

Avoidant Personality Disorder and Social Phobia: Identification of Clinically Meaningful Differences

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Abstract

Background: Both avoidant personality disorder (AVPD) and social phobia (SP) feature social fears that lead to avoidant behaviour, distress and disability. The “severity continuum hypothesis” proposes that AVPD is essentially a more severe variant of SP, but a small number of studies posit the contrary, and clinical experience suggests that AVPD is a distinct disorder. Thus far AVPD is vastly under-researched compared to SP and this thesis targets this gap and investigates the extent to which AVPD is a distinct entity from SP.

Methods: A literature review of the evidence for and against the severity continuum hypothesis identified factors that may differentiate AVPD and SP, in particular attachment style. Epidemiological data was interrogated to determine the prevalence and demographic correlates of AVPD with and without SP. Prospectively recruited participants were assigned to SP-only, AVPD-only or SP+AVPD groups and compared across variables of syndromic, aetiological and therapeutic interest for AVPD. A qualitative study was conducted to characterise the core lived experience features of AVPD, further informing development of a brief clinical screening measure.

Results: Australian community epidemiological data confirmed international findings of a predominance of AVPD without SP. In both epidemiological and recruited samples the comorbid group separated from SP-only in the direction of greater severity, whereas AVPD-only showed a more variable relationship. Analysis of qualitative data suggested that greater emphasis would be warranted on the perceived catastrophic meaning of rejection and sense of self, and delineated cognitive-behavioural patterns worthy of further study. The brief, easily scored screening measure offers promise for use in clinical settings.

Conclusions: Support is found for an alternative to the continuum hypothesis. In this, SP and AVPD share a focus on interpersonal concerns but are sufficiently distinct to justify retaining separate diagnostic categories. The brief screening tool and findings from the qualitative study add considerably to knowledge of AVPD and the insights from this thesis are likely to be of significance, informing our approach to establishing and maintaining a therapeutic alliance with this very difficult to engage patient population.

Declaration

I certify that to the best of my knowledge, this thesis contains no copy or paraphrase of work published by another person, except where duly acknowledged in the text. The thesis has not been submitted for any degree or other purpose.

I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis has been acknowledged.

Lisa Lampe

List of Publications, Conference Presentations and Awards

PUBLICATIONS, PRESENTATIONS AND AWARDS

Chapters published as papers

Chapter Four of this thesis is published as:

- Lampe L and Sunderland M (2015) Social phobia and avoidant personality disorder: similar but different? *Journal of Personality Disorders* 29: 115-130.

I designed the study, planned the analyses, and interpreted the analyses done by Mathew Sunderland. I wrote the drafts of the MS.

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Conference Presentations & Peer-reviewed Abstracts

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- Lampe L, Sunderland M. Social phobia and avoidant personality disorder: Similar but different? The Royal Australian and New Zealand College of Psychiatrists Annual Congress, Sydney, Australia, 26-30 May 2013. *Australian & New Zealand Journal of Psychiatry*, 47(S1), 54. [Chapter Four]

I designed the study, planned the analyses, and interpreted the analyses done by Mathew Sunderland. I wrote the drafts of the MS.

- Lampe L, Malhi GS. Avoidant personality disorder: Time for a re-think? Society for Mental Health Research 2014 Conference, Adelaide, 3-5 December 2014. [Chapter Four]

I designed the studies on which these findings were based, analysed the data and drafted the MS.

- Lampe L. Disorders of social anxiety: problems in classification and conceptualization. Paper presented at The International Royal Australian and New Zealand College of Psychiatrists Congress of Psychiatry, Hong Kong, 8-12 May 2016. In: Mulder R, Newton-Howes R, Tyrer P, Brakoulias V, Lampe L. (2016). Personality disorder, personality domains and their interactions with mental state disorder. *Australian & New Zealand Journal of Psychiatry*, 50(S1), 88-91. [Chapters Five and Six]

Awards

- Winner, Three Minute Thesis competition, Neuroscience and Mental Health Theme Research Day, University of Sydney, 2011

In Press

- An invited review which presents many of the insights gained from the literature reviews undertaken for this thesis has been accepted for publication in *Psychology Research and Behavior Management* as:
Lampe L, Malhi G. Avoidant personality disorder: current insights.

Attestation

I attest that the information above is accurate and that I was the corresponding author on all publications.

Lisa Lampe

15 December 2017

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Abbreviations and Terminology

AAI	Adult Attachment Interview
AAPD	Avoidant (anxious) personality disorder [in ICD-10]
AUC	Area under the curve
AVPD	Avoidant personality disorder
AVPD-only	Meets criteria for avoidant personality disorder without qualifying for an additional diagnosis social phobia
BAI	Beck Anxiety Inventory
BAS	Behavioural Activation Scales
BDI	Beck Depression Inventory
BI	Behavioural Inhibition
BIS	Behavioural Inhibition Scale
BPD	Borderline Personality Disorder
CATS	Child Abuse and Trauma Scale
CBT	Cognitive behaviour therapy
CIDI	Composite International Diagnostic Interview
CIDI-auto	Computerised version of the CIDI
CLPS	Collaborative Longitudinal Personality Disorders Study
Continuum hypothesis	Also referred to as "severity continuum hypothesis" which proposes that avoidant personality disorder is a more severe variant of social phobia, rather than a separable condition
CURF	Confidentialised Unit Record File
DASS	Depression, Anxiety and Stress Scales
DASSanx	DASS anxiety score

DASSdep	DASS depression score
DASSstress	DASS stress score
DPD	Dependent Personality Disorder
DSM-I	Diagnostic and Statistical Manual of Mental Disorders, 1st edition
DSM-II	Diagnostic and Statistical Manual of Mental Disorders, 2nd edition
DSM-III	Diagnostic and Statistical Manual of Mental Disorders, 3rd edition
DSM-III-R	Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition, Revised
DSM-IV	Diagnostic and Statistical Manual of Mental Disorders, 4th Edition
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, 5th Edition
ECA	Epidemiological Catchment Area study
EMS	Early maladaptive schema
EPI	Eysenck Personality Inventory
FFM	Five Factor Model of personality
GSP	Generalised social phobia
ICD	International Classification of Diseases
ICD-10	International Classification of Diseases 10th Edition
ILCD	International List of Causes of Death
IPDE	International Personality Disorder Examination
K6	Kessler 6 item distress scale
MCMI	Millon Clinical Multiaxial Inventory
NCS	National Comorbidity Survey
NCS-R	National Comorbidity Survey Replication
NEOA	NEO Five Factor Inventory, Agreeableness

NEOC	NEO Five Factor Inventory, Conscientiousness
NEOE	NEO Five Factor Inventory, Extraversion
NEO-FFI-3	NEO Five Factor Inventory 3rd revision
NEON	NEO Five Factor Inventory, Neuroticism
NEOO	NEO Five Factor Inventory, Openness
NEO-PI-R	NEO Personality Inventory, Revised
NESARC	National Epidemiological Survey of Alcohol and Related Conditions
NSMHWB	National Survey of Mental Health and Wellbeing
OCD	Obsessive-compulsive disorder
OR	Odds Ratio
PD	Personality disorder
PTSD	Post traumatic stress disorder
RCBS	Revised Cheek and Buss Shyness scale
ROC	Receiver operating characteristic
RQ	Relationship Questionnaire
RSES	Rosenberg Self-Esteem Scale
RST	Reinforcement Sensitivity Theory
SCID-II	Structured Clinical Interview for DSM, Axis II
SCQ	Social Concerns Questionnaire
Severity continuum	
hypothesis	Synonym for "continuum hypothesis"
SF-12	Medical Outcomes Study Short Form Health Survey (12-item)
SF-36	Medical Outcomes Study Short Form Health Survey (36-item)
SNAP	Schedule for Nonadaptive and Adaptive Personality

SP	Social phobia (social anxiety disorder)
SP+AVPD	Meets criteria for both social phobia and avoidant personality disorder
SP-only	Meets criteria for social phobia without qualifying for an additional diagnosis of avoidant personality disorder
TCI	Temperament and Character Inventory
TKS	<i>Taijin kyofusho</i>
WHODAS	World Health Organisation Disability Assessment Schedules

Preface: Why Study Avoidant Personality Disorder?

The preface provides background to my interest in avoidant personality disorder and motivation to study it in more depth. It outlines factors that informed the research approach taken, and the aims of the research.

My clinical background and experience

As a trainee psychiatrist after medical school I was introduced to cognitive behaviour therapy (CBT). The power of this type of therapy to effect large clinical and functional improvements within a short space of time made a strong and lasting impression on me. I was also attracted to the collaborative nature of the therapy, and its empowerment of patients to direct the focus of therapy and be the agents of their own recovery. In my final year of training an opportunity arose to develop my CBT skills in a specialist anxiety treatment centre where this was the main therapeutic modality employed.

I was fortunate to secure a job at the Clinical Research Unit for Anxiety Disorders. This clinic, now known as the Clinical Research Unit for Anxiety and Depression (CRUfAD), established and directed by Scientia Professor Gavin Andrews, AO, has been a pre-eminent centre of treatment and research for more than 30 years. At CRUfAD, my clinical area of responsibility was the social phobia (SP) treatment program, for which group CBT was, and remains, an established and effective treatment.

My introduction to avoidant personality disorder (AVPD)

As well as the opportunity to develop my skills in CBT, the clinic afforded an introduction to clinical research. At the time, CRUfAD was engaged in exploring the intersection of personality with anxiety and mood disorders. Assisting with this research, I was trained to administer the Personality Disorder Examination (PDE), the precursor of the International

Personality Disorder Examination (IPDE) used in this thesis, a semi-structured diagnostic interview that assigned personality disorder (PD) diagnoses based on the Diagnostic and Statistical Manual of Mental Disorders (DSM). Although PD diagnoses were identified, patients attended the group program for their primary or most troubling anxiety disorder, and treatment was not tailored to the presence of a PD. Through my involvement in this personality research I became aware of a condition I had previously been largely ignorant of: avoidant personality disorder (AVPD). I realised I had almost certainly seen many patients with the condition previously and failed to recognise it; these patients had generally been severely impaired, deeply anxious and depressed, and poorly responsive to treatment.

Clinical observations on AVPD compared to SP

In my work as primary clinician for the SP program, I observed that patients who satisfied criteria for both social phobia and avoidant personality disorder (SP+AVPD), seemed more symptomatic, slower to respond to therapy, and remained more debilitated than those who only met criteria for SP (SP-only). Working with individuals with SP+AVPD, I also noted that persons with AVPD had a much poorer self-concept, more rigid beliefs about social rules, and concerns about rejection that seemed much more catastrophic than might be commonly understood by the term. For example, persons with AVPD appeared to believe that the smallest social mis-step (such as being unable to converse about something important or entertaining) might result in rejection. It seemed that rejection would be interpreted as a judgment by others that the individual was worthless, and that this was such a painful outcome that it was to be avoided at all costs. The costs indeed seemed great, as individuals with AVPD seemed to avoid almost all social interaction.

I learned that the prevailing view in the literature was that AVPD was essentially a more severe variant of SP (Herbert et al., 1992; Brown et al., 1995; Chambless et al., 2008; Holt et al., 1992; Reich, 2000). This view, known as the “severity continuum hypothesis”, posited that the presence of more feared situations and greater avoidance were the main factors that differentiated the two conditions. However, this did not seem to fit all my clinical observations, and I was concerned that this view inhibited investigation of more effective treatments for AVPD.

Much as I myself had failed to identify it earlier in my career, I estimated that for those who met criteria for AVPD, the condition had been identified by the referring health practitioner in only about 5% of cases.

Broad statement of research aims and hypothesis

The impetus for this body of research came from a desire to better understand the patients I was encountering in clinical practice, and beyond this, the larger population of individuals who lived with AVPD daily and probably never sought treatment. Research indicates that only 20-40% of those with SP seek treatment (Slade et al., 2009; Wang et al., 2005), and the figures may be expected to be even lower for AVPD, given the extensive avoidance that characterises the condition. I wanted to explore some of my clinically informed hypotheses about core aspects of AVPD, and features that differentiated it from SP. The paucity of research that has focussed specifically on AVPD is notable (Mendlowicz et al., 2006; Weinbrecht et al., 2016). When delivering lectures and conference presentations I was frequently asked for clinical advice about AVPD, and so I looked forward to being able to give empirically based advice about identifying and treating it. Given my own difficulties and those my colleagues evidently shared in recognising AVPD, I planned to develop a screening

tool that would be acceptable and useful in clinical practice to assist in identifying patients with AVPD.

The main aim of this thesis was to test the hypothesis that AVPD can be distinguished from SP in clinically meaningful ways, that is, on variables relevant to recognition, treatment and course of AVPD. Specific hypotheses are described in more detail in Chapter One.

Research approach

Since my hypotheses were developed on the basis of clinical impressions arising out of therapeutic work with persons with AVPD, I wished to recruit individuals meeting criteria for AVPD to test more formally specific hypotheses arising out of these clinical impressions. Given how little is known about AVPD, and the limited empirical research to date, I considered it possible that important aspects of AVPD may not be captured by established quantitative instruments. For this reason a qualitative component was added to allow a grounded theory investigation of the nature of AVPD.

Most of the research into AVPD has been carried out in groups with SP, in whom those with an additional diagnosis of AVPD were compared to those with SP-only. AVPD without SP was thought to be rare (Herbert et al., 1992) until epidemiological and community-based studies began to suggest otherwise (Cox et al., 2009; Reichborn-Kjennerud et al., 2007). I wished to include a group with AVPD without SP (AVPD-only) to allow a more nuanced exploration of differences that might exist between these groups, and control for the possibility that the greater symptom and impairment burden observed in studies comparing SP with SP+AVPD may have been in some measure due to additive effects of meeting criteria for two conditions.

Structure of the thesis

Each chapter begins with an overview. The chapters have been ordered so as to give a logical flow to the research narrative. An introduction to the topic is provided across the first two chapters of the thesis; each deals with a separate but related area providing important context.

Chapter One provides an introduction to historical development of psychiatric classificatory systems and constructs of personality and personality disorder as important contexts in which to consider AVPD and SP. Some proposals regarding new ways of classifying personality are briefly explored as background to later discussion in the light of the findings of this thesis.

The aims and hypotheses are described in this chapter.

Chapter Two is the second introductory chapter. It provides syndromic descriptions of AVPD and SP, and outlines the historical development of these concepts in the psychiatric literature. This development, occurring contemporaneously with changes in systems of psychiatric classification outlined in the previous chapter, provides an important context for the program of research in this thesis. Aetiological theories of AVPD are presented, and empirical evidence for risk and vulnerability factors summarised. Attachment is identified as a key aetiological variable of interest. This literature, together with clinical observation, informed the choice of variables for study.

Chapter Three presents a systematic review of the literature regarding relationship attachment in AVPD. The importance of attachment relates to its role as a link between childhood and adversity, temperament and personality, and more specifically evidence for its importance in differentiating AVPD from SP. Attachment style also contributes to the clinical picture of AVPD, and is highly relevant to treatment.

