the distal GMS factors in particular were associated with high-risk substance use. The relationship between GMS and drug use was more pronounced than with alcohol use, and in TESUP-2, gender-related victimisation was a significant predictor of high-risk drug use. Numerous participants felt as though negative interactions with others due to their gender identity had increased during the pandemic and described how discriminatory media coverage debating trans rights increased their feelings of anxiety and isolation during lockdown. Furthermore, difficulties accessing transition-related treatment increased during the pandemic, and likely contributed to the GMS domains of rejection and negative expectations for the future; both of which significantly increased between TESUP-1 and TESUP-2. These findings align with previous research in this area and suggest that interventions aimed at improving mental health or reducing substance use should take a trauma-informed approach within a gender minority stress framework. Utilising the GMS framework for clinical assessment and intervention is crucial, due to the historical pathologisation of trans experiences and reasonable responses to systematic oppression and gender-related victimisation. The results of this study suggest that this is particularly relevant for individuals seeking support to reduce drug use, therefore the importance of interventions which acknowledge the historical (and current) harm that the medico-legal system has inflicted on transgender people in the UK cannot be overstated.

7.2.5. Is Resilience a Protective Factor Against Issues with Substance Use?

Throughout both phases of this study, the hypothesised protective role of the resilience measures of identity pride and community connectedness were not supported.

Community connectedness was not associated with any type of substance use. Identity pride was associated with an *increase* in high-risk alcohol and drug use, which was the opposite of the hypothesised effect. Further investigation into identity pride in TESUP-2 revealed that participants distinguished between personal identity pride and community pride, typically only feeling pride for the latter. Some participants reported difficulties in expressing or feeling pride of their identity due to multiple negative experiences of GMS. Participants who did report feeling personal identity pride tended to also report a strong sense of belonging within the trans community, in addition to engaging in advocacy and awareness work. This provides support for the Transgender Resilience Intervention Model (TRIM; Matsuno & Israel, 2018), which suggests that group-based interventions that encourage positive appraisals of identity and finding or becoming a role model can buffer negative effects of GMS.

Taking into consideration the protective effect of positive peer influences that was discussed in TESUP-1, in addition to the promising initial findings from trials using TRIM, it is recommended that to build resilience and community connections within the trans community, researchers and clinicians should prioritise developing group-based interventions which encourage positive peer influence, positive self-appraisal, and community leadership skills. It is particularly important that such interventions should be trans-led and community-based, given the frequency of discrimination and transphobia in healthcare settings.

Finally, the interviews with participants indicated that it tended to be participants in the high-risk substance use group who reported positive experiences of building connections in the trans community. Additionally, it was observed that multiple participants had negative experiences of online interactions with other transgender people, and a feeling of rejection from the community sometimes contributed to increased substance use. This is a particularly important finding given the current COVID-19 pandemic; many support or social groups

moved online, and for individuals who struggle with online communication, this may have contributed to further isolation. Therefore, future research should focus on exploring the wellbeing of transgender individuals who socialise online versus offline and investigate how to enable building community connections in times of COVID-19.

7.2.6. Are Psychopathological Symptoms Associated with Substance Use?

Psychopathological symptoms were consistently associated with high-risk substance use in both stages of TESUP. Many of these symptoms significantly increased during COVID-19, most notable, the mean number of symptoms (PST) endorsed increased by 7.4 points between TESUP-1 and TESUP-2. Interestingly, this increase was not related to an increase in distress. This may be because participants commonly reported coping with distress through substance use, which lowered their subjective rating of distress in the SCL-90-R. There is a lack of research which uses this measure of distress with transgender populations. Given the unexpected influence of PST on substance use, and its variation from previous literature which suggests that GSI is a better indicator of psychological distress, further investigations are necessary to clarify this relationship.

A striking result was the disproportionate affect that COVID-19 had on individuals with neurodevelopmental disorders, such as ASD and ADHD. These participants reported increased distress related to existing symptoms that were exacerbated by the ambiguity of COVID-19 restrictions and isolation during lockdown. Warrier et al. (2020) has indicated that ASD is more common in the transmasculine community. Therefore, it is crucial that any interventions that are aimed at mitigating the impact of COVID-19 in this population should be sensitive to issues around intersectionality and the unique stressors that transmasculine people with neurodevelopmental disorders might face.

7.2.7. Is There a Specific Personality Profile for Individuals who Engage in High-Risk Substance Use?

Throughout this project, personality traits were revealed to be a significant factor which contributed to high-risk substance use. To my knowledge this is the first study which explores the personality profiles of transmasculine individuals in the context of substance use. The results indicated that high-risk substance users had statistically significantly higher scores in NS and ST and lower HA and CO, compared to the low-risk group. In both TESUP-1 and TESUP-2, NS significantly predicted current smoking status; low NS was associated with current tobacco use. Based on interviews with participants, it was theorised that smoking behaviours were associated with a pursuit of masculinity or experiences of peer pressure. This finding contradicts previous research which indicates that high NS is associated with current tobacco use, however, all of these studies were based on cisgender samples. Further investigation is necessary; it would be particularly valuable to compare the personality traits and smoking behaviours of transgender individuals to that of a control group consisting of cisgender participants. It would also be interesting to explore the tobacco use of transfeminine individuals to transmasculine individuals, to further clarify correlates of smoking in the transgender population.

Given the significant influence of HA and CO on predicting low-risk substance use, it is worth exploring whether therapeutic interventions which focus on changing character traits, such as through mindfulness-based meditation, could be useful in reducing high-risk substance use. Additionally, the results suggest that the participant's own self-assessment of whether they are an impulsive or cautious person is related to whether they engage in high-risk substance use. This is a valuable finding, as it could provide clinicians with the ability to

make faster preliminary assessment of risk, which would be useful in primary care and emergency settings. However, this finding was based only on the observations of interviews with nine participants at two time points, therefore further experimental investigations with a larger sample size are necessary to determine how and when to utilise this knowledge in clinical settings.

7.2.8. What is the Impact of Transitioning and Masculinities on Substance Use?

Although no stage of transition was associated with lower levels of substance use, participants consistently reported that transitioning reduced dysphoria and increased feelings of confidence and happiness. Participants conceptualised moving along the transition path as changing their relationship with substance use from a maladaptive coping method to an enjoyable, social pastime. These results suggest that rather than a specific stage of transition being associated with changes to substance use, it is instead a sense of security and confidence in one's gender identity that may be related to a reduction in substance use and misuse.

Participants reported regularly enacting compensatory masculinity through increased substance use, so as to communicate their masculine identity and be gendered correctly by others. It is particularly important to transgender individuals to ensure that they are correctly gendered – not only for external validation of their gender identity – but also to ensure their own safety. Multiple participants described how non-disclosure of their trans identity was important to them, and how they would sometimes increase their substance use in response to peer pressure or social expectations, to preserve their 'stealth' status.

7.2.9. What Contexts and Situations are Associated with Substance Use and What Do These Mean to the Participants?

Typically, the participants in this study conceptualised substance use as either a coping mechanism or as a social activity. Participants described how in social settings they would use alcohol or drugs to increase confidence and reduce social anxiety. In this context, some participants would use substances to help ease coming out as trans to others or to have difficult conversations about dysphoria or mental health. It was also observed that gender dysphoria typically arose in the context of intimacy and sexual relationships, with some participants purposefully getting drunk to feel comfortable in these situations. A review of relevant literature reveals a critical gap in the research about the relationship between dysphoria, sex and intimacy, and substance use. Given the findings of this study and the lack of research on this topic, it is recommended that further research is conducted to tailor appropriate substance use reduction interventions to this community.

Due to psychopathological symptoms and experiences of GMS, participants frequently reported experiences of distress that they did not know how to tolerate. An inability to tolerate distress and to respond to distress with maladaptive coping mechanisms, such as substance use, was commonly reported. Furthermore, these narratives were largely unchanged between TESUP-1 and TESUP-2, indicating that participants were encountering the same struggles in their lives, and responding to them in a consistent manner. Low mood during the day had a particularly negative effect on ability to sleep and symptoms of insomnia; due to the high prevalence of sleep disorders in this population, further investigation into this is recommended.

Additionally, there was a novel finding that participants who found it difficult to tolerate ambiguity and frustration typically responded by an increase in alcohol use, whereas

participants who struggled to cope with mental health or dysphoria-related distress tended to cope by using drugs (namely cannabis and LSD). That individuals may respond to gender dysphoria using dissociative or psychedelic drugs, in order to distract themselves and build a more positive relationship with their body is an important finding. To my knowledge there have been no investigations into distress (in)tolerance and coping methods in the context of SUD in transgender individuals. It is recommended that future research should focus on this area to fully explore coping responses to different types of distress.

The high occurrence of distress intolerance in this study suggests that this may be a prevalent issue in the transgender community. Studies have demonstrated that DBT-ST is a cost-effective and efficacious method of helping people reduce distress and regulate their emotions. It should be explored whether this intervention may be useful for transgender individuals who are struggling to tolerate distress, particularly because the group-based format of DBT-ST would contribute to building community connections. To this end, it would be worth exploring whether DBT-ST delivered within a TRIM framework would be beneficial for transgender individuals, as a method of increasing resilience, providing peer support, and building healthy coping strategies.

7.2.10. What Factors Contribute to a Cessation or Reduction of Substance Use?

Participants who felt supported by their partners, family, and friends were typically in the low-risk group and stated that because the people around them did not engage in substance use, neither did they. Some participants in the high-risk group described how building relationships with people who don't drink alcohol or use drugs was a positive influence on their own substance use. The effects of positive peer influence can also increase resilience, as discussed in TESUP-1. Therefore, community-based support and interventions,

that include the opportunity to become a role model in the community, can contribute to a reduction or cessation of substance use.

Many of the protective factors that were identified related to harm avoidance. Concerns about the consequences of substance use on one's physical or mental health was an often-cited reason for not engaging in substance use, as well as worries about risks to personal safety while intoxicated.

Risk to personal safety while intoxicated was also a concern for some participants in the high-risk group and they described how staying alert to side-effects of mixing substances, and looking out for their friends, were their usual methods of risk management.

7.2.11. What Was the Impact of the COVID-19 Pandemic on Substance Use Within the Transmasculine Community?

The COVID-19 pandemic has had, and is continuing to have, a substantial impact on the transgender community. Both the frequency and quantity of alcohol and drug use increased significantly, in addition to the number of participants engaged in high-risk alcohol use, between TESUP-1 and TESUP-2. Some participants communicated their belief that alcohol use had been normalised and encouraged during the pandemic (particularly the first national lockdown), and that their alcohol use increased due to this. Other participants reported that their increase in substance use was an attempt to cope with anxiety and isolation that resulted from the pandemic and related lockdown measures. In addition to this, some participants described how they turned to alcohol and drugs to manage their stress when their usual coping methods (such as socialising and swimming) were unavailable to them due to the pandemic.

Increased difficulties in access to transition-related healthcare were also associated with high-risk substance use. Participants reported concerns about longer waiting times and delays to surgical interventions which prompted an increase in substance use. Furthermore, participants also reported an increase in discrimination and victimisation during the pandemic, both of these factors were associated with high-risk substance use. It is recommended that improving access to transition-related healthcare and promoting communication between healthcare providers and service-users should be prioritised when seeking to restore healthcare services post-COVID.

7.3. Limitations

Whilst this research makes some novel and valuable contributions to our understanding of substance use and SUD in the transmasculine community, there are some limitations to this work.

Firstly, the participants in this study were overwhelmingly white British, and skewed to a younger age, therefore the findings of this study may only be generalisable to a rather homogenous group within the transmasculine community. On reflection, more steps to engage the BIPOC transmasculine community in this research and promote recruitment should have been taken; a more diverse insight into experiences of substance use would enhance our understanding of this issue. It is possible that the language used during recruitment limited engagement from BIPOC groups; research has shown that language which is associated with stigma in certain communities is a limiting factor to research recruitment (Ellard-Gray et al., 2015). Additionally, because I am white, potential BIPOC participants may not have trusted that I would be accurate in the interpretation of their experiences or had mistrust about the research process. In order to address these issues in

future, a potential strategy would be to form a research participant advisory committee, who would be able to provide guidance on the issues of cultural and linguistic differences. Such a committee would be representative of the demographics of the trans community and would strive to represent marginalised voices, this committee would also have the opportunity to review the interpretative and analytical process in order to ensure transparency and validity of the findings for all participant demographic groups.

Secondly, while an in-depth exploration of substance use in transmasculine individuals contributes important knowledge to the field of psychology and trans studies, it is difficult to understand these results in a wider context, due to the focus on transmasculine identities. Limiting the scope of this research to only transmasculine participants was necessary, but it makes comparisons to other transgender identities and to cisgender populations difficult. Research that includes people of all gender identities could offer further insights into the convergence and variation of experiences between different trans identities and cisgender identities.

Finally, the operationalisation and the appropriateness of some measures used in this study were questioned during analysis of the results. As has previously been pointed out, the operationalisation of 'stage of transition' and the GRCS both received critical feedback from participants as being too limiting and not reflective of their lived experiences. Furthermore, in the case of the GRCS, participants perceived some questions as hetero/cisnormative and were uncomfortable with the portrayal of gender roles in the questionnaire. Therefore, it is acknowledged that there are some limitations to using these measures in the study which may have impacted the results of the research. Future research using similar measures should seek to improve how the concepts of 'stage of transition' and 'gender role conflict' are operationalised for use with transmasculine participant samples.

7.4. Concluding Thoughts

This study has demonstrated how transmasculine individuals are disproportionately affected by SUD, and how the effects of COVID-19 and lockdown measures have negatively impacted the mental health of this community. Being transgender in the UK can feel, for some, like they have to defend their existence daily, and the knock-on effect of this and other experiences of gender minority stress results in worse health outcomes for trans individuals. Many participants had experienced barriers to accessing healthcare, particularly transition-related healthcare, and due to the COVID-19 pandemic these barriers have increased.

Although the narrative of this thesis has been one of distress, negative outcomes, and barriers, it is crucial to point out that this is largely due to the treatment that transgender individuals currently receive in UK society. Furthermore, it is hoped that by focusing on the ways that transmasculine people currently struggle, the situation can be improved for future generations. Many participants in this study expressed joy, gender euphoria, and pride in their community, they communicated that there is much more to being transgender than dysphoria, and that there is beauty in living an authentic life. Therefore, this thesis will close with the words of Zack, who had this to say about being transgender:

"I am very, very, proud of being trans, and I am very vocal about it. I just want to say, despite how bad things have been this year, transitioning has impacted my life beyond positively ... I've felt so much euphoria recently from reaching my transition milestones. It's not all doom and gloom, I love this community and it's so inspiring to see people fighting for trans rights. I'm happy being trans ... I wouldn't change it"

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Appendix A: Pilot Study SSIS for Interviews

- Can you tell me about how you came to know that you're transgender?
  - How old were you?
  - How did you feel? How did you deal with that internally?
  - What actions did you take? If none, why?

- What path did you take to get to where you are today?
  - Successes and difficulties?

- Can you tell me about your coming out experience?
  - How did you feel?
  - How did your family and friends react?
  - What action did you take? If none, why?

- After you came out what did you imagine your transition would be like? What did you hope for?
  - How does that compare to your experiences thus far?

- Do you celebrate milestones in your transition?
  - Which ones and why?
  - If not, why? Did you used to and have now stopped? If so, why?

- How would you describe your method of transition?
  - What were your aims and goals?
  - How did you achieve them?
  - Have your aims and goals/route of transition changed over time?
  - Current aims/goals?

- What role would you say the GIC has played in your transition?
  - Positive or negative? Why?

- Where do you see yourself in 1, 5, 10 years?

- Is there anything you discovered through transitioning that you wish you had known about sooner?

- What advice would you give to someone just beginning their transition?
  - What do you wish you had known?

Appendix B: Pilot Study SSIS for Focus Group

- Does anyone here celebrate milestones in their transition?
  - How?
  - Why is it significant/ what made you want to do that?

- Has transitioning affected how you view your own identity (your role in society, in your family, who you are as a person)
  - How? Positive/negative?
  - How has it affected everyday life and how you interact with other people?

- What role has medical care played in your transition?
  - NHS/Private
  - Was it different to how you expected? What did you expect? What did you find?

- In what ways could healthcare provisions for trans men be improved?
  - Fertility treatment was flagged up in interviews
  - Communication between GIC and individual was flagged up in interviews
  - Is there anything you *wouldn't* change about healthcare services?
  - What other services would be useful during transition?

- How would you describe the various stages of transitioning in general?
  - Would it be linear?
    - Can it be conceptualised in this way?
  - [specifically] How to ask participants about where they are in their transition?

- Do you have any ethical concerns regarding studies into trans men?
  - What would you like researchers to know?
  - How would you like to be involved in research?
  - Do you think focus groups like this are useful? Do you think they ought to be done every time?

Appendix C: TESUP-1 SSIS for Interviews

- Can you tell me a bit about yourself?

- Can you tell me about your transition?
  - How did you get to the point you're at today?
  - Triumphs, struggles?

- What drugs/drinks do you usually have? (AND how much in 1 session & per week)

- In what situations do you use drugs/alcohol?
  - Who do you use drugs/alcohol with?
  - Do you ever do it alone? In what situations?

- Are there any events or situations that trigger the urge to have alcohol or drugs?
  - Celebrations, stressful life events, transphobia, socialising?

- How did you first start drinking/using drugs?
  - Have your habits around drinking/drugs changed over time?

- How does drinking/using drugs make you feel?
  - Does this differ from when you're sober? How?

- Why do you think you drink/use drugs?
  - What are the good aspects
  - bad aspects of your alcohol/drug use?

- Is there anything that makes you drink/use drugs more or less?
  - Why do you think this is?
  - How do you cope if you have the urge to drink/use drugs but can't?

- Did transitioning change how you use drugs/alcohol?
  - Did it change your attitude to drugs/alcohol?
  - Has your drug/alcohol use affected your transition in any way?

- Do you think masculinity is related to your attitudes/behaviours with drugs/alcohol?

- How do you think drinking/using drugs has an impact on your physical health
  -or mental health? positive and negative

- Do you think your alcohol/drug use is manageable?
  - If you felt you needed to would you seek help for your alcohol/drug use?
  - Do you know where to go if you want support?

Appendix D: TESUP-2 SSIS for Interviews

- Can you tell me about what may have changed in your life since we last spoke one year ago?
- Has your transition journey changed in any way over the past year?
  - Identity (pride in identity? – what makes you proud/why)
  - Goals & Progress (first appointment, hormones, surgery)
- Can you describe your health and wellbeing over the past year?
  - physical health
  - mental health
  - social life
  - transition progress and support in transition – impact on wellbeing
  - if negative experiences discuss coping strategies and social support
- Has the amount or frequency of alcohol or drug use changed in the past year?
  - what elicited this change
  - can you describe your feelings or thoughts regarding this change
- Do you think your substance use was affected in anyway by the COVID-19 pandemic or lockdown measures?
  - Follow up on why (either way)
  - Focus on transition, mental health, socialising/isolation (if relevant)
- Can you describe to me a time in the past year where you have taken drugs or drank alcohol?
  - how did you feel about yourself
  - what were your thoughts during this period of substance use
  - what was happening in your life at the time
  - how did you deal with what was happening in your life at the time
- What do you think are your typical reasons for using drugs or drinking alcohol
  - can you describe what happens when this reason occurs
  - have there ever been other reasons for drinking or using drugs
  - have you ever used substances to enhance a good mood or regulate negative emotions? – can you give me an example of this?
- Do you consider yourself to be an impulsive person?
  - (yes) Can you describe a time where you acted impulsively – consequences, feelings about self – does this impact your substance use?
  - (no) do you conder yourself to be a cautious person – what factors do you consider when making a decision – does this impact your substance use?
- Do you feel like you have ever experienced discrimination or victimisation due to your transgender identity?
  - can you describe a time when this happened?
  - how did you respond in the moment – and afterwards
  - can you describe how you felt when this happened (generally and about yourself)
- Is there anything you'd like to add that we haven't discussed?
  Do you have any questions or concerns?

<u>Individual topics to cover.</u>

Aaron: frequent urges to drink (due to stress)

Bailey: use of painkillers (sometimes with alcohol) to manage pain or distress

Cody: substance use to lower inhibitions and have difficult conversations with friends (dysphoria/mental health)

Darren: struggles with trans identity/social isolation – harmful coping strategies (self-harm and alcohol use)

Ezra: process of decision-making in substance use (RISK vs. reward)

Gale: process of balancing risk and safety in substance use (impact of peers)

Jeremy: worries about progress of lower surgery (impact on substance use)

Logan: difficulties self-regulating alcohol consumption (binge-drinking)

Owen: substance use to lower inhibitions, have difficult conversations with people (if appropriate ask about alcohol use to reduce dysphoria and be intimate with girlfriend)

Parker: substance use to regulate emotions (triggers: arguing with girlfriend, boredom, poor mental health)

Rowan: coping mechanisms for distress (alcohol use, disordered eating, dysphoria)

Simon: Experience of substance use reduction services (progress on reducing cocaine use)

Zack: influence of mental health on substance use and coping mechanisms (self-harm, substance use as self-harm)

Appendix E: TESUP-1 Stage of Transition Comments

R_001

I feel like I'm post-transition because I've discharged myself from the GIC, and I'm happy with my body in its current form. I haven't had bottom surgery so I guess some people would say I'm not post-transition, but I don't want it.

R_004

I haven't had a GIC appointment yet. I've been waiting 2.5 years. I can't get a bridging prescription from my GP despite mental health issues. However, I feel that I am early in my trans journey as I am very self aware. I have at least changed my name (although not by deed poll yet). I know who I am, just I'm not far on the journey to be that guy.

R_005

I have been out socially for 3 years and have started T, however as I have more changes to come and still am waiting for top surgery and hysto I'm only considering myself as mid transition

R_006

I have completed all of the aspects of transition that I am certain I want to go through. I have socially transitioned, I am on testosterone medication, and have had chest masculinisation surgery. I am still considering other surgeries, but for now I am finished with my transition.

R_007

I don't think I'll ever be post-transition, but I'm not planning on having any further surgeries or interventions (other than restarting testosterone as I've currently paused to try and conceive)

R_008

I perceive transition to start from the beginning of social coming out, and the end is highly personal for each not cis people to decide

R_011

I have been on hormones for 6 years, had top surgery 4 years ago, and will not be having bottom surgery. I pass 100% of the time, and do not often think of being trans any more unless it's prompted. I would consider this transitional period of my life to be over, and I am now in the process of acclimatising as a man in society.

R_012

I have been on testosterone for 2 years and am looking into top surgery (which looks like it's going to take a while, thanks NHS..) and eventually probably bottom surgery. The longer my transition goes on, the more I want phalloplasty despite the risks it seems, but I guess we'll see.

R_013

I identify as late transition as it has been a few years already since I began transitioning (5), I have been taking hormones for 4 years now and have been living comfortably (rarely misgendered if at all) for the last couple of years. I have also had top surgery and my body has been significantly masculinised by the hormones. I am not considering lower surgery for the time being. I don't think, personally, that there is such as stage as 'post transition' for me.

R_015

No option to suit me, feel I am myself but not "doing" anything actively

R_016

I feel like my transition is mostly over because socially it's something that isn't really relevant any more as people largely don't know I'm trans, despite the fact that I am still waiting to undergo chest surgery which for me is a necessary step in my transition. It almost feels like the large part of transition for me is more about coming out, mentally sorting through my perception and feelings about my gender and how I'm seen by others, and allowing me to be more authentic in how I present myself. However, HRT has been a large part of the process in my opinion, and being on testosterone for over 5 years kind of makes me feel that my transition is kind of over, despite ongoing changes.

R_017

On hormones and blockers, no surgeries (on waiting list)

R_018

I've had top surgery and hormones, but am holding off lower surgery until after I qualify as a nurse

R_019

I disagree with having to put myself on the scale. I've never specifically worked towards transitioning as a thing so its kinda impossible to place where I am. All changes towards transitioning have been as/when seems appropriate rather than as a part of some big effort to transition

R_021

Fully socially transitioned for 8 months, HRT for 2 weeks.

R_022

I don't really like this scale. Not everyone transitions in anyway so there's no space for them. Transition is multifaceted and non linear so such simple categorisation seems inept to capture reality of experiences.

R_023

I have presented as masculine since puberty and before .. I have undergone transition to further confirm that presentation .. however having never felt comfortable identifying as female .. I am equally not comfortable as being seen as male .. and have little in common with either .. it's been a journey to get where I am ... for the ease of others mostly, I use male pronouns ... gender neutral would be a preference .. but I am tired of the battle of identity ... and for work reasons .. it's ok for now ..my identity is fluid and evolving ... and who knows where it will take me next

R_024

I feel at the point in my transition where I am comfortable. I do not wish to go ahead with any further medical intervention, nor alter any social aspects of my presentation.

R_025

I am completely socially transitioned, on testosterone and happy! I hope to have surgeries in the future so I do not consider myself post transition.

R_026

I've put early transition, because although I began socially transitioning in 2015, I haven't started any medical transition and I only just had my deed poll for name change.

R_027

Out to all my friends, they refer to me as he/him and by my name, out to my 2 sisters who are trying. Have not yet told Mother. Seen GP to be referred to a GIC

R_028

I don't really know muh about trans stuff so it's just a guess I suppose. I've transitioned socially and am in the process of legally changed my name. I have not seeked any professional help with my issues (medical phobia) so I've been dealing with it on my own.

R_030

Nearing the end of phalloplasty

R_031

I consider myself to be Very early in transition. I live full time as male, I have changed my name legally, and everyone in my life calls me the right pronouns. But Im not on testosterone yet. And I do not have a supportive family, as they are the only people to not respect my pronouns.

R_033

i would say i am both late and post transition. i feel like post transition was a mindset I reached a few months after top surgery. i started to fully feel confident in myself and my gender. however, i am still awaiting phalloplasty (with a couple of months to go until stage 1) and i think i may feel that i am "more" post transition in a few years when that is out of the way - but as most trans men stop pursuing further medical interventions post top surgery, and i have now been fully socially transitioned for six years, including the majority of my adult life, and essentially in all aspects of my life i feel i am seen as indisputably male, i feel that post transition is a label i resonate with for now

R_034

- I have socially transitioned (although family still use birth name & she/her pronouns) - I am currently in the process of legally changing my name and getting blood work done for hrt

R_035

I consider myself mid-transition as I am on testosterone but have yet to have any surgery

R_038

I've been socially transitioned for several years, have been on testosterone for ~10 months, and have my top surgery consultation scheduled for later this year, hopefully to get it performed around Easter. Once this is performed, I'd consider myself late transition. I also plan to have bottom surgery with the NHS, but due to the waiting lists, I expect this won't be for another 4 years or so, and then another year or two for all the stages of the surgery + medical tattooing to be complete. At that point I would consider myself fully transitioned.

R_039

Not sure if I will ever feel I have "finished" my transition, or if I do, it will take many years. 4 years in (from first coming out) and 3 years on from starting hormones I still like I'm slowing becoming more and more me.

R_40

Come out to family and on waiting list for GIC but it's a very... VERY long wait.

R_041

I feel I am in mid transition although I have only been able to medically transition at a later age.

R_042

This is an interesting and difficult to answer question; I don't think I will ever know how far along my transition I am because I am alsoway transitioning yet simultaneously not? I chose mid as I have started T but have not had any surgeries I desire.