Chapter Four reports analysis of epidemiological data for AVPD from the first Australian National Survey of Mental Health and Wellbeing. This large dataset permitted identification of three diagnostic groups comprising AVPD-only, SP-only and SP+AVPD for study, in keeping with recommendations from the recent literature and the aims of this thesis. These groups are compared on sociodemographic, distress, disability and comorbidity variables, making a valuable contribution to the limited empirical data regarding AVPD and SP in the community.

Chapter Five reports sociodemographic, distress, disability and comorbidity data for a recruited sample of individuals that met criteria for either SP-only, AVPD-only or SP+AVPD. Patterns of response to diagnostic criteria are examined, and between group differences are identified. Use of the full version of a structured and validated instrument for assigning personality disorder diagnoses is a notable strength of the study.

Chapter Six reports findings from a study examining several key variables of interest from multiple domains (symptoms, temperamental and biobehavioural factors, childhood adversity and attachment style), identified as relevant to AVPD in the literature reported in earlier chapters. AVPD-only, SP-only and SP+AVPD groups are compared. The inclusion of an AVPD-only group and the range of risk factors included are novel aspects of the study.

Chapter Seven reports findings from a study in which selected participants were invited to return for a qualitative exploration of their social anxieties. This study explored the lived experience of AVPD, with a focus on the perceived causes and consequences of avoidance, and the concept of rejection. Participants were also asked about early life experiences, and their views on the differences between AVPD and SP. A semi-structured questionnaire was

developed for the study based on clinical experiences as well as insights gained from participants during earlier studies in the thesis.

Chapter Eight reports the development of a screening instrument for AVPD. The instrument has a high level of sensitivity appropriate to a screening purpose. Initial items included those hypothesised to be most likely to separate AVPD from SP. The instrument's brevity and attributes of quick and easy scoring make it suitable for use by busy clinicians.

Chapter Nine presents a synthesis and discussion of chapters one to eight. Findings from this thesis are integrated with the existing literature. The relevance of the findings to issues of definition and classification of AVPD and SP is addressed. Implications for treatment and research are discussed, and avenues for further exploration recommended.

Chapter Ten summarises the conclusions from this thesis.

Note on diagnostic terminology

Unless otherwise stated, a convention for this thesis is that “AVPD-only” refers to persons with avoidant personality disorder (AVPD) without a comorbid diagnosis of social phobia (SP), and “SP-only” to persons with SP and no a comorbid diagnosis of AVPD. Any additional comorbidity will be identified specifically. “Social phobia” has been chosen rather than “social anxiety disorder” as the diagnostic term as both AVPD and SP include significant social anxiety and it will be argued that a possible change to classification of these disorders might see them both classified under a broader heading of “social anxiety disorders”.

DSM-5 does not use the axial system of classification employed by DSM-III, -III-R and -IV, in which Axis I and Axis II represented upper level classifications of disorder. A range of terms has been employed in the literature to refer to the category of disorder formerly included on Axis I (disorders such as major depression, social phobia, schizophrenia), including “illness”, “mental state disorder” and “symptom disorder”. In this thesis the term “symptom disorder” will generally be used to refer to disorders that would formerly have been listed on Axis I in DSM-IV.

Note on classification system employed

The studies in this thesis are based on the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). The DSM (as opposed to the ICD) classification was chosen as it most closely reflects the original conceptualisation of AVPD. At the time of planning the studies in this thesis the DSM-IV was in use, and when the studies were commenced (between 2009-2013) the only structured and validated diagnostic instruments

available were based on the DSM-IV. The epidemiological data on which Study 2 relied was also based on DSM-IV disorder criteria. Where relevant, significant changes between versions of the DSM are discussed, alongside any implications for application of the findings to DSM-5.

Chapter One – Psychiatric classification and development of concepts of personality and personality disorder

Chapter overview

Avoidant personality disorder (AVPD) and social phobia (SP) share core concerns about negative social evaluation. Opinion is divided as to whether they are distinct conditions. Difficulties within psychiatric nosology and classification of personality disorders are discussed as an important context for the research hypothesis that there are clinically meaningful distinctions between AVPD and SP.

1.1 AVOIDANT PERSONALITY DISORDER AND SOCIAL PHOBIA: SIMILAR BUT DIFFERENT OR “USELESS DUPLICATION”?

Avoidant personality disorder (AVPD) and social phobia (SP) are two closely related syndromes in which anxiety around the possibility of being negatively regarded by others is a central feature. AVPD is defined as a pervasive pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation beginning by early adulthood and present in a variety of contexts (American Psychiatric Association, 1994; 2013). SP is defined as a marked and persistent fear of social or performance situations in which the person fears that they will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing; the feared social or performance situations are avoided or else are endured with intense anxiety or distress (American Psychiatric Association, 1994; 2013).

Debate around whether the differences between SP and AVPD outweigh the similarities sufficiently to warrant separate diagnoses dates from the first introduction of these two disorders to psychiatric classificatory systems in the third edition of the Diagnostic and

Statistical Manual of Mental Disorders (DSM-III) in 1980. As noted in the Preface, a widely held view posits AVPD as differing from SP only in degree of impairment and symptom severity. The essence of the debate was well captured by Chambless and colleagues in the title of a 2008 article that remains highly pertinent: “*Generalized social phobia and avoidant personality disorder: meaningful distinction or useless duplication?*”. More empirical knowledge about the relationship of AVPD to SP would be of value to affected individuals, and assist clinicians in their provision of treatment.

1.2 AIMS AND HYPOTHESES OF THIS THESIS

The main hypothesis of this thesis is that there are distinctions between AVPD and SP that are relevant to recognition, treatment and course of AVPD. Consistent with the clinical focus of the research, this thesis also aims to better define the nature of AVPD, because this is likely to lead to more effective approaches to treatment. A further secondary aim is to improve recognition of AVPD by developing a screening tool suitable for use in clinical practice. In order to meet these aims three approaches were combined: (1) epidemiological data was examined to provide a population-based perspective; (2) volunteers recruited from clinics and the community allowed more specific investigation of the attributes hypothesised to differentiate AVPD and SP; and (3) a qualitative study was undertaken to provide in-depth information at the individual level and provide the opportunity to identify important aspects of the disorder that might be missed by existing quantitative methods of assessment, which are not specific for AVPD. A group with AVPD without SP (AVPD-only) was included for comparison as a strategy to maximise the likelihood of capturing differences by avoiding the potential for confounding if all participants meet criteria for SP. The use of three different

perspectives was a novel approach in this thesis, and the use of an AVPD-only group adds to a scarce literature.

1.2.1 Hypotheses developed for testing

1. That AVPD will differentiate from SP on socio-demographic variables and specific symptom and vulnerability variables identified by theory, research or clinical observation, including self-esteem, shyness, depression, heritable temperamental/personality factors, biobehavioural personality factors, and negative family environment in childhood; and that these differences are clinically meaningful.
2. That inclusion of a group with AVPD without SP to compare with SP-only and SP+AVPD groups will identify differences that might be missed if using SP-only compared to SP+AVPD groups (that is, where all participants have SP).
3. That insecure attachment is a significant problem in AVPD and that it represents an area of differentiation from SP.
4. That key personal beliefs and attitudes in AVPD around self-concept and rejection differentiate it from SP and provide a basis for rapid screening for the condition.

1.3 HISTORICAL CONTEXT: CLASSIFICATION IN PSYCHIATRY AND CONCEPTS OF PERSONALITY AND PERSONALITY DISORDER

The development of psychiatric classification systems and of concepts of personality and personality disorder are important contexts for studying the relationship between AVPD and SP and considering the significance and implications of the findings of this thesis. These contexts will be reviewed before proceeding to consider the case of AVPD and SP more

closely. As AVPD is the main focus of the thesis, more detail will be provided for this disorder.

1.3.1 Classification in psychiatry

It has been said that: “... *establishing a valid nosology has been the most fundamental and the most challenging project facing modern psychiatry.*” (Smoller, 2007; p. 1631. Within general medicine, classification is synonymous with diagnosis (Robins and Guze, 1970) and should allow predictions about course, prognosis and treatment. The American Psychiatric Association (2017) notes that the DSM aims to provide clinicians with an evidence-based manual. Many different approaches to classification have been advocated, and the limitations of expecting one system to be equally applicable for research, treatment and public health purposes have been discussed (Goldberg, 2000; Malhi and Porter, 2016). Widely accepted classification systems are advantageous for enabling replication and allowing generalisation of research findings but there is evidence that clinicians are increasingly using “not otherwise specified/not elsewhere classified” categories, suggesting that current nosological systems are becoming less relevant to clinical practice (Goldberg, 2010). Additionally, many authors identify definition, diagnosis and classification as separate issues. For example, Morey (1988), in a study of personality disorder (PD) criteria concluded that the features most central to a PD construct are not always those that are most useful in differentiating that construct from others. Prominent authors in the personality field have noted that classification systems have influences on their development that go beyond scientific knowledge: values, assumptions and political, strategic and cultural influences may also be at play (Grob, 1991; Spitzer, 2001; Wakefield, 2015; Goldberg, 2015; Widiger et al., 2015; Tyrer, 1988).

DSM-I and DSM-II employed a classical or Aristotelian monothetic categorical approach in which diagnostic entities had defining attributes. In contrast, subsequent iterations in the form of DSM-III, -IV and -5 have been based on a polythetic model (Widiger and Frances, 1985) in polythetic categories. Members share a large *proportion* of features but do not necessarily share a *given* feature. Hence, for a diagnosis of AVPD, any four of seven criteria are required. As Goldberg has pointed out, this more “Platonic” model is probabilistic in that requiring a certain threshold of symptoms makes it more likely that a “true” case of disorder will be captured (Goldberg, 2000).

1.3.2 Difficulties in establishing diagnostic validity in psychiatry

Within the medical model distinct syndromes are recognised as having defining characteristics, including specific aetiological factors, laboratory findings, course, and response to treatment. In psychiatry it is often not possible to identify these features. The medical model is therefore not readily applicable to psychiatry, yet it is by and large the model upon which current classificatory systems are based.

In an attempt to address these difficulties Robins and Guze (1970) suggested a five phase method for achieving diagnostic validity in psychiatric disorder. *Clinical description* is the first phase. *Laboratory investigations* follow, and in psychiatry might include psychological tests with established reliability and validity in addition to biological investigations.

Exclusion criteria should be identified that are stringent enough to exclude doubtful and borderline cases. In the *Follow-up* phase patients are re-examined to determine whether another disorder may have accounted for the initial symptoms, and to review course and treatment (if any) response. Finally, it was recommended that *Family studies* be carried out to look for heritable and environmental causes. Thus, any attempt to establish AVPD and SP as

distinct categories should identify relevant factors for study in each of these phases. The current thesis aims to add information towards clinical description, investigations and environmental causes, concentrating on factors hypothesised to be relevant on theoretical or empirical grounds.

1.4 CHARACTER, TEMPERAMENT, PERSONALITY, PERSONALITY DISORDER

A study of the etymological origins of the words in current usage when discussing personality makes it clear that the topic has been one of intense interest and observation back to antiquity. Additionally, the large number of words used to refer to these fundamental aspects of humanity testifies to the complexity of the area. Temperament, character, personality, constitution, and disposition are commonly used terms in PD literature, and these terms are frequently used interchangeably, perhaps because they are derived from similar concepts. The terms in earliest use appear to be character and personality. Character stems from the Greek *character* derived from *charassein*, to engrave, and *charax*, pointed stake. In other words, features that are the “mark” of the individual. The origin of person/personality can be traced back to the Etruscan *phersu*, meaning mask, from where it was later incorporated into the Latin *persona*, an actor’s face mask. Temperament derives from the Latin *temperamentum* or “proper mixing” from *temperare*, meaning to observe proper measure, mix, or regulate, perhaps suggesting a mix of inherited and environmental influences (Rettew and McKee, 2005), or the mixture of “raw materials” such as the distinct “humours” described by Galen and Hippocrates (Millon, 1981b). Constitution derives from the Latin “to set up or establish”, and disposition from the Latin “to arrange”, and their relevance to ideas of personality formation is easily appreciated.

Two principal schools of thought inform modern usage. In the German tradition, temperament and character are used interchangeably. Another tradition postulates that personality types are derived directly from temperamental “types” (e.g., see Millon, 1981a) or that temperament cannot be readily distinguished from personality (Graham and Stevenson, 1987). These early static models of personality have been replaced by more dynamic models, which propose that personality integrates and is influenced by many factors, including temperament and character (Cloninger et al., 1993), and this is the model that is adopted in this thesis. Personality models are becoming increasingly complex, with recognition that influence can be bidirectional. Figure 1.1. briefly summarises this evolution. Unfortunately, the variable usage of “character”, “temperament” and “personality” adds confusion to the area and makes it difficult to integrate the literature.

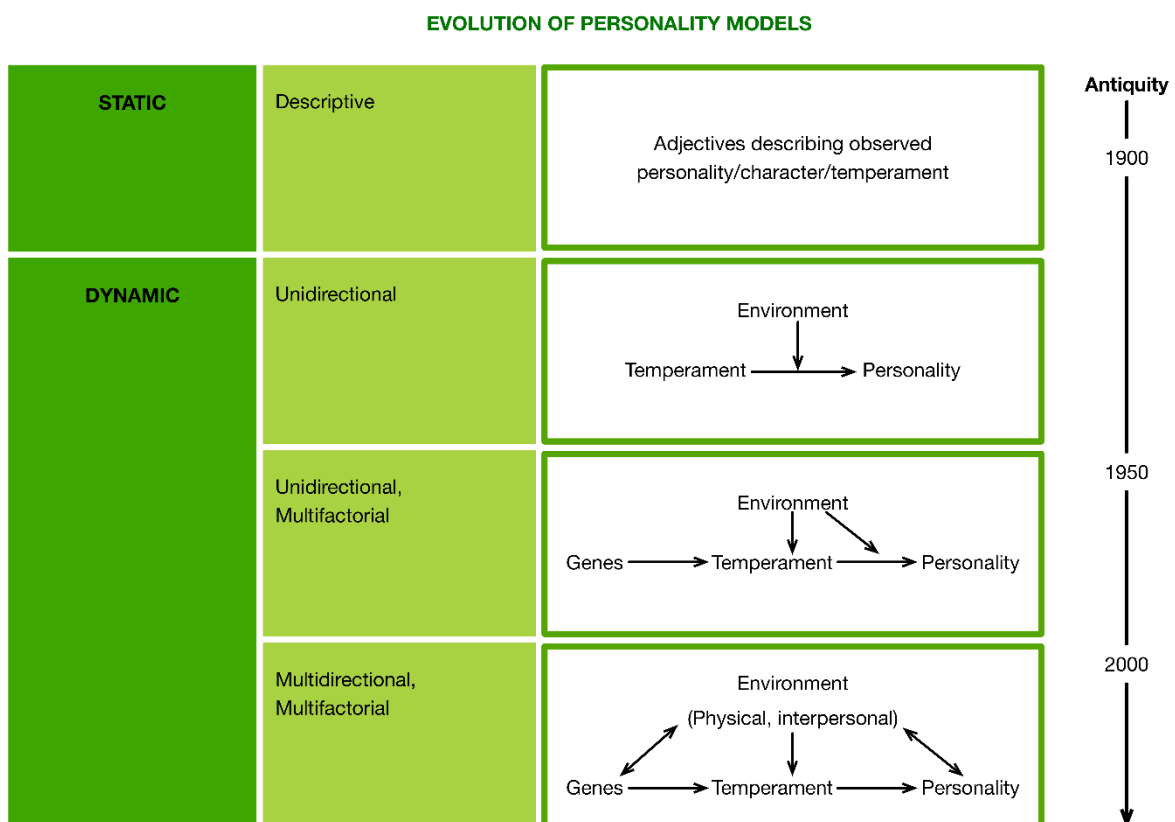


Figure 1.1: Evolution of personality models

1.4.1 Character

The earliest approaches to personality were descriptive, based on characterological observations such as those evident from the historical summary above. Raymond Cattell (1946) described 16 key “personality” factors; these were derived from factor analysis of thousands of adjectives describing personality and behaviour, and so are most consistent with a static characterological approach (Figure 1.1).