R_043

I completed transition (as much as I am able/willing to do) in 2014. I am on testosterone, I've had top surgery but declined bottom surgery due to my age and unrelated medical condition. I fully and 100% pass as male.

R_044

Nearly 3 years on Testosterone but still to get top surgery, having top surgery will be my last step in my transition. Socially transition was my starting point (coming out and changing my name)

R_045

I'm on my way to getting Testosterone but currently haven't started physically transitioning, but I've been out for 4 years

R_046

Socially fully transitioned in terms of name change, informed folk of my pronouns, dress how I feel matches my gender etc. Medically part transitioned? 8 months on T. Considering top and bottom surgery in the future.

R_047

I don't have any plans to transition right now

R_048

Personally I'd say Im 100% socially transitioned, but not medically or legally transitioned at all. While I feel somewhat far along as I was non binary for years but in reality I've been out to myself and others as a trans man for less than a year.

R_049

2 months on HRT, socially transitioned at 18/19

R_051

Socially transitioning not yet medically transitioning

R_052

I would say I am mid transition as I have been on testosterone for over a year and am planning on having surgery in January. After surgery I would consider myself late transition, and after bottom; Post-transition.

R_053

I put pre-transition as I am not on hormones and haven't been to see my GP for a referral yet. Though I do bind and pack and present as male socially.

R_055

I'm having top surgery within the next year which is what o need in order to feel comfortable with my chest

R_056

On hrt for 2 years, on a waiting list for top surgery

R_058

Been on testo for about two years, getting top surgery soon. No plans for bottom surgery yet.

R_059

I've had top surgery, I'm on testosterone. I do want bottom surgery but not right now

R_060

I consider myself late transition bc I only have two more stages of lower surgery left and this is the end of my transition in my eyes

R_061

I haven't begun my transition yet as I still need to discuss referral with my GP.

R_062

I define my transition as early based on the goals I personally have and how long it will take for those to be accomplished. I imagine that differs for everyone.

R_063

I've fully socially transitioned, legally changed my name and gotten most of the id I have changed to reflect my gender. I haven't yet started my medical transition, but I think the rest puts me pretty far along the path of what I would consider "fully transitioned" for myself.

R_064

Waiting for top surgery, prescribed testosterone but currently not taking. Transitions began at coming out, transition end after top surgery

R_065

This one is difficult to quantify since what treatments I want and/or need has evolved over time. I am at a point now where I still have treatments yet to go however my dysphoria is diminished to a point of being barely an issue.

R_066

There was not an option to suit me.

R_067

I am currently taking testosterone under the guidance of a private GIC and am on the waiting list for an NHS GIC for top and lower surgery, and have been for two years so far. I would describe myself as mid transition as I have passed one of the major milestones I had knew I wanted to pass for my transition but have not reached a point where I no longer want to persue procedures, medications or treatments.

R_069

I define the start of my transition as when I realised I was trans and started playing with it at 15, 16. I didn't come out to my family until I was 20 or so. I thought of myself pre-transition for years as I am not medically transitioned yet, but have come to think of it as how comfortable I am with myself and how I present.

R_070

I have been on hormones replacement for just under a year and a half. I plan to eventually have various surgeries (mastectomy, phalloplasty) if I can afford them privately

R_074

I think of myself as mid transition because i have socially transitioned but not medically

R_080

I am late in my transition, I am only waiting for one more surgery and then I will consider myself post-transition

R_086

I consider myself post transition because people always see me as male and i do not want any more surgeries but i will always be on testosterone

R_088

I wouldn't say I agree with a linear timeline of transition but if i have to put something i would say late transition because although i dont feel like it will ever be finsihed developing i have been trans for a long time now (6 years)

R_089

I'm fucking done with everything!!!

R_091

I would say that I have fully transitioned socially, but have not yet started medically transitioning due to long waiting lists at the gender clinic. I would also say that my transition started before I came out, when I was "coming out" to myself, and learning to accept myself as trans, even still in the closet. I was surprised that it took me a lot longer to be comfortable with being visibly and openly trans than it did for other people to accept me, as people around me were pretty supportive, whereas I was very nervous about being seen as trans by other people, and put a lot of energy into passing as cis male when I first came out.

R_094

I wouldn't ever say that I would be post transition because I think my gender identity is always transitioning into something more comfortable to myself and something i gain understanding of as time passes

R_098

I consider the start of my transition to be the day I started social transition (coming out in school + work, changing my name, and living as male). I have now had all the medical procedures I feel I need,

and changed (almost) all things legally. I don't call myself post-transition because a) I'm not quite yet sure if I will need more surgeries in the future - I don't know how my feelings on it will change - and b) there are still some lingering legal documents to change.

R_099

I placed myself mid-transition since I have a fairly medical view of my own transition. I'd classify my coming out as the start of my transition, and now that I'm on HRT I feel I have made good progress towards living my own life as myself, and thus think mid-transition is an acceptable place.   I'd classify getting top/bottom surgery or hysto as moving into my late transition, as well as being on HRT for a significant amount of time (3+ years) I am done with my transition when I have reduced my dysphoria to manageable background levels

R_101

If you are thinking of this in the medicalised way that the gender clinic do then I would say late transition because I only have one more surgery, however I do not identify with this way of conceptualising transition, it is much more flexible and personal than any cis practictioner could understand

R_104

I wouldn't normally think of transition on a scale but this fits the best

Appendix F: SCL-90 Comparison Table

Table F.1. SCL-90 Comparison table between TESUP-1 and -2 and four different samples from studies using the SCL-90 to measure psychopathological symptoms.

	Phase 1 (present study; Mills, 2022)	Phase 2 (present study; Mills, 2022)	Spanish FTM Sample (Castelo-Branco et al., 2021)	German FTM Sample (Auer et al., 2013)	US Outpatient Comorbid SUD sample (Zack et al., 1998)	British cis male community sample (Francis et al., 1990)
Age (*M*)	25	26	27.01	32.38	37.1	44
Total (*N*)	105	82	76	32	740	150
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*
SOM	1.26 (.82)	1.39 (.89)	.69 (.66)	.56 (.50)	1.18 (.76)	.43 (.57)
OBC	1.83 (.91)	2 (.93)	.91 (.84)	.58 (.56)	1.67 (.86)	.59 (.63)
INS	1.65 (.91)	1.73 (.96)	.84 (.72)	.59 (.77)	1.57 (.89)	.58 (.72)
DEP	1.77 (.88)	1.80 (.91)	1.14 (.92)	.45 (.55)	2.13 (.89)	.42 (.65)
ANX	1.45 (.93)	1.58 (.93)	.75 (.75)	.36 (.51)	1.68 (.90)	.45 (.60)
HOS	1.21 (.98)	1.33 (1)	.65 (.78)	.46 (.66)	1.17 (.93)	.44 (60)
PHO	1.21 (1.03)	1.52 (.99)	.50 (.67)	.19 (.42)	1.00 (.94)	.24 (.50)
PAR	1.18 (.86)	1.26 (.95)	.89 (.85)	.49 (.66)	1.41 (.93)	.54 (.65)
PSY	1.17 (.85)	1.30 (.98)	.66 (.64)	.25 (.35)	1.19 (.78)	.27 (.48)
GSI	1.45 (.80)	1.56 (.84)	.83 (.69)	.45 (.48)	--	.44 (.47)
PST	59.1 (25.23)	60.41 (26.61)	--	--	--	14.46 (10.43)
PSDI	2.07 (.54)	2.16 (.52)	--	--	--	1.38 (.56)

Appendix G: WHOQOL-BREF Comparison Table

Table G.1. WHQOL-BREF Comparison table between TESUP-1 and -2 and four different samples from studies using the WHOQOL-BREF to measure quality of life.

	Phase 1 (present study; Mills, 2022)	Phase 2 (present study; Mills, 2022)	AUS general population (Hawthorne et al., 2006)	Spanish transgender sample (Gomez-Gil et al., 2013)	UK 'psychiatric conditions' sample (Skevington & McCrate, 2012)	UK 'lifestyle conditions' sample (Skevington & McCrate, 2012)
Age (*M*)	25	26	48.2	31.2	44.5	44.5
Total (*N*)	105	82	866	193	77	121
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*
Physical Health	60.13 (18.27)	57.88 (16.38)	73.5 (18.1)	63.51 (17.79)	54.57 (20.62)	54.06 (20.20)
Psychological Health	47.65 (18.70)	48.01 (17.11)	70.6 (14.0)	56.09 (16.27)	45.93 (25.99)	54.15 (16.76)
Social and Relationships	58.73 (21.72)	60.01 (19.51)	71.5 (18.2)	60.35 (21.88)	61.91 (20.80)	56.71 (23.95)
Environment	58.45 (16.59)	59.64 (15.46)	75.1 (13.0)	55.44 (27.18)	61.00 (17.02)	60.45 (17.12)

Appendix H: TESUP-1 Correlations Additional Information

1. Demographics

For correlations with demographic data Pearson (*r*) was used, or Spearman (p) for non-parametric data. Point bi-serial correlation was used for the gender variable which was measured as either binary or non-binary.

Figure H.1. Scatterplots of tobacco, AUDIT, DUDIT, age, stage of transition and level of education
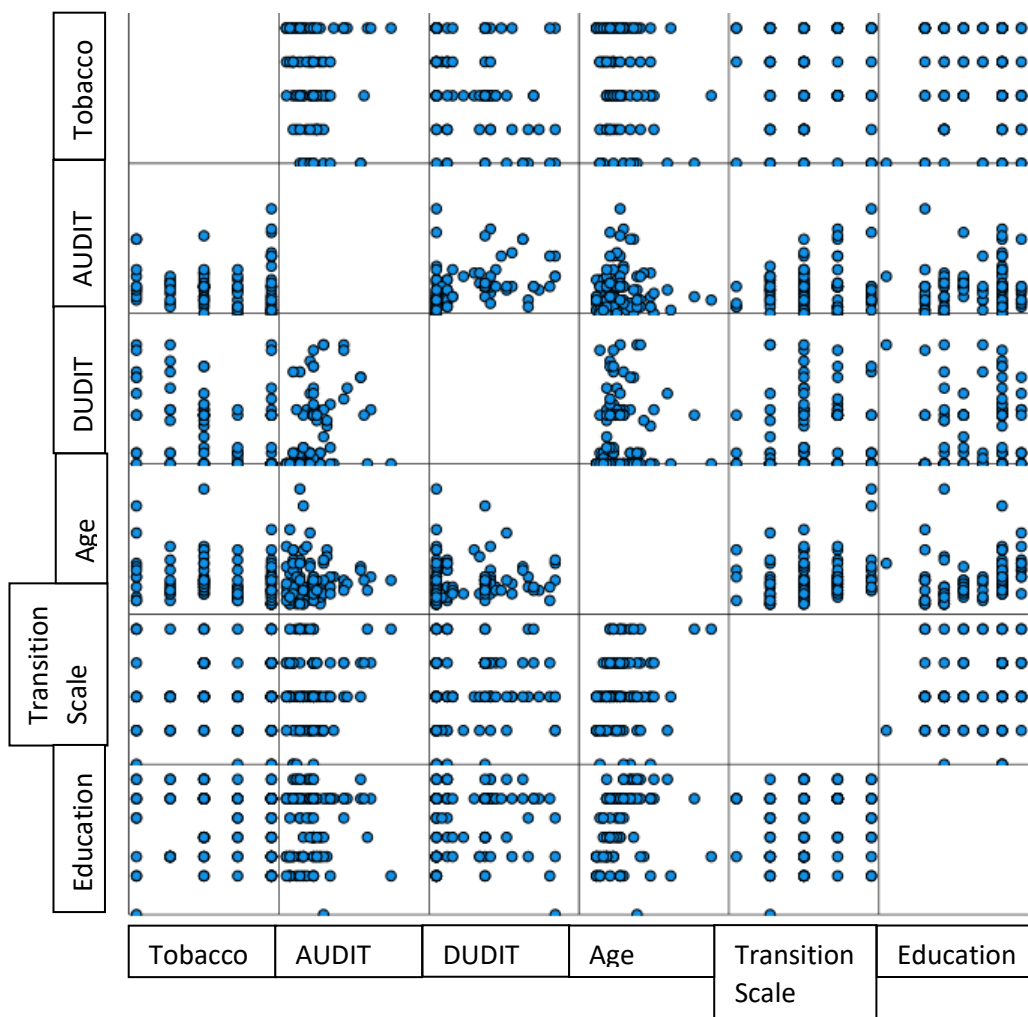
2. Quality of Life

Figure H.2. Scatterplots of tobacco, AUDIT, DUDIT, and the four domains of the WHOQOL-BREF measuring quality of life
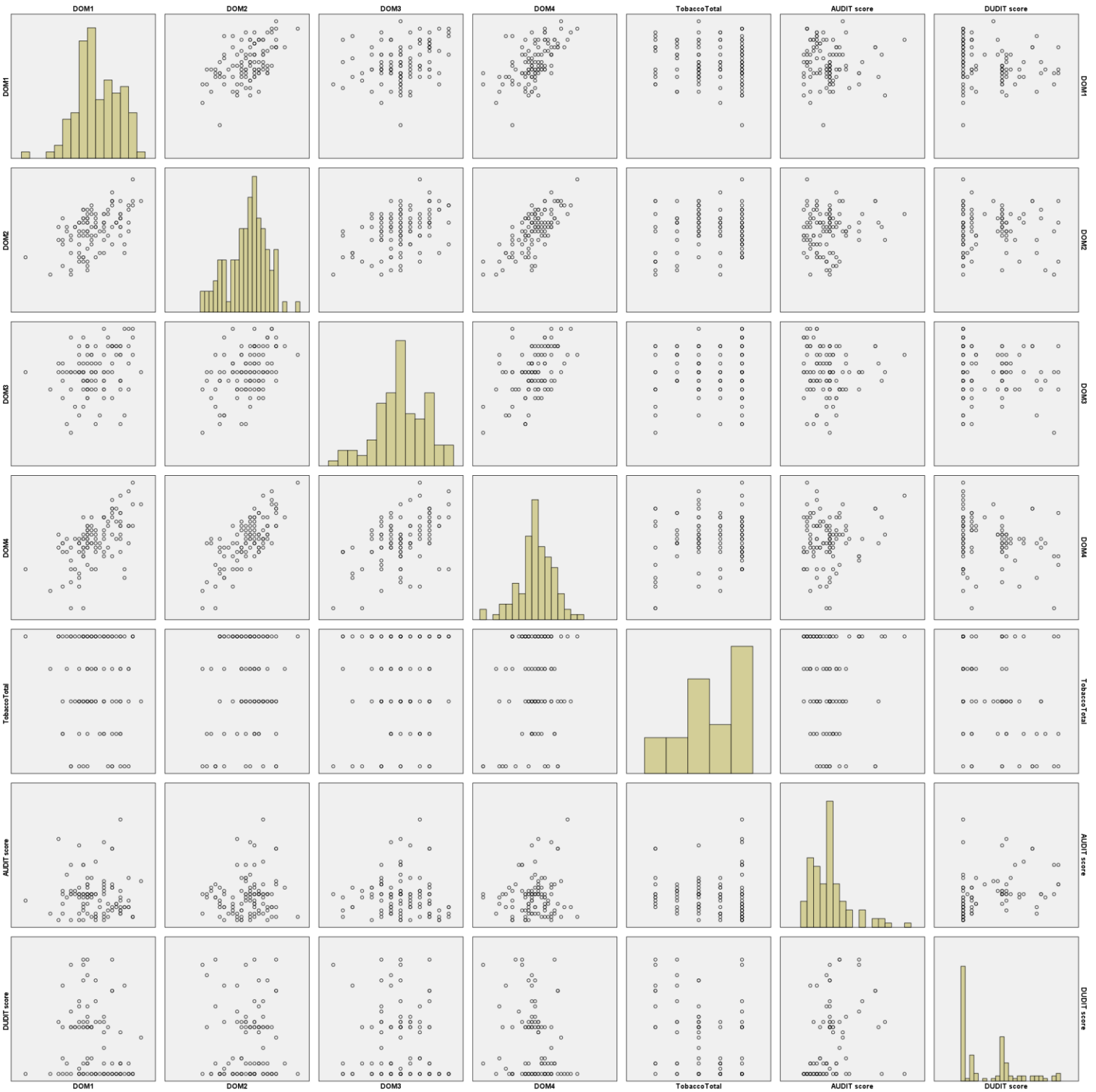
3. GRCS

Figure H.3. Scatterplots of tobacco, AUDIT, DUDIT, and the four domains of the GRCS

4. GMSR

Figure H.4. Scatterplots of tobacco, AUDIT, DUDIT, and the nine domains of the GMSR
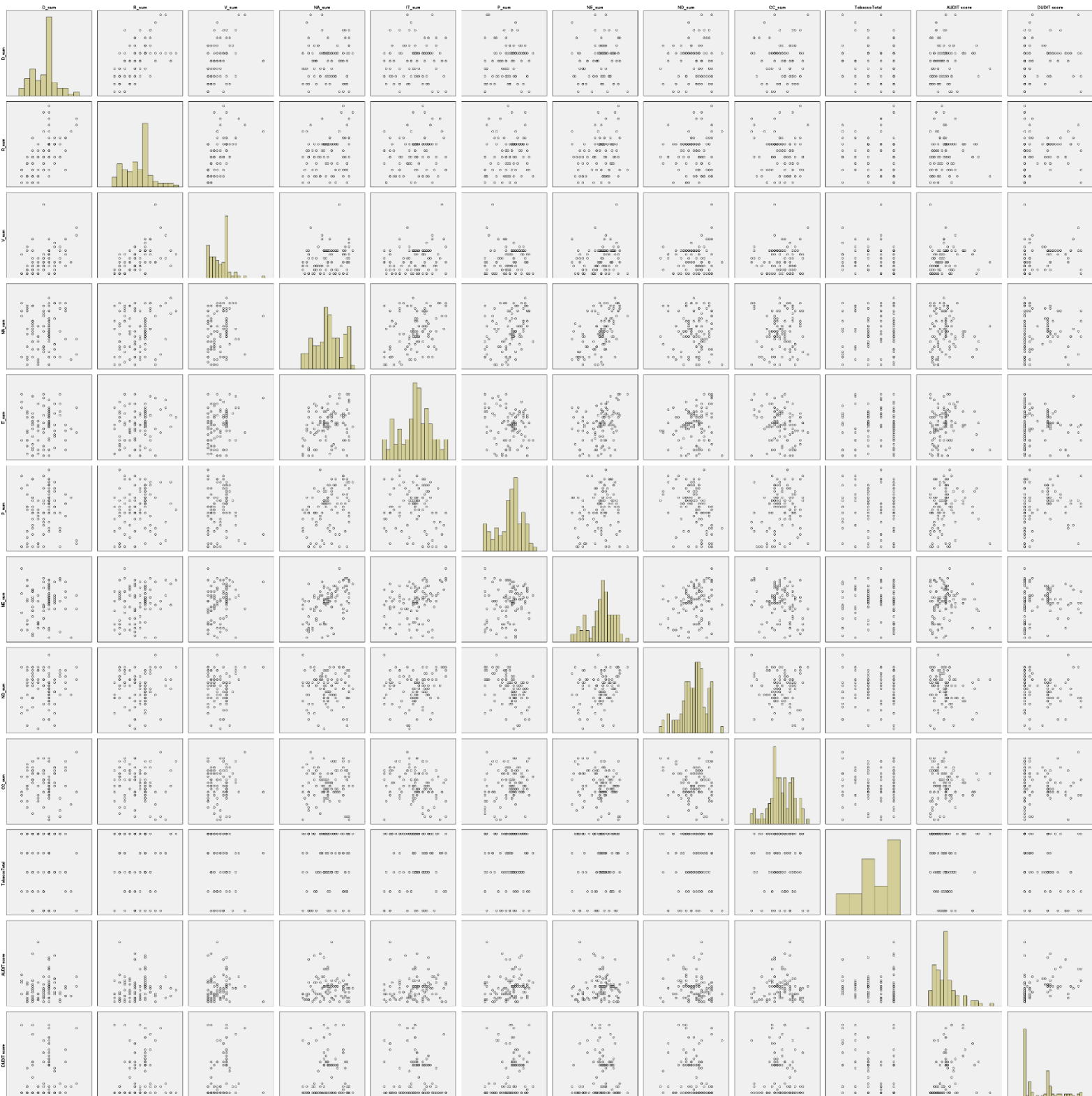
5. Psychopathological Symptoms

Figure H.5. Scatterplots of tobacco, AUDIT, DUDIT, and the nine symptom domains of the SCL-90-R
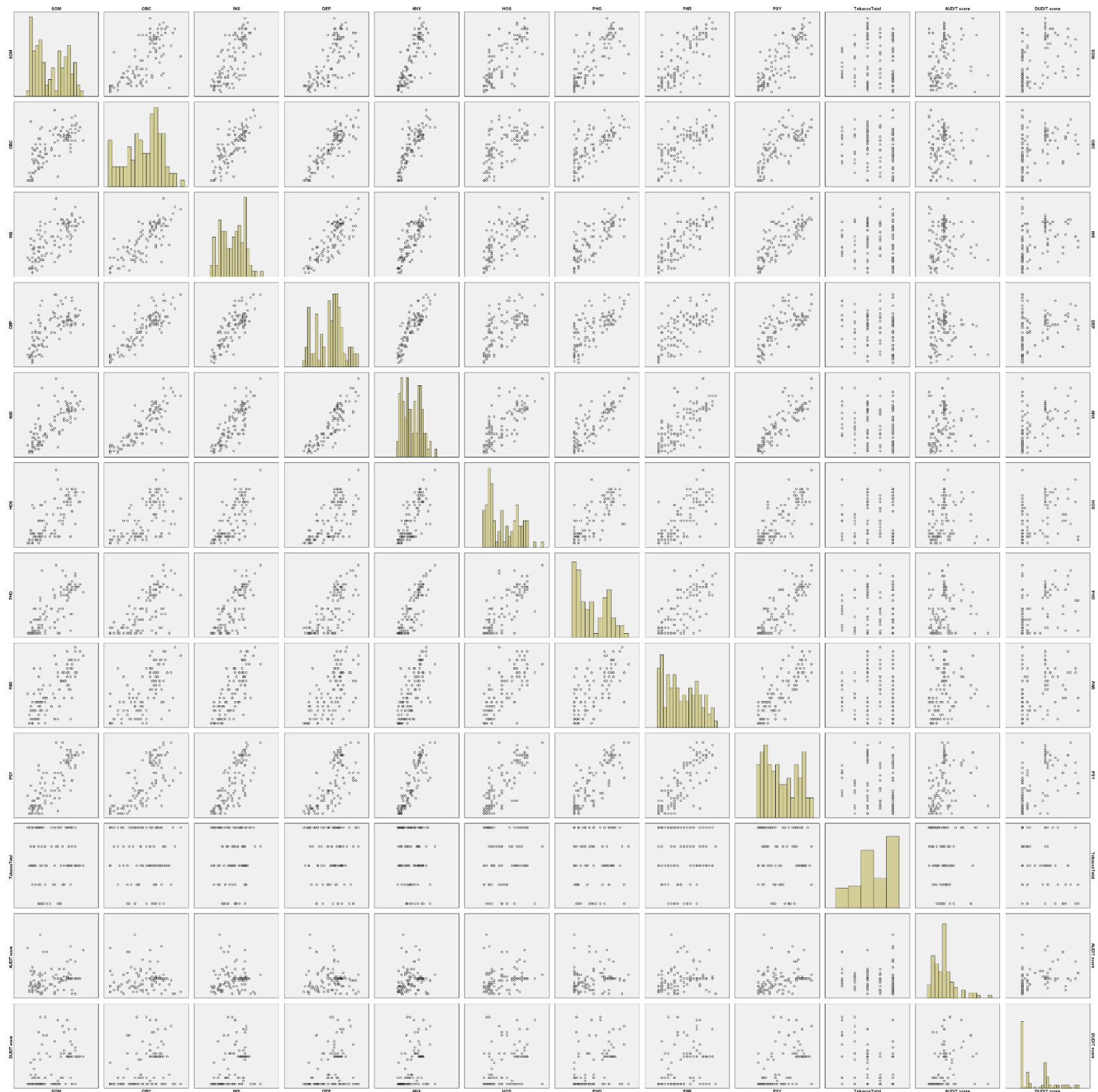
Figure H.6. Scatterplots of tobacco, AUDIT, DUDIT, and the three global measures of the SCL-90-R
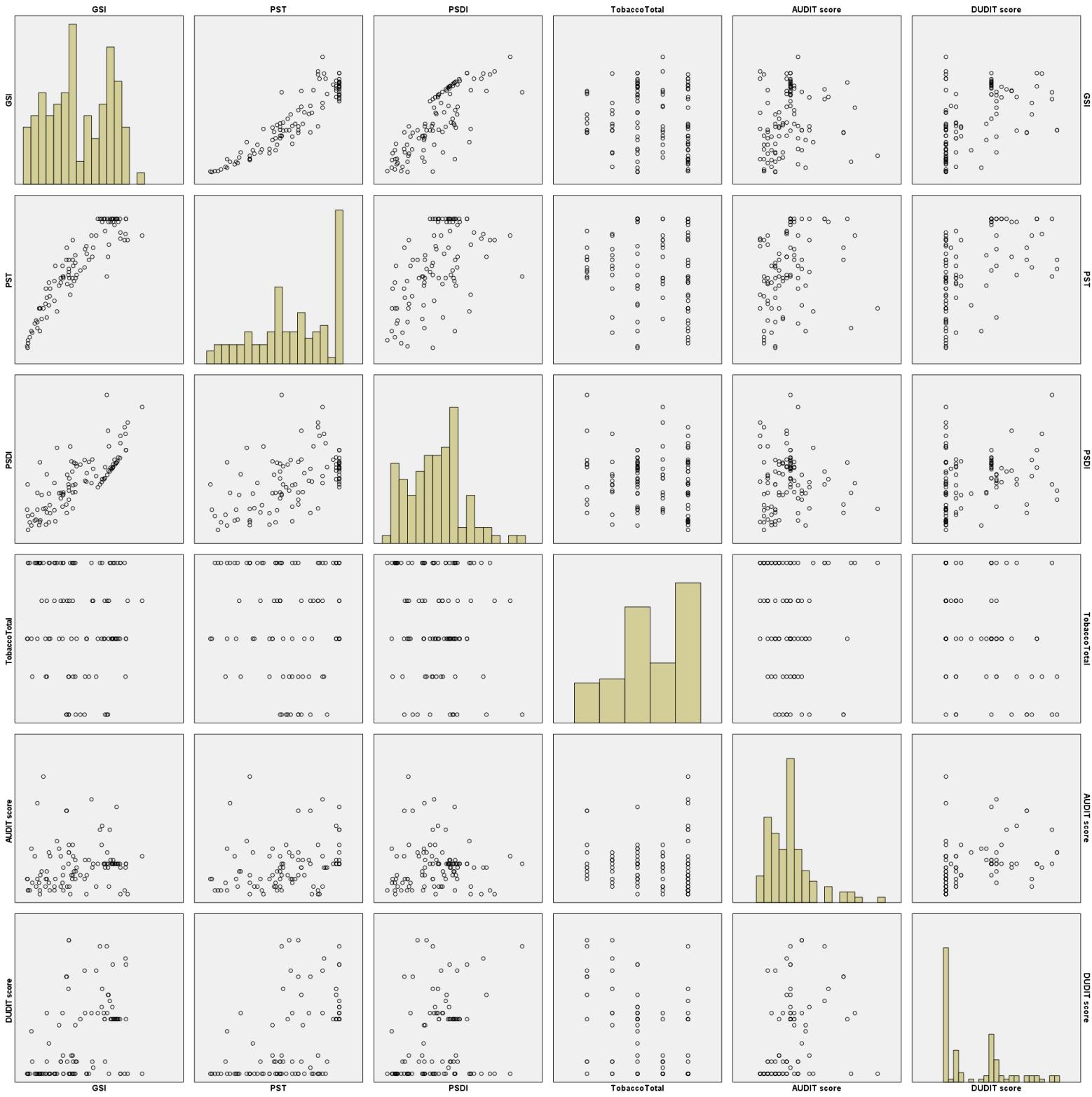
6. Personality Traits