Clinical experience directly informed the models of two prominent psychiatrist researchers, George Vaillant and Robert Cloninger. These models are more dynamic, proposing an underlying temperamental substrate which influences the coping strategies chosen to meet varying environmental challenges. Vaillant spent almost 50 years studying coping and mental defense mechanisms in a group of Harvard graduates. His description of character as referring to the defensive and adaptive ways in which the individual relates to the environment is more consistent with modern notions of personality (Vaillant, 1987).

Cloninger’s psychobiological model (also referred to as the biosocial model) incorporates both character and temperamental factors (Cloninger et al., 1993). Character is seen in this model as including self-concept, goals and motivations; influenced by both heritable and environmental factors; and modifiable.

Character does not form a topic of study in this thesis, given its lack of representation in the literature on AVPD; however, there is overlap with the concept of temperament, which is a variable of interest in this thesis.

1.4.2 Temperament

Temperament has tended to be regarded as a collection of highly heritable biobehavioural dimensions of personality, “... *an underlying biological potential for behaviour*” (Millon and

Davis, 2000). Dimensions of temperament which can be reasonably reliably identified are said to include activity, emotionality, sociability and impulsivity.

Costa and McCrae revisited Catell's technique of factor analysis of personality adjectives, and the resulting Five Factor Model (FFM) of fundamental temperamental dimensions, also known as the "Big Five", has come to dominate the field (Costa and McCrae, 1990). It is difficult to overestimate the significance of the FFM in the study of psychopathology.

Temperament as represented by the FFM has been put forward as a unifying basis for personality and psychopathology (Clark, 2005). Its proponents refer to the FFM as a model of personality, emphasising their view of the pre-eminence of these factors in explaining personality differences.

A moderate genetic contribution to personality/temperament has been estimated, at 0.4-0.5 (Montag and Reuter, 2014), and there is robust evidence that the fundamental aspects of temperament are stable over time. Not only do these factors account for significant variance in personality and symptom disorders (Clark, 2005; De Pauw and Mervielde, 2010; Saulsman and Page, 2004; Rettew and McKee, 2005) but low levels of neuroticism and high levels of extraversion have consistently been linked with better psychological and even physical health (Nofle and Fleeson, 2010; van Dijk et al., 2016). Hence these are key factors to include in any study of personality.

The Big Five are: neuroticism, extraversion, openness, conscientiousness and agreeableness. Costa and McCrae developed the NEO Inventory to measure levels of these factors (Costa and McCrae, 2010). The construct which Costa and McCrae, and before them, the Eysencks, refer to as neuroticism is also known as negative affectivity, emotional instability or negative emotionality. It refers to a sensitivity to potentially adverse stimuli or consequences, together

with a proneness to negative affective states. Extraversion and conscientiousness are aligned with their common understandings. Openness aligns with being a creative, divergent thinker who is open to new ideas (Widiger and Costa, 2012). Agreeableness encompasses an individual's capacity for cooperativeness, empathy and connectedness.

Other models of temperament have been described (see for example Rettew and McKee, 2005; Cloninger, 1987; Musek, 2007). However, the FFM was employed in this thesis as it is the best validated and most widely accepted model, and the instrument developed to measure it is similarly well validated.

1.4.3 Personality

Allport referred to personality as “*the dynamic organisation within the individual of those psychophysical systems that determine his unique adjustments to his environment*”

(Cloninger, 1987). (Rutter, 1987) defined personality as referring to “... *the coherence of functioning which derives from how people react to their given attributes, how they think about themselves, and how they put these together into some form of conceptual whole*”.

Personality, therefore, as a concept is seen as taking into account biological, psychological and social factors as determinants of and aspects to a person's intrapsychic experience and outward behaviour. These factors interact to produce patterns of action and reaction within an individual in response to self, others and the environment.

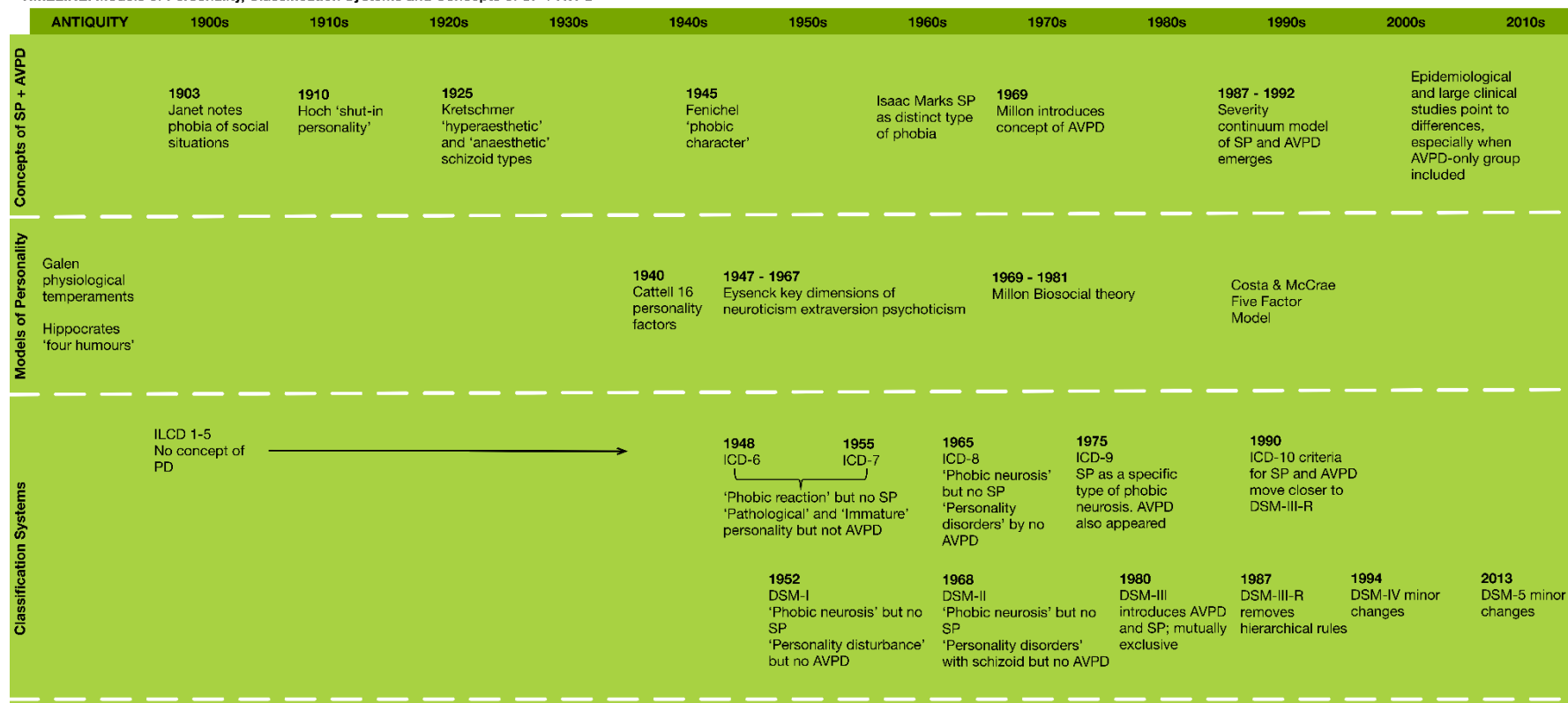
1.4.3.1 Models of personality

A great many researchers and clinicians have made important contributions to the study of personality. This necessarily brief introduction is limited to the current most widely accepted models, which have informed the present research. Figure 1.2 provides a timeline of this research.

Eysenck developed a theory of personality in which he proposed that variability could be accounted for by dimensions of introversion/extraversion and neuroticism/stability. To this he later added the dimension of psychoticism which he reported to have a relationship both to psychosis and to a cognitive style he described as “tough-mindedness” (Eysenck et al., 1976). Eysenck hypothesised underlying biological correlates to these traits, and proposed that psychiatric abnormalities were continuous with normality, but that normality was multi-dimensional. According to this conceptualisation, neurosis and psychosis occur as independent dimensions, which have points of normality and abnormality. Cloninger’s psychobiological model similarly proposes that both adaptive and maladaptive personality traits have the same underlying biological structure. These views are relevant to the concept of a spectrum of social anxiety that spans normal (e.g., shyness with unfamiliar people) to pathological (social anxiety and AVPD), whilst not suggesting that severity alone determines the point on the spectrum that a given disorder occupies.

Millon, important because he was the first to describe the avoidant personality style, formulated a theory of personality development based on learned coping patterns, which he called a “biosocial-learning theory” (Millon, 1981b). Theoretically derived, it was based on the premise that human behaviour is directed towards achieving positive reinforcement and avoiding punishment. Although social learning is not regarded as the sole or key determinant of habitual behavioural responses, the relevance of behavioural factors is recognised today as many authors see a dimension of activity or approach/inhibition as a key biobehavioural substrate of personality (Clark, 2005; Gray, 1990).

TIMELINE: Models of Personality, Classification Systems and Concepts of SP + AVPD



Note. ILCD = International List of Causes of Death; ICD = International Statistical Classification of Diseases; DSM = Diagnostic and Statistical Manual of Mental Disorders

Figure 1.2: Timeline: Models of personality, classification systems and concepts of SP + AVPD

1.4.3.2 AVPD as active detachment from others, with hypersensitivity to rejection

Millon postulated that personality differences developed in terms of whether individuals were more preoccupied with seeking pleasure or avoiding pain (*pleasure-pain*), whether they sought to obtain or avoid these reinforcements primarily within themselves or through others (*self-other*), and whether individuals behaved in an active or passive manner in order to elicit and avoid reinforcements (*active-passive*). He further characterised the dimension of “self-other” as *dependent* (reliant on others for pleasure and security, or to avoid pain), *independent* and self-reliant; or *ambivalent*. As regards the pleasure-pain dimension, he viewed some individuals as *detached* and relatively unable to experience pleasure; he included in this dimension a relative insensitivity to pain, but also hypersensitivity. He used these dimensions to create a matrix from which he identified eight personality types. It was thus that AVPD was described by Millon as an “active detachment” from others, with a hypersensitivity to the pain of rejection (Millon, 1981b).

1.4.4 Personality disorder

DSM-I, introduced in 1952, referred to *personality pattern disturbance* (schizoid, inadequate, paranoid, cyclothymic); *personality trait disturbance* (emotionally unstable, compulsive, and passive aggressive, with dependent and aggressive subtypes) and *personality disturbance* (sociopathic, with dyssocial and antisocial subtypes; American Psychiatric Association, 1952). In DSM-II, emotionally unstable became hysterical; passive aggressive, aggressive subtype became passive aggressive; compulsive became obsessive-compulsive; and of the sociopathic personality disturbance, only antisocial was carried forward, but a new category of “explosive” was added. An aesthenic personality disturbance was also added (Skodol et al., 2014).

Millon was on the DSM-III task force and his conceptualisation of personality disorders was highly influential. The authors of DSM-III sought to move away from psychoanalytic models of mental illness, and this theme continued into personality disorders, where Millon's model weighted "learned coping patterns" at least as heavily as intrapsychic conflicts in classifying personality (Millon, 1983). DSM-III largely reflected Millon's classification, and hence came to include schizoid, schizotypal and avoidant personality disorders, which between them accounted for all the features previously attributed to the schizoid style.

DSM-IV referred to PD as "*an enduring pattern of inner experience and behaviour that deviates markedly from the expectations of the individual's culture...*" (American Psychiatric Association, 1994, p. 630). The pattern was required to be inflexible, enduring, distressing or impairing, and manifest in at least two areas out of: cognition, affectivity, interpersonal functioning, impulse control. This definition is unchanged in DSM-5 (American Psychiatric Association, 2013).

ICD-10 refers to characteristic and enduring patterns of inner experience and behaviour that deviate markedly from the cultural norm, are present in most contexts, and cause personal distress or have an "adverse impact on the social environment" (World Health Organisation, 1993a).

The key feature on which there is general agreement with respect to PD is that it represents an abnormality of functioning which has an onset in adolescence or early adulthood, has persistence over time, is pervasive across situations and contexts, and represents basic aspects of the person's usual functioning. All definitions exclude temporary aberrations and abnormalities that are due to another cause (e.g., psychosis, substance misuse, depression, or a medical condition or its treatment).

1.4.5 “Illness” versus personality disorder

DSM-III in 1980 introduced five “axes” on which psychiatric and related disorders were to be classified. Disorders conceptualised as episodic in nature were generally classified on Axis I. Personality disorders, conceptualised as relatively inflexible and long term patterns of thinking and behaving, were considered separately on Axis II. “Axis I” and “Axis II” soon became a shorthand way of referring to these different categories of disorder, and in the former case neatly avoided the problem of lack of clarity around how these disorders were to be described: were they to be considered “illnesses”, for example? The abolition of the diagnostic axes with DSM-5 has introduced confusion once again around terminology for the episodic disorders, with terms such as “symptom disorders” and “mental state disorders” appearing in an attempt to fill the gap. This reflects wider problems in the definition and classification of psychiatric disorder (Malhi and Porter, 2016). It has been argued that SP shares features of a PD, being generally chronic rather than episodic, and having an early age at onset (Johnson and Lydiard, 1995; Jansen et al., 1994). There is also ample evidence that PD symptoms change over time (McGlashan et al., 2005; Hopwood et al., 2015; Durbin and Hicks, 2014; Wright et al., 2013), in contrast to their usual description as chronic and stable. It has been argued that similar vulnerabilities may underlie both Axis I and Axis II disorders (Kessler et al., 2011; Roysamb et al., 2011).

The problem of distinguishing personality disorder from “illness” has been especially problematic because most researchers in the field of personality prefer a dimensional model whereas most classification systems are categorical. The problem is not limited to the case of AVPD and SP. Similar problematic overlap can be observed between major depression and dysthymia (dysthymia having been alternately classified as a symptom disorder and a personality disorder), obsessive compulsive disorder and obsessive compulsive PD, and

bipolar disorder and borderline PD. Reich (2000) proposed allowing chronic Axis 1 disorders “with significant personality features” to be coded on Axis II.