Figure H.7. Scatterplots of tobacco, AUDIT, DUDIT, and the seven dimensions of the TCI-140
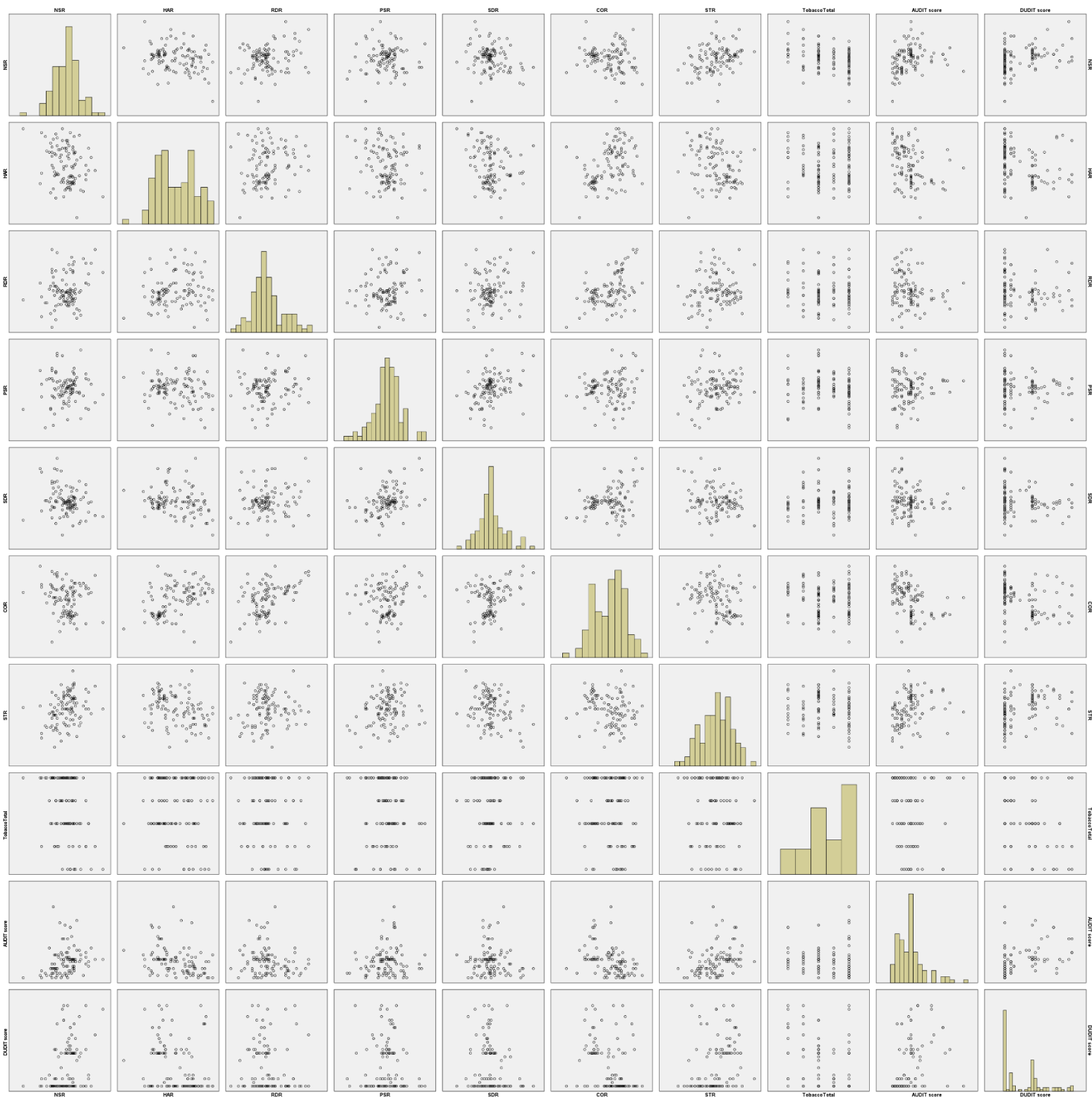
Appendix I: TESUP-1 AUDIT Multiple Regression

Additional Information

Prior to conducting a multiple regression analysis, the assumptions of the test were checked. All variables had a linear relationship with the dependent variable (AUDIT). Data were checked for outliers or missing data, and 13 cases were excluded, bringing the total participants to 92. According to Tabachnick and Fidell (2013), a sample of 92 would be acceptable using their formula of $N > 50 + 8m$, where N is number of participants and m is number of independent variables.

A forward method was chosen for the multiple regression analysis. This method begins with a model that includes no variables, then it adds variables one at a time according to which is the best fit for the model and stops adding them when the model stops improving. Here, the model stopped adding variables when the p values of the remaining variables were all over .05, and therefore would not provide a significant improvement to the model.

Table I.1. AUDIT multiple regression using forward method; Model 1 and 2.

Model	Variable	B	SE B	β	t	p	VIF
1	(Constant)	19.504	3.463		5.633	.000**	
	CO	-.172	.048	-.350	-3.544	.001**	1
2	(Constant)	11.082	5.292		2.094	.039*	
	CO	-.155	.048	-.316	-3.211	.002**	1.029
	NS	.121	.058	.204	2.077	.041*	1.029

Note: B = unstandardized beta, SE B = standard error for unstandardized beta, β = standardized beta.
* Significant at the 0.05 level. ** Significant at the 0.01 level.

Figure I.1. AUDIT Multiple Regression P-plot
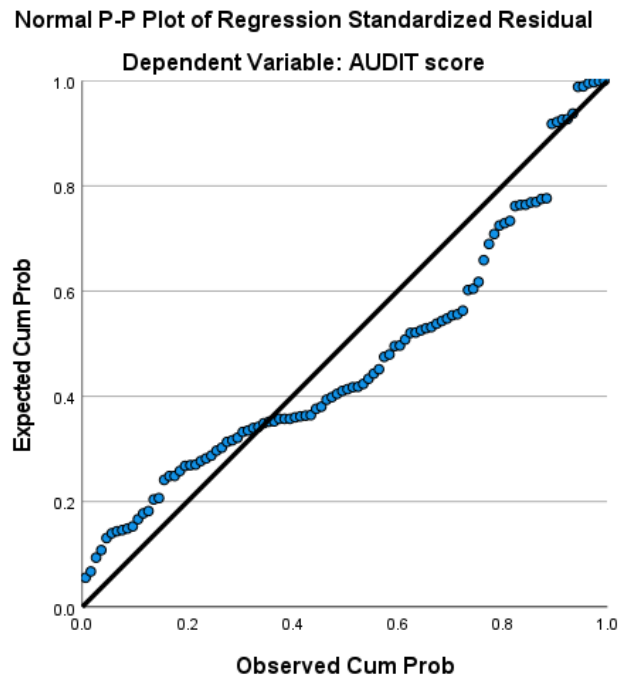
Figure I.2. AUDIT Multiple Regression Residual Scatterplot
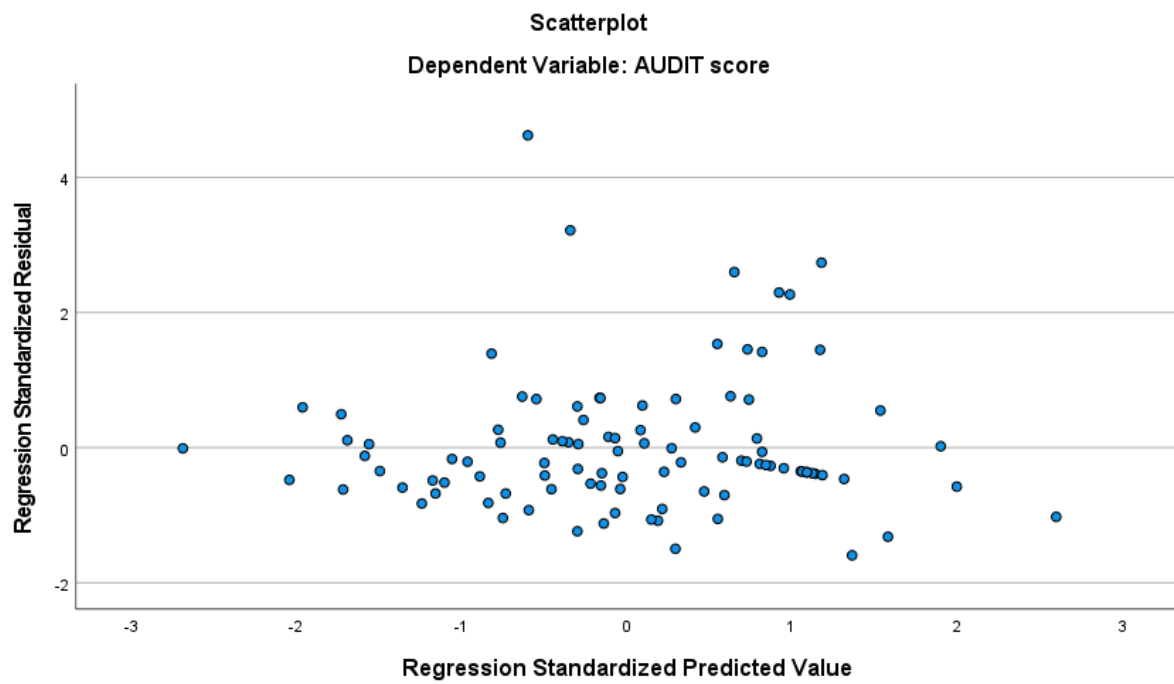
Appendix J: TESUP-1 DUDIT Multiple Regression

Additional Information

Prior to conducting a multiple regression analysis, the assumptions of the test were checked. All variables had a linear relationship with the dependent variable (DUDIT). Data were checked for outliers or missing data, and 8 cases were excluded, bringing the total participants to 97. According to Tabachnick and Fidell (2013), a sample of 113 would be acceptable using their formula of $N > 50 + 8m$, where N is number of participants and m is number of independent variables. However, the forward stepwise multiple regression method can be used even when the number of predictors is very large, this is because it adds variables one at a time and thus does not have to consider the full model. After the regression analysis was conducted, the minimum sample size was checked (using the above formula) using only the variables which were added to the model. This indicated that the acceptable minimum sample size would be 66, which meets the assumptions of the method.

A forward method was chosen for the multiple regression analysis. This method begins with a model that includes no variables, then it adds variables one at a time according to which is the best fit for the model and stops adding them when the model stops improving. Here, the model stopped adding variables when the p values of the remaining variables were all over .05, and therefore would not provide a significant improvement to the model.

Table J.1. DUDIT multiple regression using forward method; Model 1 and 2.

Model	Variable	B	$SE\ B$	β	t	p	VIF
1	(Constant)	.324	1.232		.263	.793	
	GSI	3.651	.739	.452	4.941	.000**	1
2	(Constant)	-11.382	3.573		-3.185	.002*	
	GSI	3.233	.710	.400	4.554	.000**	1.03
	NS	.206	.059	.305	3.466	.001**	1.03

Note: B = unstandardized beta, $SE\ B$ = standard error for unstandardized beta,
β = standardized beta.
* Significant at the 0.05 level. ** Significant at the 0.01 level.

Figure J.1. DUDIT Multiple Regression P-plot
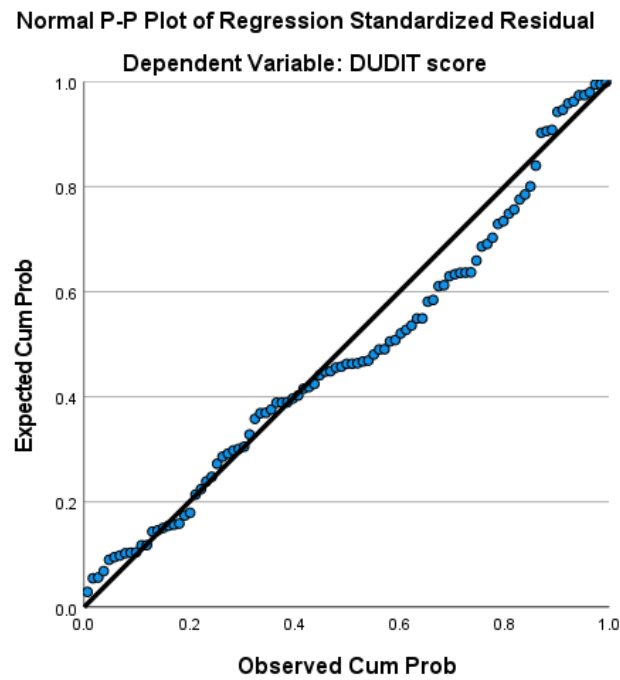
Figure J.2. DUDIT multiple regression residual scatterplot
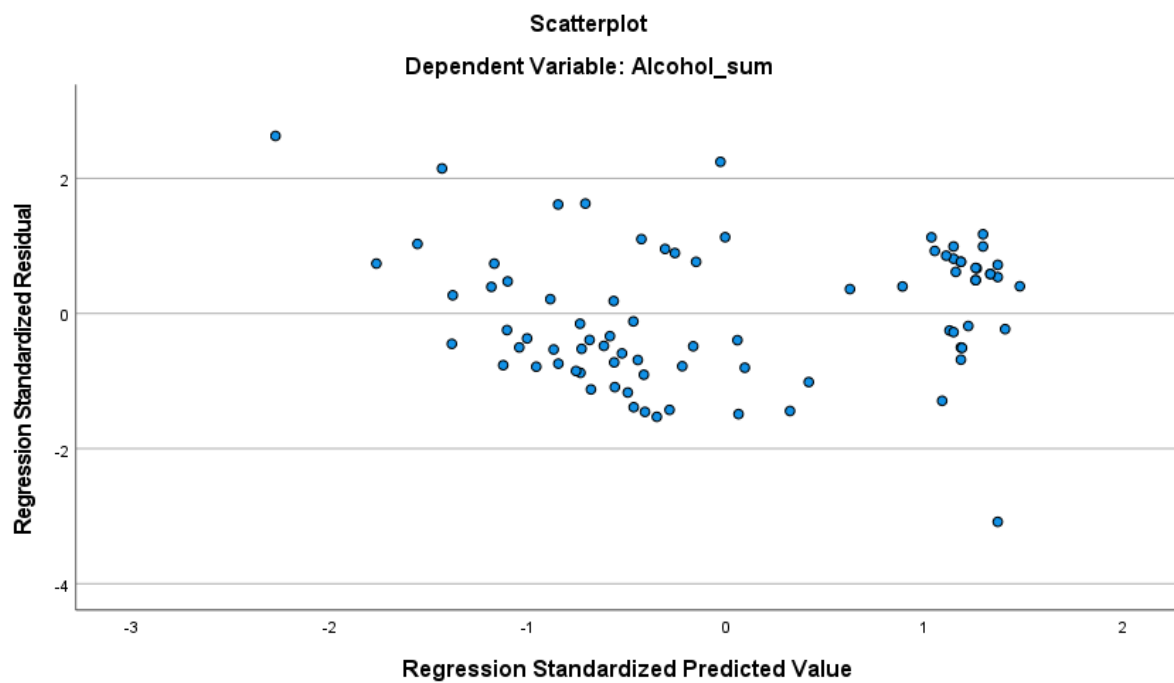
Appendix K: TESUP-2 Correlations Additional Information

1. Demographics

For correlations with demographic data Pearson (*r*) was used, or Spearman (p) for non-parametric data. Point bi-serial correlation was used for the gender variable which was measured as either binary or non-binary.

Figure K.1. Scatterplots of tobacco, AUDIT, DUDIT, age, stage of transition and level of education
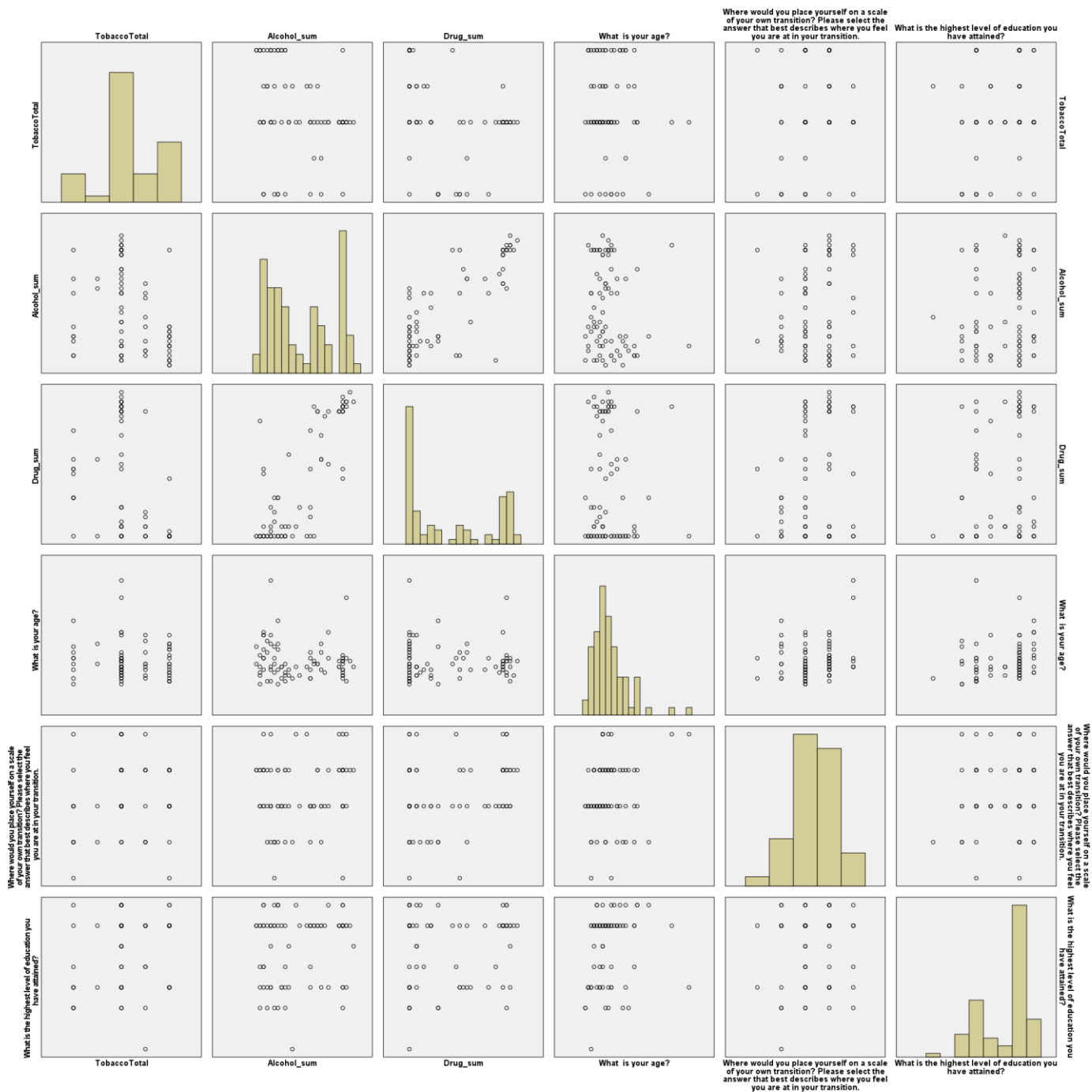
2. Quality of Life

Figure K.2. Scatterplots of tobacco, AUDIT, DUDIT, and the four domains of the WHOQOL-BREF measuring quality of life
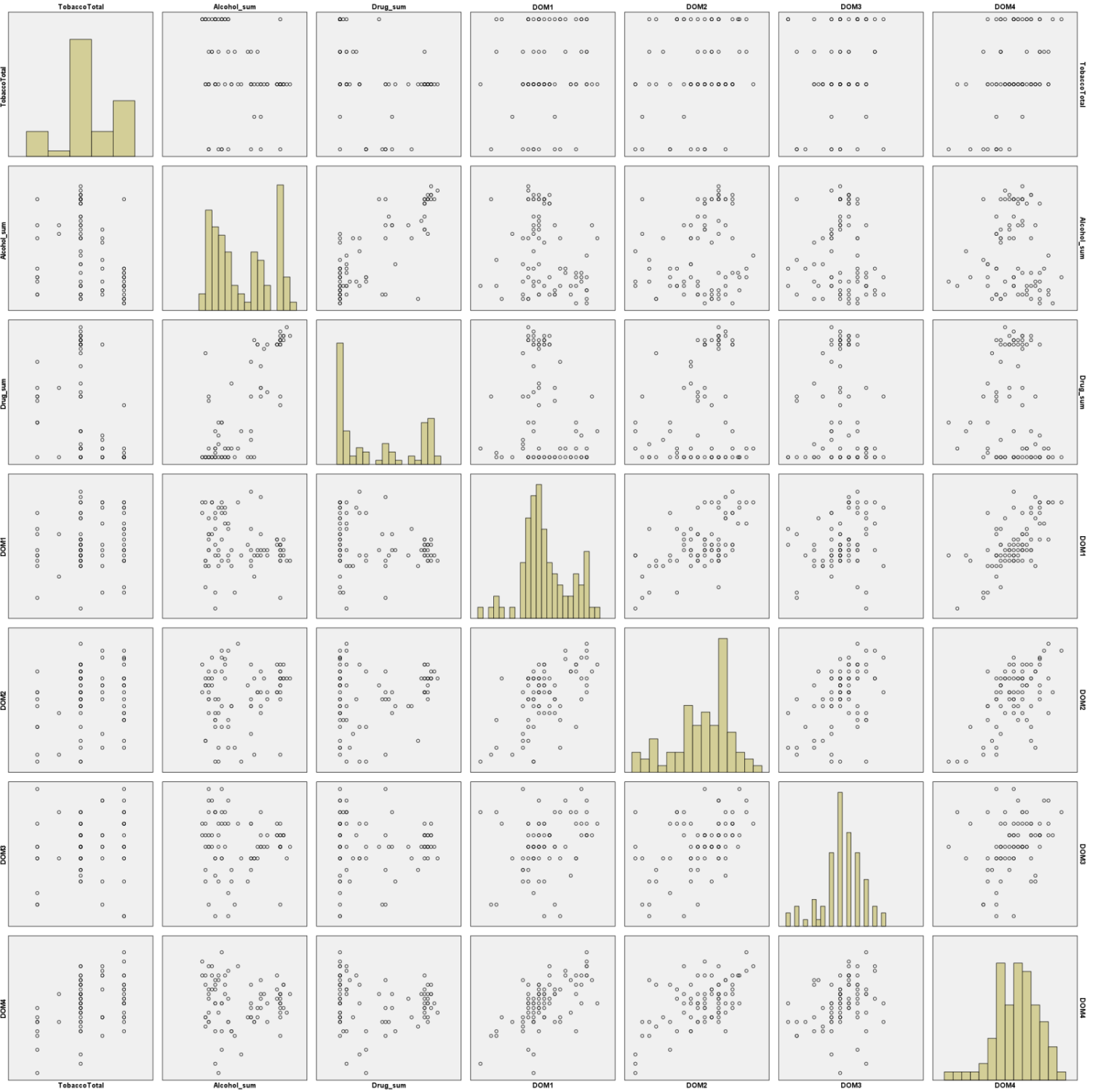
3. GRCS

Figure K.3. Scatterplots of tobacco, AUDIT, DUDIT, and the four domains of the GRCS
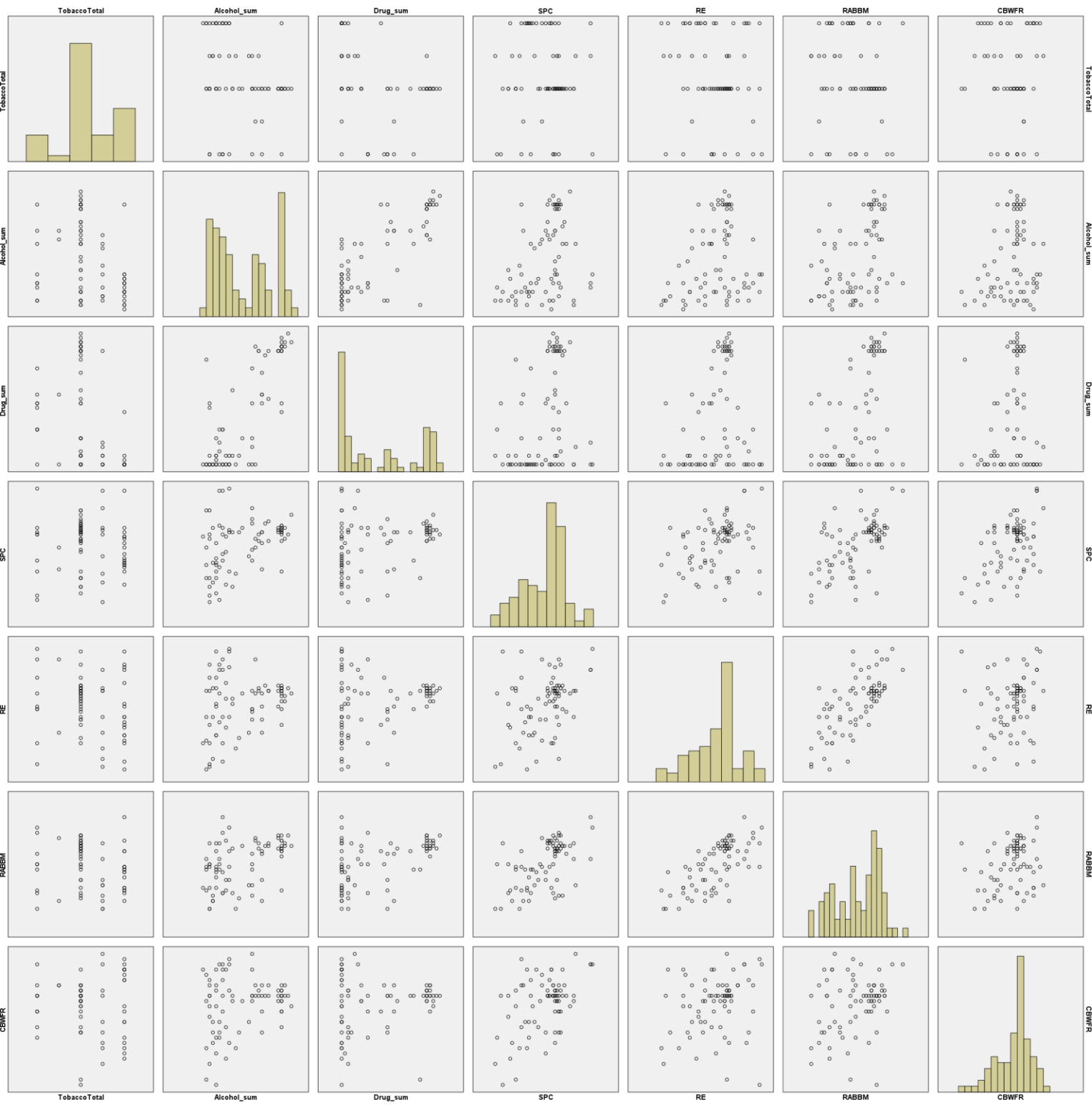
4. GMSR