Interestingly, DSM-5, whilst retaining the categorical model, offers an alternative dimensional classification, with the statement: “... *an alternative to the categorical approach (of personality) is the dimensional perspective that personality disorders represent maladaptive variants of personality traits that merge imperceptibly into normality and into one another*” (American Psychiatric Association, 2013), providing two contrasting approaches but stopping short of combining them.

1.5 ALTERNATIVE MODELS OF DEFINITION AND CLASSIFICATION OF PERSONALITY

Any alternative taxonomy must be informed by theory and research, compatible with what is known about normal personality structure and functioning, and must include an indication of severity and dysfunction (Livesley, 2011). Consideration of alternative classification systems is an extensive topic and hence it has only been reviewed to the depth necessary to provide sufficient context for later discussion about alternative models of classification of SP and AVPD and the findings of this thesis.

1.5.1 Dimensional models

Normal personality traits appear continuous, and there is no clear cut-off at which any particular trait may be deemed abnormal. Even strong expressions of certain traits can be adaptive in certain situations. For example, a painstaking meticulousness may be valued in a situation where the cost of a mistake would be very great, but would be quite maladaptive where speed is of the essence. There is therefore significant support for a dimensional representation of personality disorder, especially from the field of personality psychology. It has been argued that the FFM can accommodate all existing PD diagnoses, as well as a

prototypic classification (Widiger and Costa, 2012). Some authors have recommended a hierarchical model, with higher and lower order factors. For example, neuroticism and an internalising/externalising factor at the highest level (Hopwood et al., 2015; Bachrach et al., 2012) or negative affectivity, positive affectivity and disinhibition (Clark, 2005). Consensus is lacking on which might be other highest order factors, with suggestions including inhibitory capacity/impulsivity, positive emotionality, extraversion/sociability, and activity level (Rettew and McKee, 2005; Zawadzki and Strelau, 2010; Gray, 1990).

Other researchers have proposed a dimensional classification system based on the individual's emotional response and behavioral tendencies (Hofmann et al., 2004). Bachrach and colleagues (2012) have argued that higher order factors of negative affectivity and internalising/externalising could capture both symptom and personality disorders.

1.5.2 Hybrid models

A survey of expert personality researchers and clinicians indicated that in practice most wanted both a categorical and a dimensional model (Livesley, 2011; Bernstein et al., 2007). Whether this is feasible, and how to achieve it, is yet to be resolved.

One hybrid model recommends the combination of continuous with discontinuous aspects of personality in defining PD. Continuous aspects of personality include temperamental factors such as the Big Five, but research has demonstrated that PDs are not limited to extremes of these traits. Rather, some traits may be quite outside of normal experience, such as odd experiences in schizotypal PD. This is reflected in the Schedule for Nonadaptive and Adaptive Personality (SNAP) which includes both normative and pathological personality traits (Clark, 1993). And in regard to extreme points on a temperamental dimension, PD is not synonymous with being more than two standard deviations from the norm on a trait (Wright

et al., 2012). For example, a person that scored more than two standard deviations above the mean on extraversion would not necessarily have some type of PD. Both the SNAP and FFM measures generally performed better than DSM-IV categories in predicting outcome at 10 years in a follow-up study from the Collaborative Longitudinal Personality Disorders Study (Morey et al., 2012), supporting a model that includes both temperamental dimensions and discontinuous traits more readily identifiable as abnormal.

1.5.3 Newer models

Dynamic and network analysis models of personality have been described that prioritise the two-way interaction between experience (behaviours, thoughts, emotions and their consequences) and personality (Hopwood et al., 2015; Cramer et al., 2012). These models acknowledge a contribution from temperamental predispositions but do not view them as the pre-eminent determinant of personality and behaviour. A potential advantage of such models is their ability to incorporate individual differences. For example, in the DSM-5 categorical model, individuals must meet four of seven criteria to qualify for a diagnosis of AVPD, but they might only have one criterion in common, and in practice present quite differently. In contrast, a more dynamic network analysis model can include the specific cognitive drivers for a given behaviour (for example, “I avoid interaction with others when I have to be myself, but am comfortable if I am in my occupational role, because I will not feel judged in that situation”), thus providing a better understanding of the individual as well as better support for making a diagnosis of AVPD.

Personality theory is an active area of enquiry, and new findings from psychology, epidemiology and neuroscience are regularly increasing understanding of the complex factors involved.

1.6 CONCLUSIONS

Perhaps more so than any other branch of medicine, psychiatric nosology remains far from settled. Frequent new insights from neuroscience and longitudinal cohort studies continue to challenge existing models of disorder and ideas regarding “illness” and “personality disorder”; classificatory systems are intended to be informed by evidence. In this context, it is clear that conceptualisations of AVPD and SP reflect the current state of knowledge and are potentially modifiable should reliable evidence emerge to support changes. This thesis will contribute to the body of knowledge to be considered in future revisions of the DSM and ICD.

Chapter Two – Avoidant Personality Disorder and Social Phobia

Chapter overview

This chapter establishes avoidant personality disorder (AVPD) as a condition meriting further study since despite affecting around 2% of the population it remains poorly understood and a cause of significant disability. Doubts as to whether it is a distinct construct separate to social phobia (SP) have likely contributed to the relative paucity of research on AVPD. Important gaps and limitations of previous research are outlined, alongside the principal questions this thesis seeks to answer. AVPD and SP are described, including the history of their inclusion in psychiatric classification systems, and a summary of demographic correlations, clinical features, course, treatment and what is known of aetiology. Most emphasis is on AVPD as the principal condition of interest. The nature of the overlap between SP and AVPD is outlined and explanatory hypotheses considered, including the severity continuum hypothesis.

2.1 THE CLINICAL AND ECONOMIC RELEVANCE OF SOCIAL PHOBIA AND AVOIDANT PERSONALITY DISORDER

Both SP and AVPD are associated with significant distress, impairment and disability, which make them worthy targets of study. In addition to often high levels of associated distress, depression and suicidal ideation, these disorders also impact the community. Several factors in particular suggest a likely important economic impact: SP is a common condition (prevalence estimates of 3-8%) with an early age at onset (typically in the teenage years) and a chronic course; AVPD is less prevalent (estimated 2%), but similarly chronic and emerging early in life in terms of its onset.

SP is by far the better studied of the two conditions. A significant burden of disease has been demonstrated. Interestingly, a number of studies have shown that the burden of illness in SP is greater than for many chronic medical conditions including diabetes and heart disease (Fehm et al., 2005; Andrews and Peters, 1998). Persons with SP often fail to reach full occupational potential, are less likely to be in a long term intimate relationship and likely to have a less optimal quality of life (Fehm et al., 2005).

It has been shown that only a minority of individuals with SP seek treatment, and furthermore of those who do, few if any receive an evidence-based treatment (Issakidis and Andrews, 2002). Indeed, in a follow-up to the US Epidemiological Catchment Area (ECA) study it was found that SP was the Axis I disorder with the lowest proportion of treatment needs met, at only 7.9% of the group (Messias et al., 2007). Since treatment needs for AVPD have yet to be established, no data exist for unmet need in this condition. However, considering the severity of the burden of disease and impairment associated with AVPD, and the avoidance which is so integral to the condition, it would be expected that the proportion of individuals whose treatment needs have been met would be negligible.

2.2 HISTORICAL CONTEXT

The historical context is again relevant to understanding the relationship between AVPD and SP. As AVPD is the main focus of the thesis, more detail will be provided for this disorder. Figure 1.2 illustrated a timeline superimposing classification, concepts of personality and personality disorder, and the development of concepts of AVPD and SP. Table 2.1 provides a summary of the historical status of SP and AVPD in the most widely used classificatory systems in psychiatry, the DSM and the International Classification of Diseases (ICD).

Table 2.1: Status of SP and AVPD in major classificatory systems from 1900-2017

Classificatory system	Year	SP	AVPD
ILCD ^a -1-5	1900-1938	Absent	Absent
ICD-6	1948	Absent	Absent
DSM-I	1952	Absent	Absent
ICD-7	1955	Absent	Absent
ICD-8	1965	Absent	Absent
DSM-II	1968	Absent	Absent
ICD-9	1975	Specific type of phobic neurosis	Included ^b
DSM-III	1980	Included ^c	Included ^c
DSM-III-R	1987	Included ^d	Included ^d
ICD-10	1990	Included ^e	Included ^f
DSM-IV	1994	Included ^d	Included ^d
DSM-5	2013	Included ^d	Included ^d

Notes to table:

^a International List of Causes of Death;

^b conceptualised as a fear and avoidance of novel situations, not limited to social situations;

^c mutually exclusive diagnoses; AVPD a higher order diagnosis;

^d non-mutually exclusive;

^e included in category of “phobic anxiety disorders”;

^f called anxious (avoidant) personality disorder and conceptualised as fear and avoidance of novel situations without a marked social focus

2.2.1 Early descriptions of AVPD (1910-1960s)

Millon (1981b) has described in detail the historical and theoretical antecedents of AVPD. He cites Hoch’s 1910 identification of the “shut-in” personality that included reticence, shyness and seclusiveness, and Bleuler’s 1911 description of an apparent apathy towards the world being essentially a defence mechanism secondary to a “hypertrophied sensitivity” (Millon 1981b, p. 299), noting that Bleuler conceived of this as part of the schizophrenia spectrum. Krestchmer’s work, however, was possibly most salient for Millon. In 1925 Kretschmer described two subtypes of the schizoid character, an “anaesthetic” and a “hyperaesthetic” type. The anaesthetic type was characterised as unemotional and indifferent to the external

world. His notion of the hyperaesthetic type was of a sensitive, nervous, shy, timid individual who found life so painful as to withdraw back into the self. Also influential for Millon were Horney's description of a person who experienced "an intolerable strain in associating with people" and therefore employed interpersonal avoidance and an "active detachment"; and Fenichel's description of:

"'phobic characters' ... persons whose reactive behaviour limits itself to the avoidance of situations originally wished for"

(Millon's quote from Fenichel's 1945 work "The Psychoanalytic Theory of the Neurosis"; Millon, 1981b).

2.2.2 Early descriptions of SP; Marks, 1960s

Janet is credited with an explicit reference to a phobia of social situations in 1903 (Furmark, 2000), predating formal systems of psychiatric classification. Marks and Gelder, writing in the 1960s, regarded SP as a distinct category of disorder and demonstrated a distinct pattern of age at onset compared to other phobias (Marks and Gelder, 1966). However, all types of anxieties and phobias were generally lumped together in the category of "neuroses" in the DSM from the first edition (DSM-I) in 1952 until the third revision (DSM-III) in 1980. In the ICD, SP was not specifically mentioned until ICD-9 in 1975, where it was classified as a specific type of phobic neurosis. A thoughtful consideration of the history of SP in classificatory systems is provided by Skocic and colleagues (2015).

2.2.3 Millon, 1969; AVPD

Synthesising the wealth of psychiatric writing he uncovered, Millon described the avoidant personality style in 1969. He conceived the essence of AVPD as a longing to relate to others, frustrated by essential self-doubt and a mistrust of others leading to an "active-detached"

pattern of interpersonal interaction, that is, active withdrawal from or avoidance of social interaction because of anticipated humiliation or rejection. Oversensitivity to social stimuli and hyper reactivity to the moods and feelings of others, especially when critical evaluation or rejection might result, were also seen as core. AVPD was contrasted with the “passive-detached” pattern of schizoid PD, characterised by underarousal, amotivation, insensitivity to social cues and lack of interest in interpersonal relationships.

2.2.4 DSM-III 1980

SP and AVPD were introduced in DSM-III in 1980. DSM-III was a hierarchical classificatory system, in which meeting criteria for disorders designated as higher order conditions precluded the assignment of lower order diagnoses. In DSM-III, AVPD was positioned above social phobia (SP) in the hierarchy. This meant that if a person met criteria for AVPD, a diagnosis of SP could not be made. This effectively made SP and AVPD mutually exclusive diagnoses. Even so, Turner and colleagues (1986) noted similarities in the DSM-III descriptions of SP and AVPD.

2.2.5 DSM-III-R 1987

Overlap between SP and AVPD became markedly more problematic in 1987 when the DSM-III revision (DSM-III-R) was released. DSM-III-R removed the hierarchical rules of diagnosis, with the effect that both SP and AVPD could be diagnosed in the same individual. At the same time, the criteria for AVPD were changed in a way that minimised differences to SP. Criteria around fears of being inappropriate or embarrassed were added to AVPD, which increased similarity to the criteria for SP. The role of low self-esteem and hypersensitivity to rejection was diminished in AVPD. An additional complication was the subtyping of SP into “circumscribed” (defined as “fear of one or only a few social situations”) and “generalised” (defined as “fear of most social situations”). This subtyping was especially problematic as

“most” social situations was not operationalised. Clinicians and researchers were left to determine for themselves whether a diagnosis of circumscribed or generalised SP (GSP) should be assigned. In recent years, research has called into question the validity of subtypes, and this distinction is now less commonly made (Stein et al., 2000; El-Gabalawy et al., 2009; Bögels et al., 2010; Stein et al., 2010). Overlap with AVPD was mainly a problem in groups with GSP, and hence the rest of the introduction should be read as referring to individuals whose SP affects them in most social situations.

2.2.6 DSM-IV 1994

It has been suggested that in the 4th edition of the DSM (DSM-IV, used for the current study), changes to the criteria for AVPD were made in order to more closely reflect Millon’s original conceptualisation of AVPD (Millon, 1991), and improve the internal consistency of items (Nurnberg et al., 1994; Baillie and Lampe, 1998). DSM-III-R and DSM-IV criteria for AVPD are compared in Table 5.1. DSM-IV refined the criteria around interpersonal anxiety, by specifying the motivators for avoidance as fears of shame, ridicule and criticism from others, and a sense of personal inadequacy. It described a “restraint” in intimate relationships, and added a criterion regarding negative self-concept. Few changes were made to the criteria for SP except to specify that the fear was triggered by situations in which the person was exposed to “unfamiliar people” or possible scrutiny (the latter retained from DSM-III-R; see Table 5.2).

2.3 SOCIAL PHOBIA

2.3.1 Criteria for social phobia

DSM-IV criteria for SP were used in this thesis and are shown in Table 2.2.

Table 2.2 DSM-IV criteria for social phobia

DSM-IV Diagnostic Criteria for Social Phobia	
A.	A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. Note: In children, there must be evidence of the capacity for age-appropriate social relationships with familiar people and the anxiety must occur in peer settings, not just in interactions with adults.
B.	Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack. Note: In children, the anxiety may be expressed by crying, tantrums, freezing, or shrinking from social situations with unfamiliar people.
C.	The person recognises that the fear is excessive or unreasonable. Note: In children, this feature may be absent.
D.	The feared social or performance situations are avoided or else are endured with intense anxiety or distress.
E.	The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.
F.	In individuals under age 18 years, the duration is at least 6 months.
G.	The fear or avoidance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition, and is not better accounted for by another mental disorder (e.g., Panic Disorder With or Without Agoraphobia, Separation Anxiety Disorder, Body Dysmorphic Disorder, a Pervasive Developmental Disorder, or Schizoid Personality Disorder).
H.	If a general medical condition or another mental disorder is present, the fear in Criterion A is unrelated to it, e.g., the fear is not of Stuttering, trembling in Parkinson's disease, or exhibiting abnormal eating behaviour in Anorexia Nervosa or Bulimia Nervosa.