Figure K.4. Scatterplots of tobacco, AUDIT, DUDIT, and the nine domains of the GMSR
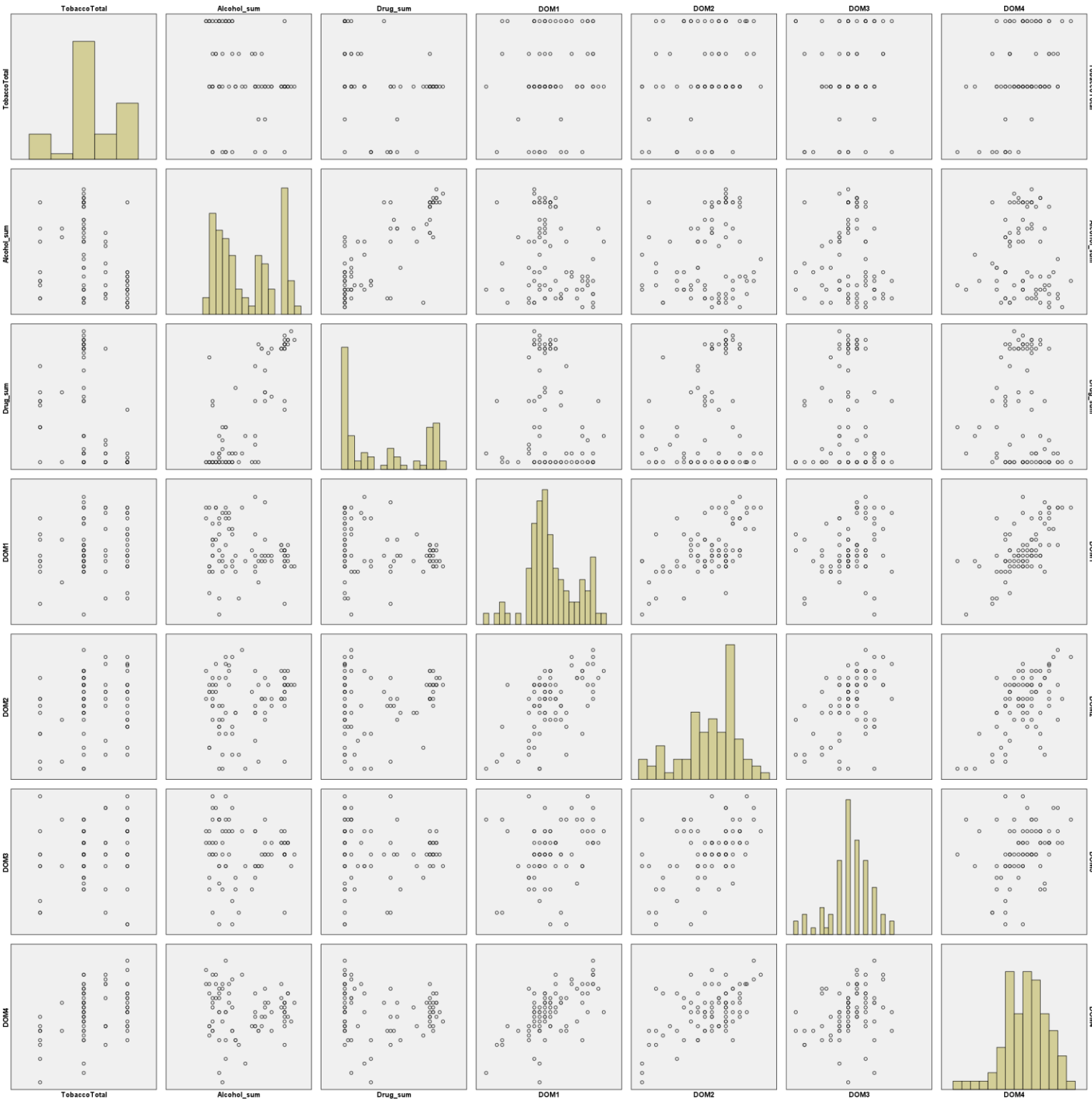
5. Psychopathological Symptoms

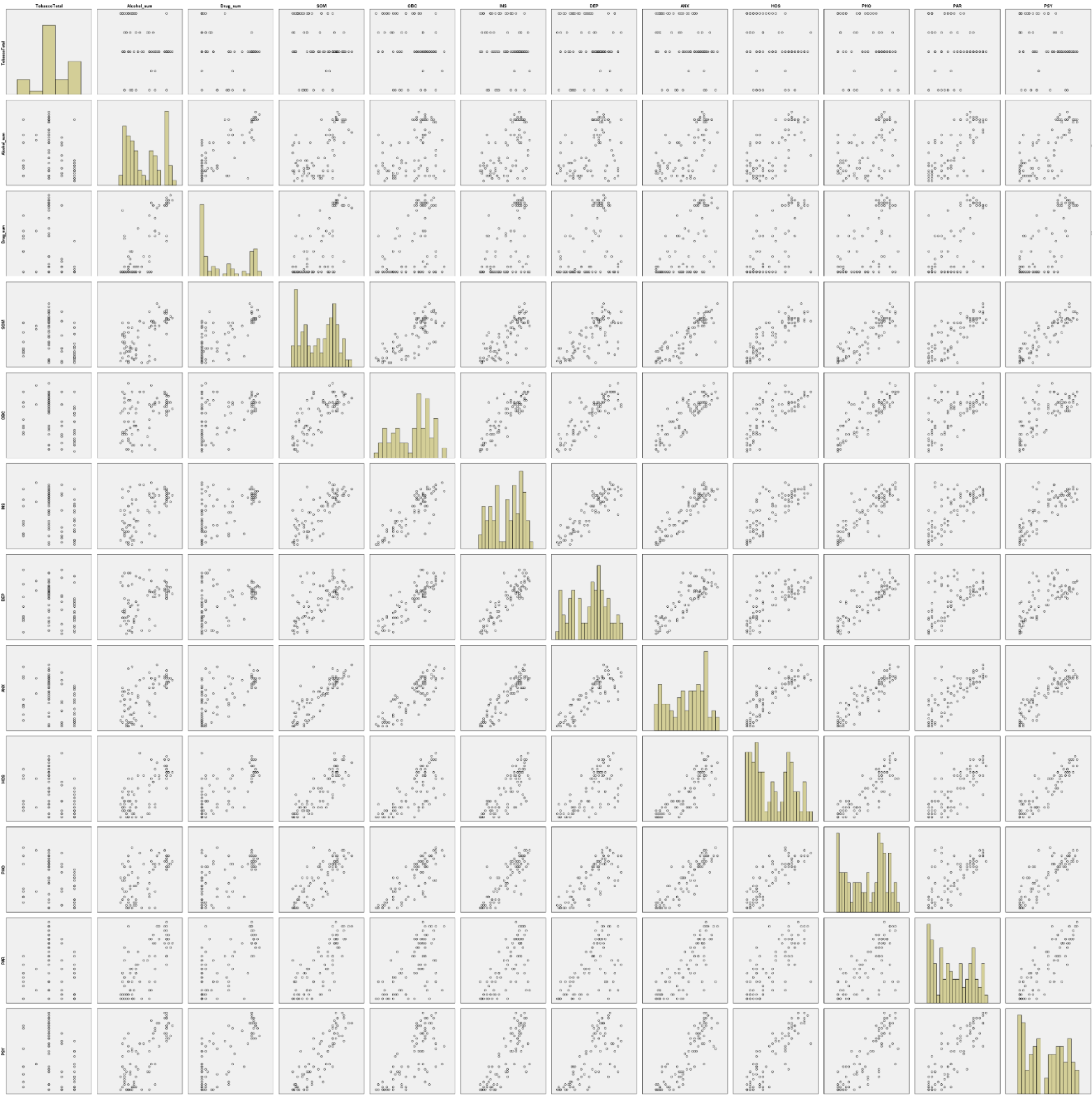**Figure K.5.** Scatterplots of tobacco, AUDIT, DUDIT, and the nine symptom domains of the SCL-90-R
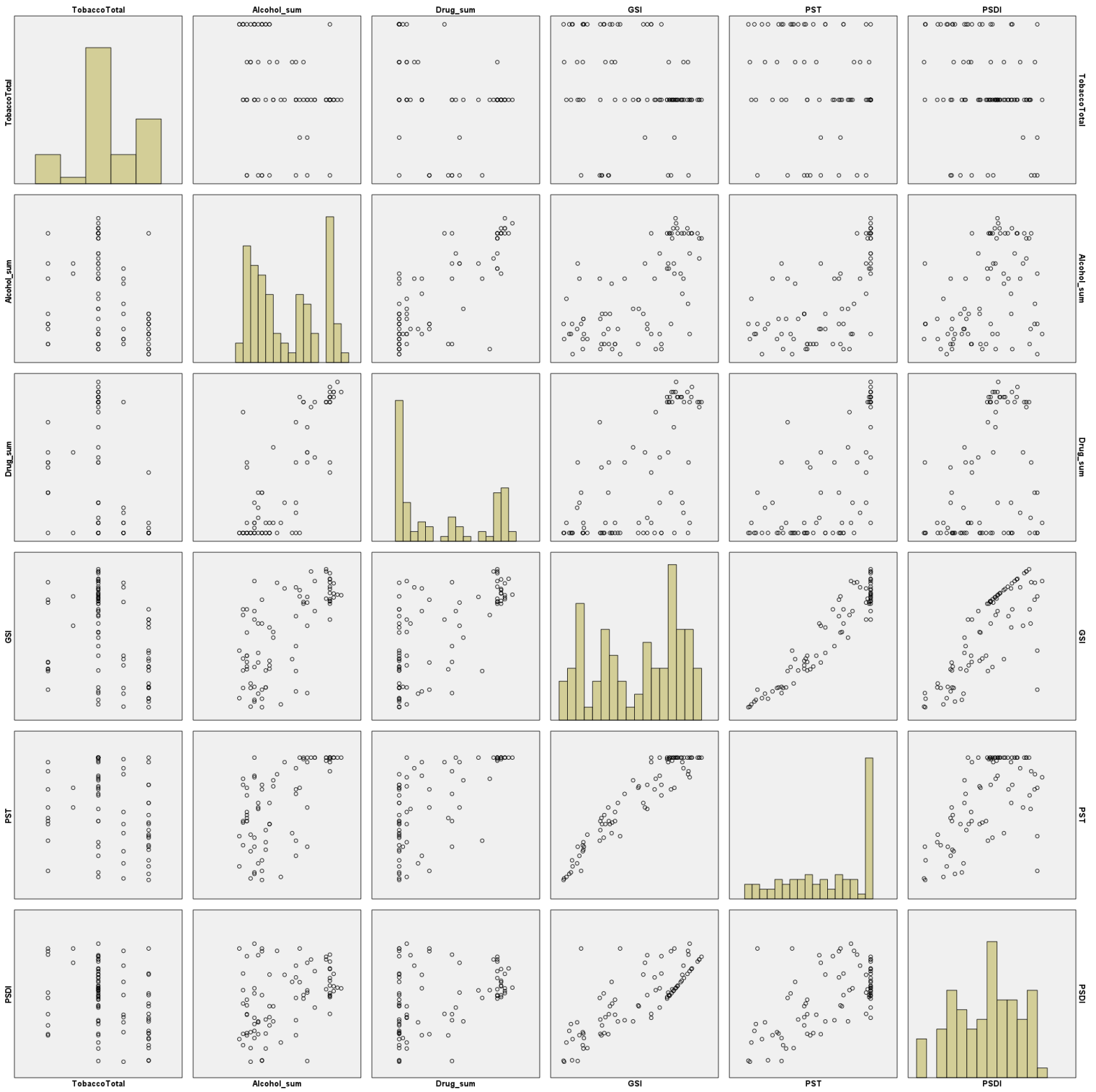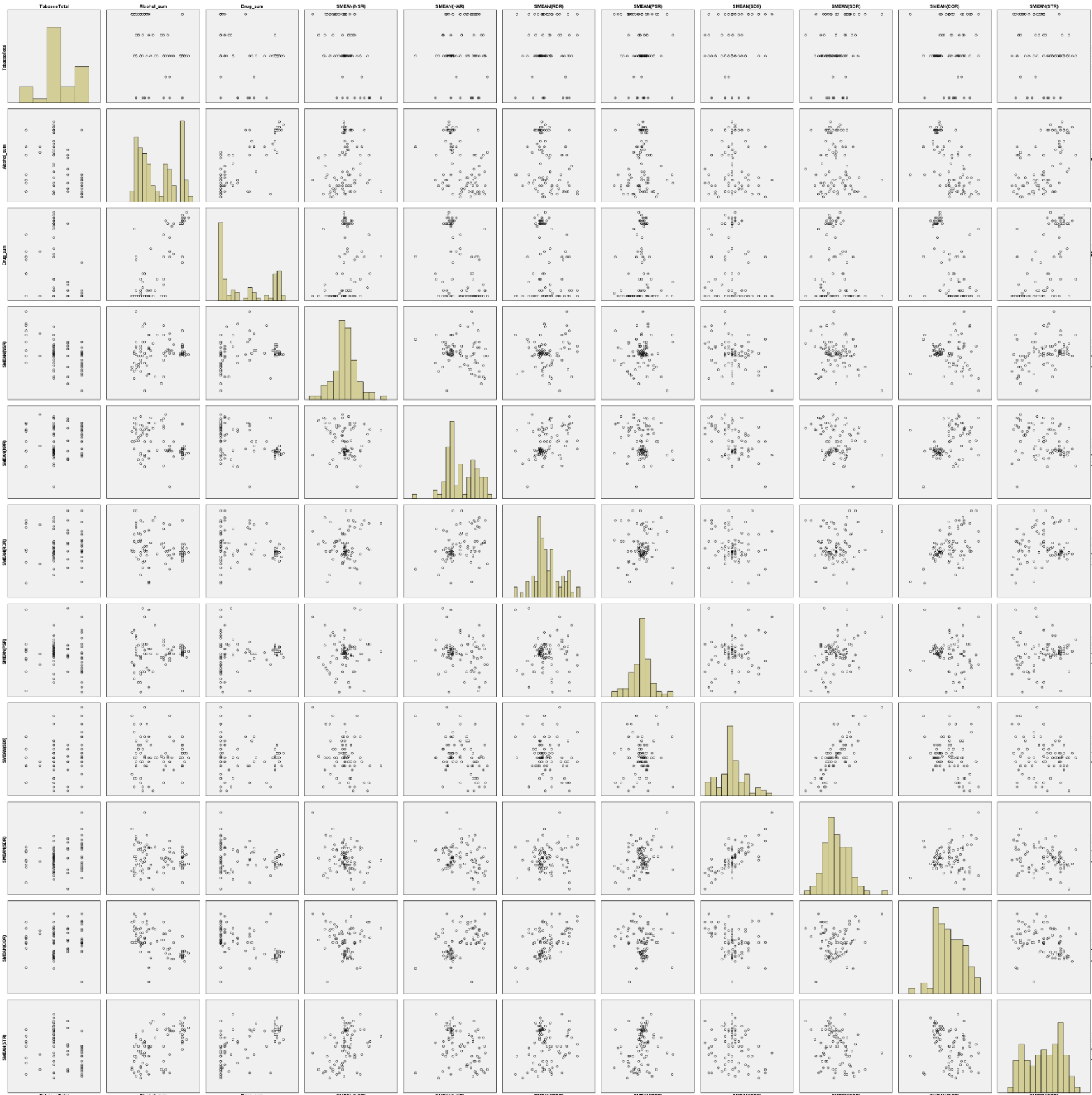
Figure K.6. Scatterplots of tobacco, AUDIT, DUDIT, and the three global measures of the SCL-90-R