Specify if:

Generalized: if the fears include most social situations (also consider the additional diagnosis of Avoidant Personality Disorder).

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2.3.2 Nature, course and prevalence of social phobia

Prevalence estimates vary according to the diagnostic instrument used and because of other methodological factors, but estimates of DSM-IV SP generally range between 4-7% in Europe, the UK, the US, Australia and New Zealand (Fehm et al., 2005; Andrews, 2006; Lampe et al., 2003; Wells et al., 2006; Ruscio et al., 2008; Crome et al., 2015; McEvoy et al., 2011), and may be lower in Asian and developing countries (Mohammadi et al., 2006; Nagata et al., 2015).

In community surveys a female excess is generally reported, ranging from 1.5-2.2 (Fehm et al., 2005).

The age at onset is overwhelmingly in the teenage years (Fehm et al., 2005). The NCS-R reported that 50% of individuals with SP experienced the onset by age 13 years, and 90% by age 23 years (Kessler et al., 2005); individuals who reported more than four social fears tended to have a somewhat earlier age at onset of SP than those with 1-4 fears (Ruscio et al., 2008). It has been suggested that the typical age at onset occurs at the time of development of the cognitive capacity for mental representations of how others see the individual.

The course is invariably reported as chronic (Fehm et al., 2005), with a low likelihood of spontaneous remission. A recent review reported estimates from prospective community studies ranging from 36-66% for full remission, and from retrospective community studies an average 56% lifetime remission rate (Vriends et al., 2014).

2.3.3 Aetiology

Most studies suggest a significant role for genetic factors, with estimates that they may account for about 30-60% of the variance in SP (Kendler et al., 1999; Andrews et al., 2003; Craske et al., 2017). However, it is likely that the majority of this reflects one or more common genetic risk factors for anxiety and depression, with only a relatively small component specific to social fears or social anxiety (Rapee and Spence, 2004; Low et al., 2008).

Neuroticism has a significant genetic component (Eaves et al., 1999; Bienvenu et al., 2007) and appears to be a likely candidate for much of the shared risk, whilst introversion may underlie some of the more specific risk (Bienvenu et al., 2007).

Temperamental factors, such as trait anxiety, harm avoidance and behavioural inhibition appear to be associated with increased rates of anxiety disorders, including SP (Bienvenu et al., 2007). Of interest for some time now is the temperamental factor referred to as “behavioural inhibition to the unfamiliar” (Kagan et al., 1988). Behavioural inhibition (BI) is identifiable in infancy, but manifests differently, and is triggered by different situations at different ages. For example, the earliest triggers include noise, where the infant will react with a startle response. A few years later, BI is manifest by withdrawal from the situation, often with clinging or maintaining proximity to the mother when the trigger is a stranger. Physiological markers of sympathetic arousal in children high in BI have also been demonstrated (Hirshfeld-Becker et al., 2008). Whilst many children may “grow out of” these reactions, there is some evidence that extremes of behavioural inhibition or disinhibition may be more stable, and that stable levels of these factors may have some association with later psychological problems: externalising or conduct disorders in the disinhibited, and anxiety disorders in the inhibited. Research also suggests that BI may have physical fear and social fear components. The social fear components may be more stable and more closely associated with later SP, whilst the presence of physical fear components may explain the broader associations of BI with other anxiety disorders (see Rapee and Spence, 2004; Hirshfeld-Becker et al., 2008).

Environmental factors have been proposed to be relevant. Associations with anxious attachment and an “over-controlling” parenting style with anxiety disorders in general have been demonstrated (Elizabeth et al., 2006; Barrett et al., 2001; McLeod et al., 2007), however, a meta-analysis of mainly cross sectional studies of anxious children and their parents estimated the role of parenting style to be very limited, accounting for only about 4% of the

variance in childhood anxiety (McLeod et al., 2007). Hence, parenting style is a possible candidate for differentiation from AVPD, where it may have much greater relevance.

2.3.4 Treatment and outcome

Treatment is well established in SP, with demonstrated effectiveness of both pharmacotherapy and cognitive behaviour therapy (Boyce et al., 2015; Ipser et al., 2008). However, SP may have lower pre-post treatment effect sizes (effect size estimated at 0.36 for psychological treatment in comparison to credible psychological placebo) than other anxiety disorders (Norton and Price, 2007; Acarturk et al., 2009; Powers et al., 2008). Without treatment, SP tends to be chronic, as evidenced by the low naturalistic remission rates. The chronicity and relative resistance to treatment of SP are “personality-like” features that may contribute to overlap with AVPD.

2.4 AVOIDANT PERSONALITY DISORDER

2.4.1 Definition of the disorder

AVPD is described as “*a pervasive pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation beginning by early adulthood and present in a variety of contexts*” (American Psychiatric Association, 1994). The DSM-IV criteria for AVPD are shown in Table 2.3. A minimum of four criteria are required to make the diagnosis.

Table 2.3 DSM-IV criteria for AVPD

DSM-IV Diagnostic Criteria for Avoidant Personality Disorder
A pervasive pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation, beginning by early adulthood and present in a variety of contexts, as indicated by four (or more) of the following:
1. Avoids occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection.
2. Is unwilling to get involved with people unless certain of being liked.
3. Shows restraint within intimate relationships because of the fear of being shamed or ridiculed.
4. Is preoccupied with being criticized or rejected in social situations.
5. Is inhibited in new interpersonal situations because of feelings of inadequacy.
6. Views self as socially inept, personally unappealing, or inferior to others.
7. Is unusually reluctant to take personal risks or to engage in any new activities because they may prove embarrassing.

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2.4.2 Syndromic description

Although described as “theoretically derived”, Millon paints a rich and evocative clinical picture of the disorder (Millon, 1981b):

“They feel their loneliness and isolated existence deeply, experience being ‘out of things’ as painful, and have a strong, though often repressed, desire to be accepted.”

“Avoiding situations that may result in personal humiliation or social rejection is the guiding force behind their interpersonal relationships.”

“Deprived of feelings of worth and self-respect, these persons suffer constantly from painful thoughts about their pitiful state, their misery, and the futility of being themselves... It is their entire being that has become devalued...”

2.4.3 Epidemiology and course of avoidant personality disorder

Relatively few studies have examined prevalence and demographic correlates of AVPD.

Women appear at more risk for AVPD in some (Grant et al., 2004; Lampe and Sunderland, 2015) but not all (Coid et al., 2006; Lenzenweger et al., 2007) studies. The small amount of data regarding age differences is inconsistent. Prevalence estimates for the most part cluster around 2% (Asarnow et al., 2001; Lampe and Sunderland, 2015; Reichborn-Kjennerud et al., 2007; Cox et al., 2009; Grant et al., 2004) . Slightly lower and higher estimates have also been reported (Coid et al., 2006, 0.8%; Trull et al., 2010, 1.2%; Tillfors et al., 2004, 6.6%; Quirk et al., 2017, 9.3%). But because personality disorder is generally poorly recognised in clinical practice (Lampe and Hagiwara, 2013; Stevenson et al., 2011) there is good reason to believe that the diagnosis is frequently missed, leading to a missed opportunity for intervention.

For similar reasons, little is known empirically about the course of AVPD, but in keeping with its conceptualisation as a PD, it is expected to show a chronic course, and the limited literature on this aspect supports this view. At reassessment two years after intake, 50% of those with an initial diagnosis of AVPD continued to meet criteria for the disorder in one study (Grilo et al., 2004). Two community studies with long term follow-up periods (10-18 years) reported moderate levels of stability (Torvik et al., 2016; Nestadt et al., 2010). In the study by Torvik and colleagues, 69% of those with AVPD continued to meet criteria for the disorder after ten years. However, some reduction in AVPD symptoms over time was reported from the CLPS, in tandem with changes in personality traits observed more broadly across respondents, for example, decreases in neuroticism (Wright et al., 2013).

2.4.4 Family history

In a community survey, the relative risk of having a parent with excessive social anxiety was elevated in both SP and AVPD with a relative risk for SP-only of 2.3, and AVPD-only of 2.5

(Tillfors et al., 2001). The relative risk in SP+AVPD was 2.8. These findings neither support nor refute the continuum hypothesis, since common vulnerability factors may underlie phenotypically different disorders.

2.4.5 Burden of disease and comorbidity

Community-based studies have demonstrated that compared to controls, persons with AVPD are less likely to be married or cohabiting and to be in paid work; they are likely to be less well educated, and more likely to be receiving a disability payment (Olsson and Dahl, 2012; Vaughn et al., 2010).

Persons with AVPD were more likely to report poorer physical health, more doctor visits, and greater overall mental distress in the study of Olsson and Dahl (2012). A higher level of disability and lower quality of life has been described (Marques et al., 2012). In an epidemiological sample, AVPD was associated with increased odds of comorbid mood, anxiety and substance disorders, with perhaps a particular risk for depression (Cox et al., 2009).

2.5 AETIOLOGY OF AVPD

In this section the various aetiological theories are briefly outlined. More detail is presented in subsequent chapters.

2.5.1 Theories based on the nature and quality of parental relationships

Consistent with psychoanalytical theory that proposes that personality development is critically influenced by childhood experience, most aetiological theories of AVPD have been based on factors operating in early childhood, most importantly the child's relationship with principal caregivers. The importance of criticism and rejection in the child's relationships

with his or her parents has been stressed, and to a lesser extent, inconsistency or unavailability of parents. A number of studies have also looked at separations from caregivers, both feared and actual. Attachment theory is the most often cited model put forward to explain how such childhood experiences may result in the cluster of symptoms that have been described as AVPD; other researchers have measured rates of such experiences without explicitly invoking an attachment model, or used an alternative explanatory model, such as cognitive behaviour theory. For the most part, these theories have not been directly validated.

2.5.1.1 *Attachment theory*

Attachment theory features prominently in aetiological models of AVPD. Bowlby originally proposed attachment style as a theory of personality development, and it is the avoidant/detached/dismissing style that has been proposed to contribute to the development of AVPD, often referred to in the relevant literature as an “anxious/avoidant” personality style. Bowlby proposed that the quality of infant-caregiver relationships resulted in psychological internalisations, or “working models” that not only guided the nature and quality of future relationships, but also the individual’s self-concept. The anxious/avoidant individual is said to have a negative view of themselves and to fear intimate relationships (Brennan and Shaver, 1998). Bartholomew (1990) was the first to delineate a fearful attachment style, and described it as involving a desire for intimacy in the presence of interpersonal distrust and fear of rejection. When extreme, Bartholomew regarded it as typical of AVPD. Millon considered early interactions with parents as an important aetiological factor in AVPD, even though he did not describe the effects in terms of an attachment model (Millon, 1981b). Exploration of attachment has become a promising focus of enquiry in AVPD (e.g., Eikenæs et al., 2016). Attachment provides a link between temperament, adverse childhood environment and PD (Crawford et al., 2006; Allen et al., 1996; Fossati et al., 2015; Rettew and McKee, 2005).

Because of the prominence of attachment in aetiological theories of PD and more specifically AVPD, and its place as a possible differentiating factor from SP, a systematic review of the attachment literature with respect to AVPD is presented in Chapter Three.

2.5.1.2 *Cognitive and cognitive-behavioural theories*

It has been proposed that hypervigilance may develop as a coping strategy with an inaccessible or inconsistent parent (Stravynski et al., 1989; Lafreniere, 2009) and this hypervigilance may then generalise to other social situations. If this were the case, it would not assist in distinguishing between social phobia and AVPD, since both conditions demonstrate hypersensitivity to social cues. Other authors suggest that negative expectancies after repeated negative interactional experiences with parents might develop in the child and result in the use of avoidance as a prominent coping strategy (Beck et al., 1990; Meyer and Carver, 2000; Millon, 1981b). From a cognitive theory perspective, this would represent a cognitive mediational factor reinforcing avoidance as a coping strategy. Again, no differentiation from SP is suspected but it could be argued that SP, with its usual onset in adolescence, is less indicative of an early pattern of social disturbance, providing some point of difference.

Lafreniere (2009), although using an attachment theory perspective, proposed a cycle of anxiety-avoidance-isolation, which is conceptualised as a series of behavioural adaptations to a perceived failure to achieve a basic goal of social affiliation. A child who repeatedly fails to achieve social affiliation, perhaps because of a primary caregiver who is inconsistent or high in negative affectivity, may become anxious about social interaction and begin to avoid it, resulting in social isolation, which in turn predisposes to greater emotional distress. This cycle is seen as a non-specific risk factor for anxiety, mood and certain PDs. The importance of

considering bidirectional influences in interpersonal interactions has also been noted (Hook and Valentiner, 2002). There is robust evidence that an avoidant interaction style can lead to negative social evaluation, which can reinforce negative self-appraisals and the likelihood of future avoidant behaviour.

Millon (1981b) viewed the depreciation of self-esteem as a critical factor resulting from parental rejection or denigration (p. 318). He theorized that if infants experienced emotionally withdrawn parents during what he termed the “sensory-attachment” stage (the first twelve months of life), this might result in feelings of tension and insecurity (p. 319). If infants were to experience ridicule and denigration during the “sensorimotor-autonomy” stage (12 months to 6 years; Davis, 1999) then this might adversely affect the development of confidence and competence. Millon proposed that patterns of social hesitancy and avoidance would thus be evident in early childhood, even before starting school. Remarkably, age at onset has seldom been addressed separately for AVPD and SP, but the few studies that have looked at this issue point to an earlier age at onset for AVPD (Holt et al., 1992; Lampe, 1994).

2.5.1.3 Effects of childhood experience on personality development (not specifically based on attachment theory)

Stravynski and colleagues (1989) suggested that parents who used guilt and shame to control their children’s behaviour might particularly undermine the development of self-esteem in the child. They found that, compared to a matched normal sample, patients with DSM-III AVPD perceived parents as less affectionate, more rejecting, guilt-engendering, favouring other siblings, less tolerant and less encouraging of achievement. Other studies have compared the experiences of patients with AVPD to those with other PDs. AVPD was most closely linked to a recalled history of neglect, and borderline PD to the combination of neglect and abuse in

one such study (Joyce et al., 2003). However, the Collaborative Longitudinal Personality Disorders Study (CLPS) found relatively no differences between AVPD and other PDs on patients' reported experiences of physical or emotional abuse, or caretaker emotional denial. There were differences, though: those with a primary diagnosis of AVPD reported fewer positive relationships with other adults and poorer parental social ability, less often reported playing any sport well, and less hobby involvement as well as less sexual abuse and physical neglect than a group of persons with other PDs (Rettew et al., 2003).

Research in non-clinical samples has also reported links between early caregiver experiences and AVPD. Investigations using an early maladaptive schema (EMS) paradigm found associations with maternal overprotection and family sociability that were mediated in part by an EMS of belief in the need to subjugate personal needs, wants and desires to avoid negative interpersonal outcomes (Carr and Francis, 2010). Relationships between AVPD symptomatology and childhood factors have also been reported (Hageman et al., 2015).

Participants with higher levels of AVPD symptomatology were likely to report higher levels of childhood emotional abuse, neglect, and sexual abuse; higher parental overprotection and lower care; and childhood teasing. A regression analysis indicated that only sexual abuse and teasing made unique contributions to AVPD symptomatology. Various types of childhood adversity were reported by 25-33% of respondents who met criteria for AVPD in the NESARC study (Afifi et al., 2011). However, after controlling for sociodemographic factors, mood, anxiety and substance use disorders, only emotional neglect was associated with AVPD. Emotional neglect and/or abuse have been reported as the most significant adverse childhood factors associated with AVPD in a number of additional studies (Joyce et al., 2003; Grilo and Masheb, 2002; Johnson et al., 2000).

In summary, despite some variability of findings, there seems to be reasonable support for an association between neglect and abuse by early caregivers and later AVPD symptomatology.

2.5.1.4 *Temperament*

Temperamental factors have also been suggested to be aetiologically significant (Eggum et al., 2009). A number of theoretical models have been invoked, including Cloninger's Biosocial Model, the Five Factor Model, and a model based on the Behavioural Activation System (BAS) and Behavioural Inhibition System (BIS; Gray, 1990). Personality rigidity, hypersensitivity, high harm avoidance, low novelty-seeking, and an overactive behavioural inhibition system have been proposed as relevant factors (Eggum et al., 2009), with some supportive evidence (Griego et al., 1999; Joyce et al., 2003; Marteinsdottir et al., 2003).

Negative emotionality, behavioural inhibition and shyness are proposed as important predisposing factors for both social phobia and AVPD by numerous authors (Eggum et al., 2009; Goldin et al., 2009; Spence and Rapee, 2016). AVPD has been reported to load mainly on a temperamental factor of "Anhedonic Introversión" in a factor analytic study of data from a large twin panel, whereas SP loaded more highly on an "Internalising" factor (Roysamb et al., 2011).

A relationship between attachment and temperament has also been described. For example, the amount and expression of distress an infant experiences with a separation from the early caregiver may be influenced by temperamental traits, and the responsiveness of the caregiver may influence attachment (Rettew and McKee, 2005). A bidirectional influence is now known to occur in the infant-caregiver dyad, so it is feasible that the temperament of an infant may also influence the nature of the caregiver response.

A biobehavioural factor of approach/avoidance has been proposed to be of particular relevance. “Onlooking” behaviour, where a child watches others play but is too anxious to attempt to join them, has been described as a behavioural marker of an “approach-avoidance” conflict (Coplan et al., 2006; Asendorpf, 1993). In this model, an avoidant child is said to be low on social approach and high on social avoidance. In one study, avoidant children differed significantly from shy, unsociable and sociable children by having higher scores on measures of depressive symptoms, negative affect, fear of negative evaluation, and lower scores for positive affect and well-being (Coplan et al., 2006). It has been suggested that the avoidant group might be particularly prone to AVPD (Eggum et al., 2009). These findings support the inclusion of behavioural approach/inhibition as a variable for study with respect to AVPD.

There is evidence to suggest that temperament may act as a mediator or moderator of the outcome of negative experiences with caregivers in early childhood. In one study, more introverted patients with AVPD perceived their parents as more shaming and guilt-engendering and less tolerant, whereas for controls there was a relationship between neuroticism and reports of parents as more punitive, depriving and abusive, and less stimulating (Stravynski et al., 1989). An association between AVPD symptoms and optimism was limited to participants who were highly sensitive in a non-clinical study (Meyer and Carver, 2000). These findings suggest that interactions between temperamental and other variables should also be tested in any study.

2.5.1.5 Genetic factors

A large twin study has examined genetic influences on AVPD and SP over time, reporting on both initial and 10 year follow up observations (Reichborn-Kjennerud et al., 2007; Torvik et al., 2016). Genetic influences on AVPD were stable over time, but the genetic risk for SP

varied, with about 30% of the genetic variance being unique at each time point. The authors concluded that environmental factors contributed to co-occurrence of AVPD and SP but that, importantly, there are potentially distinct factors underlying SP and AVPD.

In another study based on the Norwegian twin panel, a more substantial heritability coefficient of 0.64 was estimated (Gjerde et al., 2012). A particular strength of this study was the use of two assessment methods at different time points. The sample was also relatively young, 18-31 years, which might explain a seemingly higher genetic influence.

2.5.2 Treatment and outcome

Apart from case reports there is little research into the treatment of AVPD specifically (Lampe, 2016; Drago et al., 2016; McMain and Pos, 2007). Pharmacotherapy is generally not thought to be effective in PD, and there are no trials of its targeted use in AVPD reported in the literature. Clinical recommendations exist for using similar pharmacotherapeutic approaches as for SP (Herpertz et al., 2007; Deltito and Stam, 1989) and there are reports of improvement in AVPD symptoms with effective pharmacotherapy of comorbid SP (Reich, 2000).

In terms of psychological treatment, graded exposure, CBT, social skills training and supportive-expressive psychotherapy have all been reported to be helpful, although the number of studies is small and often limited to SP with or without AVPD (Alden, 1989; Emmelkamp et al., 2006; Stravynski et al., 1989; Stravynski et al., 1994; Barber et al., 1997; Renneberg et al., 1990; Karterud et al., 2003; Kvarstein et al., 2017). Despite improvement, many participants did not reach normative levels of functioning or showed only moderate improvement (Alden, 1989; Eikenaes et al., 2006; Simon, 2009; Oosterbaan et al., 2002), although a group dynamic therapy program reported more functional improvement than

reduction in symptom distress (Kvarstein et al., 2017). Several trials of CBT in SP-only vs. SP+AVPD found no differences in outcome (Hope et al., 1995; Van Velzen et al., 1997), or no differences once baseline severity was controlled for (Hofmann et al., 1995), but there are also reports of a poorer outcome unrelated to severity of SP symptoms (Huppert et al., 2008), supporting the possibility of distinct differences. Retention in treatment may also be an issue, with a study of supportive-expressive therapy reporting a 46% drop-out rate (Barber et al., 1997).

2.6 CHALLENGES IN THE CURRENT CONCEPTUALISATION OF SOCIAL ANXIETY DISORDERS

2.6.1 The social anxiety spectrum

Social anxiety exists on a spectrum with regard to both severity and pervasiveness. This is evidenced by the near universal experience of what may be called “normal” social anxiety, which is common in situations where we feel self-conscious or lacking in confidence around others. For example, fears of public speaking are extremely common in the community (Stein et al., 1996), suggesting that they represent a type of social anxiety that encompasses both normal and abnormal levels of severity and impairment. Making the distinction between the normal and the pathological thus becomes challenging. One conceptualisation places normal social anxiety, shyness, SP and AVPD on a severity continuum (Rettew, 2000; Figure 2.1). However, this is problematic, as there is evidence to suggest that the conditions on this spectrum are not merely more or less severe versions of the same construct.

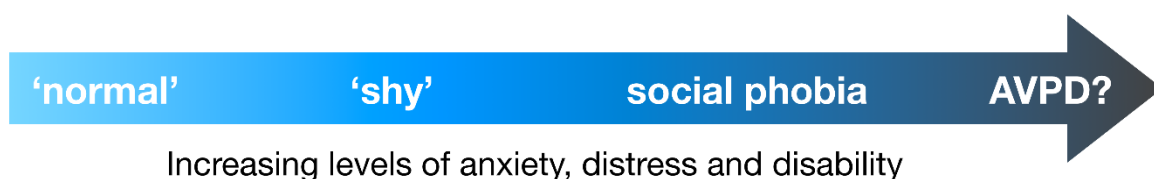


Figure 2.1: Severity continuum model of social anxiety

For example, the distinction between performance and interaction based fears that has been identified (Carter and Wu, 2010), and reported overlap with body-focussed concerns and social deficit disorders (Stein, 2004) argue against a unidimensional structure.

2.6.2 Is shyness part of a social anxiety continuum?

Shyness has been defined as a temperamental trait of inhibition in novel social situations or in situations that involve possible social evaluation (Karevold et al., 2012). Shyness is generally regarded as a continuous trait, and there are sufficient differences from SP to suggest that it should not merely be regarded as a milder version of this disorder (Chavira et al., 2002; Turner et al., 1990). A longitudinal study showed shyness to be increasingly stable beyond early childhood, and to be correlated with depression, anxiety and poorer social skills in adolescence (Karevold et al., 2012). Shyness has been shown to have an association with both SP and AVPD, with increased rates of these disorders shown in shy compared to normative samples; in one study the rate of SP was particularly elevated (Chavira et al., 2002). It has also been noted that shy behaviour attracts peer rejection after the age of about 10 years, and hence of itself may become a perpetuating factor (Eggum et al., 2009). These findings prompted the inclusion of shyness as a variable of interest in this thesis.

2.6.3 The relationship between SP and AVPD

Following its introduction to DSM-III in 1980, most of the early literature relating to AVPD concerned questions around its differentiation from schizoid personality, because of the shared feature of social detachment and potential for anxiety in social situations. The changes in DSM-III-R which allowed dual diagnosis of both SP and AVPD prompted a plethora of research examining the associations and consequences of an additional diagnosis of AVPD in SP (Mendlowicz et al., 2006). High rates of comorbidity with AVPD, often in over 50% of SP

samples, were reported (Alden et al., 2002; Alnaes and Torgersen, 1988; Brown et al., 1995; Schneier et al., 1991; Reich, 2000).

In a number of studies both SP and AVPD were associated with similar social fears, and high levels of social anxiety and social avoidance (Herbert et al., 1992; Holt et al., 1992). Most studies concluded that comorbid SP+AVPD was associated with greater symptom burden and distress, greater disability and more functional impairment (Reich, 2000). However, in many studies, once the severity of SP was controlled for (e.g., Chambless et al., 2008; Feske et al., 1996), any statistical differences disappeared. Additionally, it was shown that as SP symptoms were successfully treated, avoidant personality traits also ameliorated (Reich, 2000). It was thus generally concluded that AVPD represented a more severe form of SP, and could not be otherwise distinguished from it. This became known as the “severity continuum hypothesis” or simply “continuum hypothesis” prompting many to ask, as did Chambless and colleagues (2008), whether an additional diagnosis of AVPD was meaningful.

When considering the weight to give to any research findings, the methodology employed must be taken into account. Since AVPD-only was considered to be rare, research following the publication of DSM-III-R was overwhelmingly conducted in samples who all met criteria for SP. When all participants meet criteria for SP, it may exaggerate the similarities between SP and AVPD. Interestingly, AVPD was found in patients with panic disorder at a rate not statistically significantly different from that in SP in one study (Jansen et al., 1994). It may thus be premature to conclude that the severity continuum hypothesis is correct. Ralevski and colleagues (2005) called for the inclusion of an AVPD-only group in future research. To date, this remains uncommon, and the author identified only five studies employing DSM-IV criteria (Ralevski et al., 2005; Hummelen et al., 2007; Reichborn-Kjennerud et al., 2007; Cox et al., 2009; Eikenaes et al., 2013) which reported data for an AVPD-only group.

2.7 ALTERNATIVES TO THE SEVERITY CONTINUUM HYPOTHESIS

A number of authors have reported differences from SP that they regard as significant enough to warrant retaining separate categories for the disorders, including differences in genetic risk, core self-concepts and cognitive concerns, or differences between AVPD-only and SP+AVPD groups that are inconsistent with a severity continuum (Dreessen et al., 1999; Torvik et al., 2016; Marques et al., 2012; Lampe and Sunderland, 2015; Tillfors and Ekselius, 2009; Eikenaes et al., 2013; Bögels et al., 2010). Rettew (2000) argues that the current definition of AVPD (and perhaps SP) may be too narrowly restricted to social domains. Bögels and colleagues (2010) have written that a severity hypothesis alone is unlikely to reflect the true relationship between AVPD and SP.

It has been noted that social fears and avoidance occur across a range of conditions, for example disorders with body-focussed concerns such as body dysmorphic disorder, and disorders with marked social deficits such as schizoid PD, and arguments have been made for a social anxiety spectrum that could encompass a range of different social fears (Stein, 2004; Tillfors et al., 2004).

Lafreniere (2009) has described a “functionalist” model that views social anxiety as an adaptation to challenging situations, which is developed on a biological base of genetic and temperamental predispositions interacting with environmental experience. In the case of AVPD, a climate of parental emotional negativity towards the child might interact with temperamental sensitivity and social learning around the futility of attempts to elicit positive interactions to result in interpersonal avoidance as a coping strategy, as well as internalised negative self-views. This theory has the flexibility to account for different outcomes (SP vs. AVPD). Although attachment is not specifically referred to in this model, it is entirely

consistent with an attachment perspective, since attachment style develops from experiences with early caregivers.

Carter and Wu (2010) have suggested that a multidimensional model of social anxiety may be most appropriate, on the basis of their research finding that performance anxiety symptoms related to panic disorder but interactional fears were more closely related to depression.

Skocic and colleagues (2015) describe a “hybrid” model of SP including both categorical and dimensional elements. This model essentially retains current criteria for SP, and although it adds consideration of impairment level and a criterion around avoidance, it would be unlikely either to assist in differentiating SP from AVPD, nor to bring AVPD into a broader category of social anxiety disorders.

A model in which SP and AVPD are seen as representing different expressions of shared vulnerabilities has also received some support (Carmichael et al., 2016; Torvik et al., 2016). This model holds promise as it would seem to accommodate many of the reported findings in the field.

2.8 CONCLUSIONS

AVPD and SP are disorders with a high prevalence and associated distress and disability. Regrettably, AVPD has been relatively neglected in research studies, perhaps because it has been regarded as a more severe variant of SP, according to the severity continuum hypothesis. The structure of contemporary classification systems in psychiatry likely contribute to criterion overlap, but also present an important context for considering alternative ways of conceptualising the relationship between SP and AVPD. Early studies supporting the continuum hypothesis were limited methodologically by the failure to include a comparison

group with AVPD without SP. A small but growing body of research supports meaningful differences between AVPD and SP, with attributes related to self-concept and attachment style showing particular promise. Links between adverse experiences with early caregivers, temperament and attachment style speak to the importance of further study of these variables. Because of the severe burden of disease and likely very high level of unmet need for treatment, there is a need for more research investigating distinctions between these disorders, and especially for research that has the potential for development of clinical applications that could lead to an increase in the recognition of AVPD and stimulate exploration of effective treatment interventions.