6. Personality Traits

Figure K.7. Scatterplots of tobacco, AUDIT, DUDIT, and the seven dimensions of the TCI-140

Appendix L: TESUP-2 AUDIT Multiple Regression

Additional Information

Prior to conducting a multiple regression analysis, the assumptions of the test were checked. All variables had a linear relationship with the dependent variable (AUDIT). Data were checked for outliers or missing data, and 3 cases were excluded, bringing the total participants to 79. According to Tabachnick and Fidell (2013), a sample of 130 would be acceptable using their formula of $N > 50 + 8m$, where N is number of participants and m is number of independent variables. However, the forward stepwise multiple regression method can be used even when the number of predictors is very large, this is because it adds variables one at a time and thus does not have to consider the full model. After the regression analysis was conducted, the minimum sample size was checked (using the above formula) using only the variables which were added to the model. This indicated that the acceptable minimum sample size would be 66, which meets the assumptions of the method.

A forward method was chosen for the multiple regression analysis. This method begins with a model that includes no variables, then it adds variables one at a time according to which is the best fit for the model and stops adding them when the model stops improving. Here, the model stopped adding variables when the p values of the remaining variables were all over .05, and therefore would not provide a significant improvement to the model.

Table L.1. AUDIT multiple regression using forward method; Model 1 and 2.

Model	Variable	B	$SE\ B$	β	t	p	VIF
1	(Constant)	-1.065	1.819		-.586		
	PST	.214	.028	.661	7.727	.000**	1
2	(Constant)	16.601	3.472		4.782	.000**	
	PST	.212	.023	.654	9.068	.000**	1
	HA	-.250	.044	-.409	-5.673	.000**	1

Note: B = unstandardized beta, $SE\ B$ = standard error for unstandardized beta, β = standardized beta.
* Significant at the 0.05 level. ** Significant at the 0.01 level.

Figure L.1. AUDIT multiple regression P-plot

Histogram
Dependent Variable: Alcohol_sum
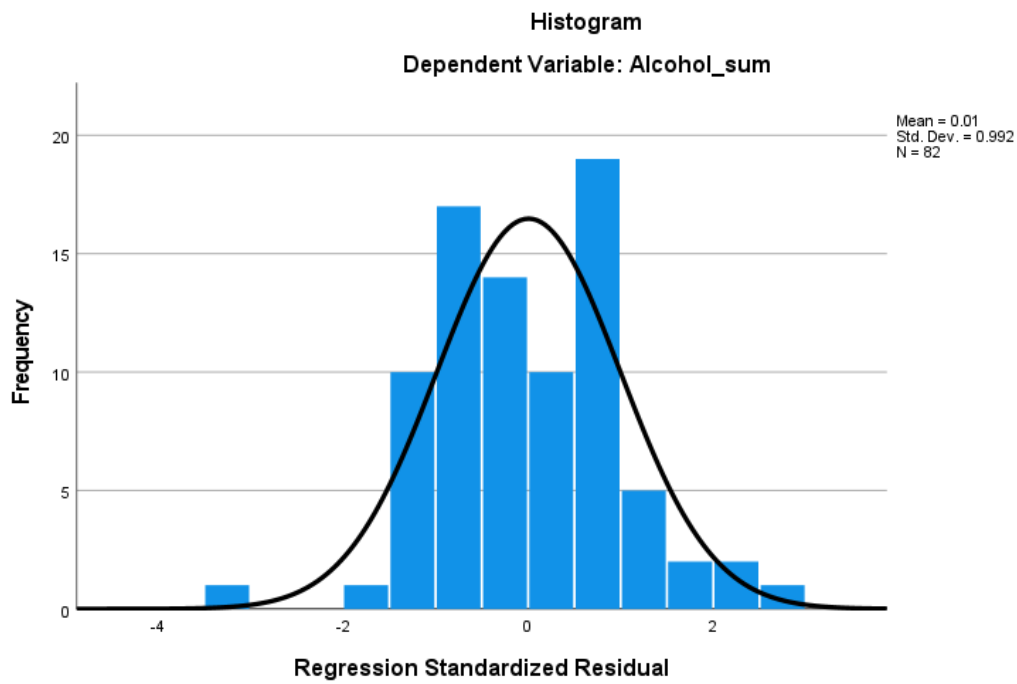
Figure L.2. AUDIT multiple regression residual scatterplot

Scatterplot
Dependent Variable: Alcohol_sum
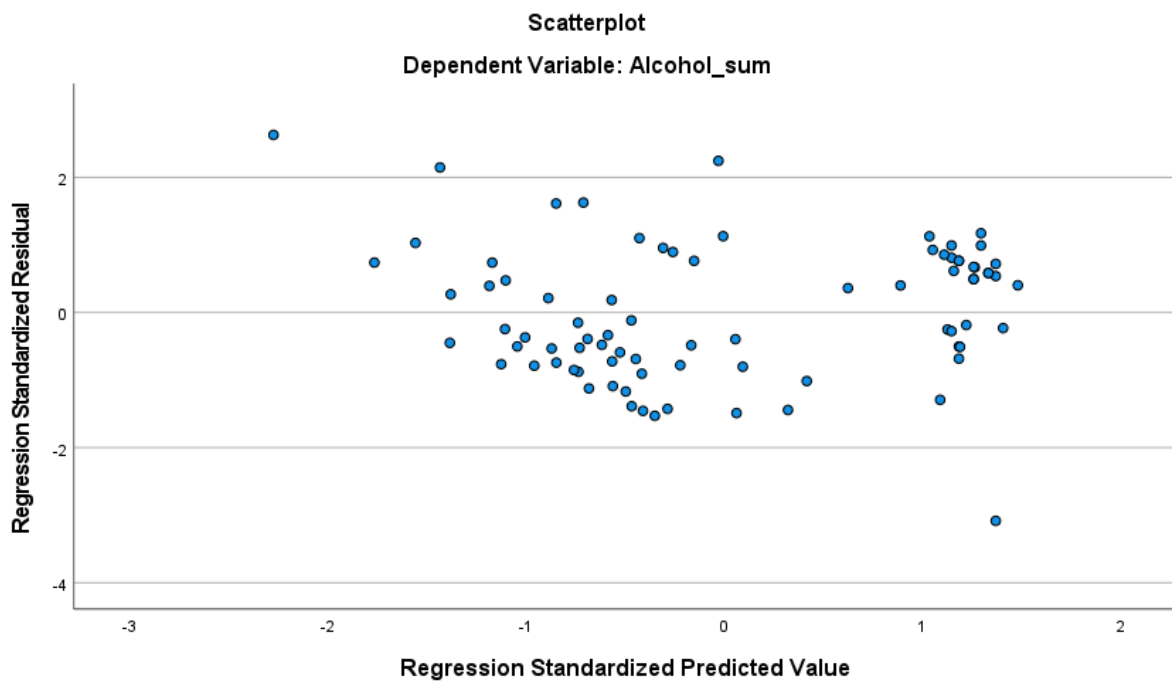
Appendix M: TESUP-2 DUDIT Multiple Regression

Additional Information

Prior to conducting a multiple regression analysis, the assumptions of the test were checked. All variables had a linear relationship with the dependent variable (DUDIT). Data were checked for outliers or missing data, and 1 case was excluded, bringing the total participants to 81. According to Tabachnick and Fidell (2013), a sample of 113 would be acceptable using their formula of $N > 50 + 8m$, where N is number of participants and m is number of independent variables. However, the forward stepwise multiple regression method can be used even when the number of predictors is very large, this is because it adds variables one at a time and thus does not have to consider the full model. After the regression analysis was conducted, the minimum sample size was checked (using the above formula) using only the variables which were added to the model. This indicated that the acceptable minimum sample size would be 74, which meets the assumptions of the method.

A forward method was chosen for the multiple regression analysis. This method begins with a model that includes no variables, then it adds variables one at a time according to which is the best fit for the model and stops adding them when the model stops improving. Here, the model stopped adding variables when the p values of the remaining variables were all over .05, and therefore would not provide a significant improvement to the model.

Table L.1. DUDIT multiple regression using forward method; Model 1, 2 and 3.

Model	Variable	B	$SE\ B$	β	t	p	VIF
1	(Constant)	-7.164	2.297		-3.118	.003**	
	PST	.298	.035	.692	8.526	.000**	1
2	(Constant)	17.209	4.272		4.028	.000**	
	PST	.294	.029	.682	10.285	.000**	1.001
	HA	-.345	.054	-.421	-6.351	.000**	1.001
3	(Constant)	13.752	4.409		3.119	.003**	
	PST	.272	.029	.632	9.291	.000**	1.112
	HA	-.316	.054	-.386	-5.830	.000**	1.055
	V	.653	.279	.163	2.341	.022*	1.169

Note: B = unstandardized beta, $SE\ B$ = standard error for unstandardized beta,
β = standardized beta.
* Significant at the 0.05 level. ** Significant at the 0.01 level.

Figure M.1. DUDIT multiple regression P-plot
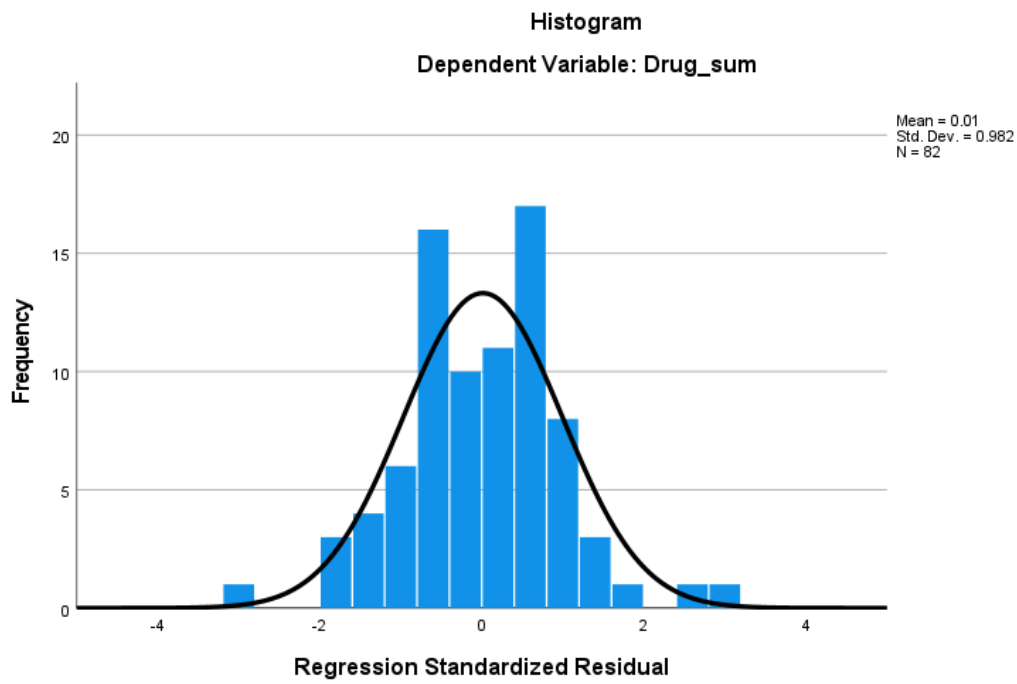
Figure M.2. DUDIT multiple regression residual scatterplot