Chapter Three – Attachment style and avoidant personality disorder: A systematic review

Chapter overview

Disturbances of attachment have been postulated to contribute to both the development and symptomatic picture of AVPD, and may provide a point of differentiation from SP. More generally, attachment difficulties represent a promising emerging field of study in understanding and treating personality disorders. The objective of this chapter was to systematically review the evidence regarding attachment styles associated with avoidant personality traits or disorder. Studies were eligible for inclusion if they were published in a peer-reviewed journal between 1980 and 2016; were in English; specifically reported findings for avoidant personality traits or disorder; used structured methods to assess personality and attachment; and had a defined study population. After review of the search results, 15 studies meeting inclusion criteria were identified. Results were summarised and the quality of each study appraised using a structured quality assessment tool. Findings provide some support for an increased prevalence of both anxious and avoidant attachment styles in individuals with AVPD. The evidence is limited by the paucity of studies in which AVPD was the primary variable of interest, largely non-clinical samples, use of screening tools rather than diagnostic instruments, and use of a range of different measures of attachment. The findings underpin the need for studies that explore attachment variables in individuals with AVPD as a primary condition of interest. An understanding of attachment style has implications for establishment of a therapeutic alliance and retention in treatment of affected individuals, and may also be relevant to improving treatment outcome.

NOTE TO CHAPTER

A manuscript based on this chapter has been submitted for publication as: Lampe L, Kuiper S & Malhi G. Attachment style and avoidant personality disorder: A systematic review and qualitative analysis. The idea for the review was the candidate's, derived from the literature review reported in Chapter Two of this thesis. The candidate performed the literature search, proposed the inclusion criteria, screened the initial documents, and summarised those short-listed for inclusion. Co-authors collaborated on final decisions regarding study inclusion and determination of quality ratings. The candidate drafted the manuscript for submission and the co-authors participated in editing and review of the manuscript to determine the final version for submission.

3.1 INTRODUCTION

Key features of avoidant personality disorder (AVPD) include a preoccupation with rejection and/or humiliation by others, personal beliefs of ineptness and inferiority, and widespread avoidance of interpersonal interaction (American Psychiatric Association, 2013). Some of these concerns are also found in SP, and the overlap between AVPD and SP is a key focus of this thesis. It has been suggested that attachment style may be a factor that differentiates AVPD and SP (Eikenæs et al., 2016). However, at the same time it has been recommended that research should move beyond a narrow focus on the distinction of AVPD from SP to establishing a deeper understanding of the specific symptoms of AVPD, since this will be important in informing treatment (Weinbrecht et al., 2016). Attachment style is likely to be of relevance in establishing and maintaining a therapeutic alliance.

Disturbances of attachment have featured in causal theories of AVPD (Stravynski et al., 1989), and numerous authors have proposed an aetiological role for adverse early experiences

with parents, such as criticism or rejection (Beck et al., 1990; Millon, 1981b; Stravynski et al., 1989; Sheldon and West, 1990; Arbel and Stravynski, 1991). It is possible that any causal effect of these childhood adversities could be mediated at least in part by attachment style.

The fears of rejection in AVPD are coupled with negative underlying self-beliefs, including a self-view as intrinsically inferior or unappealing. Low self-esteem has been reported (Arntz et al., 2011; Arntz et al., 2004) and may be associated with motivation to avoid the pain of rejection (Cameron et al., 2010). It may also be the case that self-concept in general is significantly more fragile in AVPD than SP, with activation of dysfunctional defense strategies that result in distress and disability (Hummelen et al., 2007). Attachment difficulties may have a role in the aetiology of such a fragile self-concept, and serve as maintaining factors for disorder.

In summary, there are compelling reasons to study attachment in AVPD. These include a putative role for differentiating between AVPD and SP; and a high level of relevance for understanding the aetiology, symptomatology and treatment of PD in general, and potentially for AVPD specifically. The study of attachment is a promising and exciting emerging field of research in PD and may offer important insights for AVPD.

The present chapter has several aims:

1. To review the evidence regarding attachment difficulties in AVPD
2. To consider the ways in which an attachment perspective can be used to illuminate understanding of avoidant psychopathology
3. To consider the treatment implications of attachment style in AVPD

3.2 OVERVIEW OF ATTACHMENT

Establishing intimate relationships is a fundamental drive for humans, and represents an important element of personal happiness, growth, and satisfaction. As a result, any barrier to the formation of intimate relationships is of great personal and clinical significance.

Attachment theory, originally developed by Bowlby as a theory of personality development, describes the internalisation of a child's interactions with their primary caregiver(s) to provide a template for relational and emotional experience in adulthood. The relevance of attachment to psychiatric disorder is increasingly recognised, and the field is a focus of intensive academic and clinical interest. What follows is a necessarily brief integration of key ideas in this complex area, as relevant to the current review.

The most basic description of attachment is one of security versus insecurity. Secure individuals have experienced a "good enough" caregiver and successfully internalised this experience, resulting in a secure, emotionally stable self, which is capable of establishing balanced and secure intimate relationships. Insecure attachment may arise when caregivers in various ways fail to provide a safe, secure and predictable emotional and physical environment. This necessitates the development of varying strategies to cope with these relationships: strategies which, when carried forward into adulthood, result in less secure and more problematic close relationships. Ainsworth devised the "Strange Situation" to stress the early attachment relationship by creating brief periods of separation of the infant from the primary caregiver, then observing the child's behaviour on reunion; this took place in an unfamiliar ("strange") situation outside the home. Three patterns of non-secure attachment were described: secure, anxious/ambivalent/resistant, and avoidant (Lyddon and Sherry, 2001; see Table 3.1).

Table 3.1: Attachment styles as described by various models and assessment tools

Infant attachment style	Childhood attachment style		Adult attachment style		
(Bowlby, 1977)	<i>Ainsworth's Strange Situation</i> (Ainsworth et al., 1978)	(Main and Solomon, 1990)	<i>Adult Attachment Interview</i> Attachment states of mind (George et al., 1985; Hesse, 1996)	Romantic love as an attachment process (Hazan and Shaver, 1987)	<i>Relationships Questionnaire</i> Prototypical statements (Bartholomew and Horowitz, 1991)
SECURE	B ¹ – SECURE	B – SECURE	F – SECURE <i>Coherent, consistent and balanced view of relationships</i>	SECURE	SECURE <i>"It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others not accept me."</i>
INSECURE (Anxious, compulsive self-reliance, compulsive care-giving, emotionally attached patterns in adults)	A – AVOIDANT <i>Indifferent to or ignores returning caregiver after separation</i>	A – AVOIDANT	D – DISMISSING <i>Idealizes, devalues or ignores attachment figures</i>	AVOIDANT	DISMISSING ² <i>"I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me."</i>
	C – ANXIOUS/ AMBIVALENT/ RESISTANT <i>Seeks proximity to returning caregiver but fails to be soothed by it.</i>	C – ANXIOUS/ AMBIVALENT/ RESISTANT	E – PREOCCUPIED <i>Remains emotionally enmeshed in previous and current relationships; passive, angry and fearful patterns.</i>	ANXIOUS/AMBIVALENT	PREOCCUPIED <i>"I want to be completely emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them."</i>
	—	D – DISORGANIZED <i>Lack of a coherent pattern of responding to separation and reunion.</i>	U – UNRESOLVED/ DISORGANIZED <i>Attachment state of mind is somewhat variable and brief lapses in coherence occur.</i>	AVOIDANT	FEARFUL ² <i>"I am uncomfortable getting close to others. I want emotionally close relationships but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others."</i>
	—	—	CC – CANNOT CLASSIFY <i>High variability; unable to sustain a single strategy and/or global lack of coherent strategy.</i>	—	—

Notes to table:

1. Letter before an attachment style refers to classification system for Strange Situation, or Adult Attachment Interview

2. Hazan and Shaver's (1987) original avoidant group likely includes both fearful ("fearful-avoidant") and dismissing ("dismissing-avoidant") styles, and later writers such as Riggs et al., (2007) continue to emphasise the similarities. However, Bartholomew and Horowitz (1991) separate these groups, and Nakash-Eisikovits and colleagues (2002) regard it as conceptually most consistent with the disorganized/unresolved attachment category.

In replicating these results, numerous authors observed that secure attachment behaviour is remarkably similar across infants, whereas insecure attachment behaviour may manifest in a number of observable patterns (Main et al., 1985). Main and colleagues later added a “disorganised” category of attachment, after observing that some infants appeared to show inconsistent responses or to have no organised strategy for dealing with the stress of the “Strange Situation” (Steele and Steele, 2008). Bowlby and other early researchers recognised that childhood experiences of attachment influenced the type and nature of adult relationships (Bowlby, 1977; Main, 1989). Studies in adults, especially clinical samples with significant psychopathology, led to the recognition of a further category of “cannot classify” where there appears to be a global failure in ability to utilise a consistent or coherent attachment strategy (Steele and Steele, 2008).

Factor analysis based on a range of attachment measures suggests that anxious and avoidant attachment represent two distinct and relatively uncorrelated constructs (Brennan and Shaver, 1998). Attachment anxiety broadly describes the fear of losing a positive attachment relationship, and the resultant use of emotionally activating strategies to try to secure intimacy, approval, or emotional safety from others. It is proposed that deactivating strategies to suppress attachment behaviours are used when those behaviours appear to result in withdrawal by the attachment figure, presumably due to attachment pathology in the caregiver (West et al., 1995). Whilst potentially facilitating proximity in infancy, through suppressing the negative affect that could disrupt connection, deactivating strategies are more likely to be maladaptive in adulthood. Attachment avoidance describes the attempt to protect oneself from relationship distress through asserting independence, deactivating emotion, and devaluing the need for emotional closeness.

A number of classificatory models of attachment have been proposed, and there is a lack of consensus regarding the best model for research purposes. Table 3.1 summarises some key developments in attachment theory and modelling. This is necessarily a brief summary and unable to include many of the complexities and developments in this rapidly evolving field of research (e.g., see Cassidy and Shaver, 2008). Adult models of attachment have followed two main lines of thinking. One takes a development perspective and is focused largely on the concept of internalised “working models” of attachment which the individual brings with them into adulthood and which manifest in the context of specific relationships or relationship stresses (Main, 1996). The Adult Attachment Interview (AAI) is a well-validated, semi-structured instrument that infers childhood attachment experiences and current attachment states of mind from the way in which the individual talks about early attachments. A semi-structured interview is conducted following which conclusions are drawn by trained assessors using discourse analysis (Steele and Steele, 2008). In contrast, self-report measures of attachment generally focus on adult relationships, and derive more from a personality psychology perspective than the developmental perspective of Main and colleagues (Fortuna and Roisman, 2008).

A dominant model of adult attachment at the current time incorporates consideration of the emotional valence of internal representations of self (positive vs. negative self-view), and of others (positive vs. negative other-view) to identify four clinically useful attachment prototypes (Bartholomew and Horowitz, 1991; Fig. 3.1). Negative views of the self are commonly associated with low self-esteem, low self-efficacy and deficits in the capacity to self-soothe. Positive views of others are based on beliefs that others are fundamentally good and that they will react positively and provide emotional support when needed; negative views of others may include beliefs that others will ultimately disappoint or cause harm.

		MODEL OF SELF (Dependence)	
		Positive (Low)	Negative (High)
MODEL OF OTHER (Avoidance)	Positive (Low)	SECURE	PREOCCUPIED
	Negative (High)	DISMISSING	FEARFUL

Figure 3.1: Four category model of attachment (from Bartholomew and Horowitz, 1991)

The “secure” group are characterised by low anxiety and avoidance, and positive models of both self and other, and are able both to be self-contained and to ask for help when needed.

The “dismissing” group (aligned to Ainsworth’s avoidant group) are characterised by low anxiety and high avoidance, and a positive self but negative other model – they can maintain their equanimity if left to their own devices, but believe that others are unsafe, or potentially rejecting or shaming. The “preoccupied” group, conversely, have high anxiety and low avoidance, and a negative self but positive other model – they feel unable to contain their own distress, and therefore seek out others to depend on and manage things for them. The “fearful” group, with attributes of both Ainsworth’s anxious/ambivalent and avoidant categories, are the most psychologically disadvantaged, with high anxiety and avoidance, and fundamentally negative views of both self and other – they develop and come to rely on a mix of both dismissing and preoccupied strategies to cope in the face of low self-efficacy and a fear that

others will shame them or reject them. They are distinguished from the predominantly dismissing group in that their isolation from others is driven by fear rather than a lack of desire for contact, and from the predominantly preoccupied group in their belief that activating others is more likely to be risky than rewarding. An insecure, anxious attachment style would be predicted in AVPD given that a high level of anxiety around relationships is a key feature of the disorder. AVPD has also been proposed to be characterised by both a negative view of self, and a negative view of others. On this basis, a fearful attachment style could also be hypothesised.

A review of the evidence around attachment styles in avoidant personality disorder is likely to provide a better understanding of the condition and will be useful for establishing a therapeutic relationship with these individuals. Thus, identifying gaps or limitations in existing knowledge is valuable when planning future research.

3.3 METHODS

3.3.1 Inclusion criteria

Studies were included for consideration if they were published in a peer-reviewed journal between 1980 (when avoidant personality disorder was first introduced into psychiatric nosology) and 31 December 2016; were in English; specifically reported findings for avoidant personality traits or disorder; included attachment as a key variable of interest; used established measures to assess personality and attachment; and had a defined study population. Case reports, commentaries and reviews were excluded.

3.3.2 Literature search

Literature searches were conducted from 1980 until 31 December 2016 using available keywords on Medline (*Personality Disorders/ and *Object Attachment/), EMBASE

(*emotional attachment/ and *avoidant personality disorder/ or *personality disorder/), PsycINFO (*Avoidant Personality Disorder/ and *Attachment Disorders/ or *Attachment Behavior/ or *Attachment Theory), SCOPUS (*Avoidant Personality and *Attachment) and Web of Science Core Collection (ts=((avoidant near/3 personalit*) and (attach*))) in keyword, abstract and title searches limited to Articles. No records were identified for when the terms *Avoidant Personality Disorder and *Attachment were combined in EMBASE, so *Personality Disorder/ was substituted for *Avoidant Personality Disorder. The following filters were applied: “English language”, “Human/s”, “Peer Reviewed Journal” (where available). Where no results were found for “avoidant personality disorder” the search was expanded to “personality disorder” to check that no relevant articles were missed. Duplicates were excluded, the abstracts of identified articles reviewed. In cases where the abstract either indicated that the article may meet inclusion criteria or did not provide sufficient information to make a determination, the article was obtained the article and read in full. The identified papers were reviewed and findings considered to be significant summarised. Throughout this process vigilance was maintained for additional references that might be identified within the selected publications.

3.3.3 Assessment of quality

A structured assessment tool was employed to assess the quality of each included paper. The candidate and a colleague who collaborated on the paper submitted for publication independently rated the quality of each paper. The candidate’s supervisor reviewed the ratings. The structured tool with the ratings for each paper is given in Appendix B.

3.4 RESULTS

The initial search yielded 121 results in Medline, 48 results in Scopus, 31 results in Web of Science and 8 results in PsychINFO. There were 0 results in EMBASE, but 26 were identified using “personality disorder” instead of “avoidant personality disorder”. After removing duplicates and applying inclusion criteria, a total of 15 published papers each based on a separate and original study were identified (Rosenstein and Horowitz, 1996; Allen et al., 1998; Brennan and Shaver, 1998; Meyer et al., 2001; Nakash-Eisikovits et al., 2002; Dickinson and Pincus, 2003; Fossati et al., 2003; Meyer et al., 2005; Riggs et al., 2007; Bowles and Meyer, 2008; Strauss et al., 2011; MacDonald et al., 2013; Beeney et al., 2015; Eikenaes et al., 2015; Winarick and Bornstein, 2015) that reported specifically on attachment style and avoidant personality disorder or traits (see Table 3.2). A further four studies were identified through the reference lists of the included studies, but did not meet inclusion criteria. Results are shown in the PRISMA diagram in Figure 3.2.

3.4.1 Excluded papers

The bulk of research on the intersection between attachment and personality disorder (PD) was focused on borderline and antisocial PDs, with schizoid PD and narcissistic PD the focus of most of the remaining papers. Many studies identified in the searches were focused on an avoidant attachment style, and examined this with respect to personality dimensions. Only a small number looked for associations with AVPD specifically, with a number of studies reporting data for Cluster C disorders as a group. Other studies examined associations between parental relationships in childhood and personality disorder (including AVPD), but did not attempt to identify participants’ attachment styles (Stravynski et al., 1989). Sheldon and West (1990) examined the area of interest but did not use structured assessment tools. Dickinson and Pincus (2003) confined their assessment of attachment and AVPD to students

who had scored highly on a measure of narcissistic PD; additionally only a small fraction of the sample met criteria for AVPD. It was considered that this limited the conclusions that could be drawn regarding attachment and AVPD.

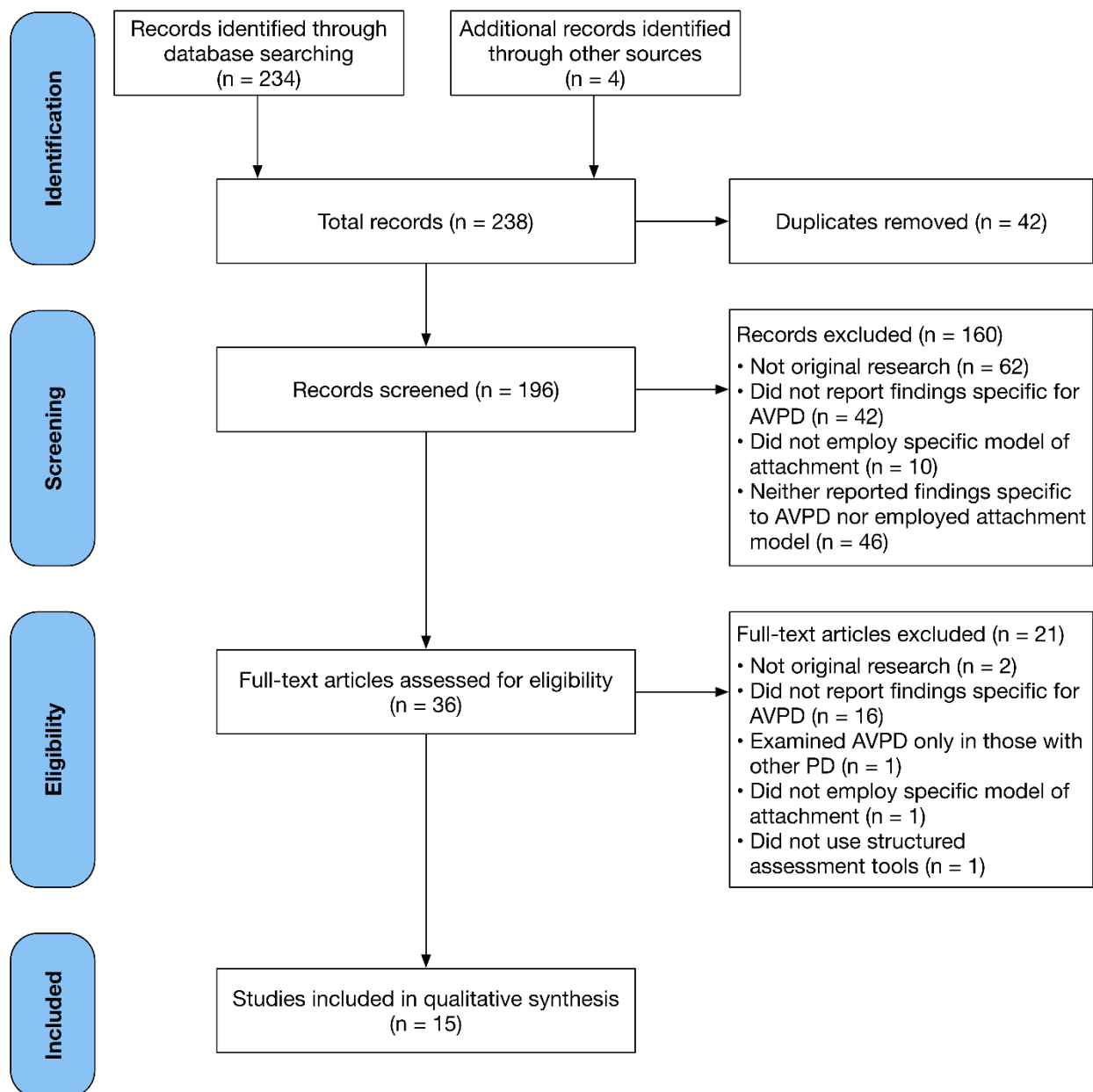


Figure 3.2: PRISMA Flow Diagram: AVPD and Attachment

3.4.1.1 *Studies that examined attachment style but did not identify a specific diagnosis of AVPD or did not analyse AVPD data separately*

West and colleagues (1993) enrolled psychiatric outpatients who reported having no attachment figure outside of their family of origin in their life at the time of the study.

Participants completed a four-item measure of avoidant attachment (maintaining distance in relationships, high priority on self-sufficiency, desire for close affectional bonds, sees close relationships as a threat to security) and the Millon Clinical Multiaxial Inventory as a personality diagnostic instrument. Patients with avoidant and schizoid personality disorders were combined in one group for analysis and compared with all other personality disordered patients: they scored significantly higher on all items except the desire for close affectional bonds, on which item there was no significant difference between the groups.

Crawford and colleagues (2006) studied 239 volunteer twin pairs who completed the RSQ and the Dimensional Assessment of Personality Problems (DAPP), which identifies four principal dimensions of personality disturbance, including dysregulation, inhibitedness, dissocial behaviour and compulsivity. The inhibitedness factor (likely to relate most closely to AVPD) showed the strongest associations with avoidant attachment and restricted self-disclosure and emotional expression and to a slightly lesser extent with social avoidance and identity problems (anhedonia, labile self-concept, chronic emptiness and boredom). There was only a small correlation with anxious attachment. Results suggested that genetic factors accounted for 40% of the variance in anxious attachment, but that associations between avoidant attachment and personality pathology were attributable to largely to nonshared environmental factors, with no genetic component.

3.4.2 Included papers

Table 3.2 summarises findings from the included papers. They are described in more detail below.

1. Allen and colleagues (1998) examined attachment and personality in 166 women admitted for specialised inpatient treatment of trauma-related disorders. Personality was assessed by means of the Millon Clinical Multiaxial Inventory third revision (MCMI-III) and attachment using the Adult Attachment Scale Revised (AAS). The main focus of the study was the relationship between childhood trauma, attachment and the “severe” personality disorders of borderline, schizotypal and paranoid, and the proportion meeting criteria for AVPD was not reported. Secure attachment was negatively correlated with scores on the avoidant scale of the MCMI but no association with the other attachment styles (dismissing (avoidant), preoccupied (anxious-ambivalent) and fearful) was reported. Overall quality was assessed as fair.

2. Fossati and colleagues (2003) studied 487 consecutive admissions (61.8% female) to a unit specialising in the diagnosis and treatment of PD. Personality diagnoses were made using the Structured Clinical Interview for DSM-IV, Axis II (SCID-II) and 5.1% of the sample met criteria for AVPD. Attachment was assessed with the Attachment Style Questionnaire (ASQ), which yielded five dimensions not directly comparable with the four category model of Bartholomew and Horowitz (1991). AVPD was negatively correlated with confidence ($r = -0.23$) and positively correlated with discomfort with closeness ($r = 0.23$) and need for approval ($r = 0.20$). Further analysis suggested that AVPD loaded most strongly on a

Table 3.2: Summary of findings in studies that reported on the association of attachment style with the avoidant personality style

Study	N	Study sample	Attachment measure	Type of measure	Model of attachment	Methodological notes & Quality rating ^a	Attachment style/s associated with AVPD
1	166	Women with complex trauma referred to tertiary treatment centre	AAS ¹	Self-report	Three dimensions (Close – comfortable with intimacy; Depend – can depend on others to be available; Anxiety – worry re abandonment/being unloved)	Established self-report personality diagnostic measure used; nature of sample may limit generalizability of results. Quality: Fair	Inverse relationship with secure pattern: $R_c^b = -0.86$ (secure = positive loading on Close and Dependent; negative loading on anxiety)
2	487	Psychiatric outpatients	ASQ ²	Self-report	Five subscales of: confidence, discomfort with closeness, need for approval, preoccupation, relationships as secondary) allowed a two dimensional structure equivalent to anxious and avoidant attachment to be developed.	Robust diagnostic process. Quality: Fair/Good	Positive correlation with insecure attachment styles: avoidant attachment $R_c = 0.62$; anxious attachment $R_c = 0.16$.
3	1407	Psychology undergraduates	RQ ³	Self-report	Four-category personality psychology attachment model of Bartholomew and Horowitz (1991) (secure, preoccupied, dismissing, fearful)	Self report measure used to establish personality disorder diagnosis with likely high false positive rate. Quality: Fair	AVPD 79.7% insecure attachment; Most common Fearful (38%) then Preoccupied (25%)
4	294	Psychiatrists and psychologists reporting on an adolescent patient	RQ ³	Clinician-report version	Four-category personality psychology attachment model of Bartholomew and Horowitz (1991)	Participating clinicians completed RQ based on their knowledge of a selected patient. Quality: Poor/Fair	Negative correlation with secure ($r = -0.33$) and positive correlation with Fearful/Avoidant ($r = 0.44$) attachment style.
5	156	Community volunteers & psychology undergraduates	IPPA ⁴	Self-report	Referred to as attachment measure but items appear more closely related to qualities of parental relationship i.e., felt accepted, felt misunderstood, poor communication.	Used screening instrument for personality disorder diagnoses; risk of false positives. Quality: Poor	No association
6	40	Psychiatric inpatients	IRA ⁵	Interview	Three category model (secure, ambivalent/preoccupied; avoidant/dismissing)	Female sample; robust diagnostic process.	AVPD 100% insecure attachment; 7/19 (37%)

Study	N	Study sample	Attachment measure	Type of measure	Model of attachment	Methodological notes & Quality rating ^a	Attachment style/s associated with AVPD
						Quality: Fair	Avoidant; 12/19 (63%) Ambivalent
7	60	Adolescent psychiatric inpatients (mean age = 16 years)	AAI ⁶	Interview	Developmental/attachment states of mind model.	Established self-report personality diagnostic measure used. Quality: Fair	Preoccupied attachment style most common in those with clinically elevated AVPD scores (not necessarily reaching diagnostic threshold; N not reported).
8	80	Psychiatric inpatients	AAI ⁶ ; ECR ⁷	Interview; self-report	Utilised both "attachment states of mind" model and personality psychology model of Bartholomew and Horowitz (1991)	Robust diagnostic process. Quality: Fair	Higher mean scores on Fearful than Dismissing on ECR; overall 80% of sample "unresolved" on AAI which precluded further analysis of associations with AVPD.
9	176	Psychology undergraduates	ECR ⁷	Self-report	Two higher-order dimensions of Anxious and Avoidant attachment; can be used to generate the four categories of Bartholomew and Horowitz (1991)	Used screening instrument for personality disorder diagnoses; risk of false positives. Quality: Fair	Avoidant personality score correlated with Anxious ($r = 0.37$) and Avoidant ($r = 0.22$) attachment
10	169	Psychology undergraduates	ECR ⁷	Self-report	Two higher-order dimensions of Anxious and Avoidant attachment; can be used to generate the four categories of Bartholomew and Horowitz (1991)	Screening instrument used to assign personality disorder diagnoses. Quality: Fair	Correlated with both Anxious ($r = 0.44$) and Avoidant ($r = 0.38$) attachment.
11	90	Psychiatric patients	ECR ⁷	Self-report	Two higher-order dimensions of anxious and avoidant attachment; can be used to generate the four categories of Bartholomew and Horowitz (1991)	Robust diagnostic process. Quality: Good	AVPD 90% insecure: Fearful attachment style in 46%; Preoccupied in 26%.
12	357	Psychiatric outpatients	ECR-R ⁸	Self-report	Revised version of ECR developed from original item pool; retains two higher-order dimensions of Anxious and Avoidant attachment which were used to generate the	Retrospective chart review; self-report measure used for personality disorder diagnosis.	Score on AVPD measure correlated moderately with anxious attachment style ($r = 0.36$) and weakly with avoidant style ($r = 0.28$)

Study	N	Study sample	Attachment measure	Type of measure	Model of attachment	Methodological notes & Quality rating ^a	Attachment style/s associated with AVPD
					four categories of Bartholomew and Horowitz (1991)	Quality: Fair	
13	150	Psychiatric patients and population-representative community sample	ECR-R ⁸	Self-report	Revised version of ECR developed from original item pool; retains two higher-order dimensions of anxious and avoidant attachment which were used to generate the four categories of Bartholomew and Horowitz (1991)	Robust diagnostic process. Quality: Good	Path analysis indicated Avoidant attachment score directly related to AVPD symptoms and attachment anxiety was indirectly mediated by self-other boundaries.
14	123	Psychology undergraduate and master level students	ECR-SF ⁹	Self-report	Short form (12-item) version of ECR; two dimensions of Anxious and Avoidant attachment	Screening instrument used to assign personality disorder diagnoses. Quality: Good	Anxious attachment style correlated with AVPD score in women only ($r = 0.54$); $r = 0.30$ in men not significant; No sig correlation with Avoidant attachment.
15	149	Psychiatric inpatients and outpatients	--	--	Seven styles of secure and insecure attachment according to a model of one of the authors (Pilkonis).	Interviews and self-report measures used to establish attachment style according to a protocol. Quality: Good	Negative correlation with secure attachment; Weak correlations with Preoccupied style ($r = 0.20$) and Avoidant style ($r = 0.28$)

Notes to table:

1. Allen et al., 1998; 2. Fossati et al., 2003; 3. Brennan and Shaver, 1998; 4. Nakash-Eisikovits et al., 2002; 5. Meyer et al., 2005; 6. Strauss et al., 2011; 7. Rosenstein and Horowitz, 1996; 8. Riggs et al., 2007; 9. Meyer et al., 2004; 10. Bowles & Meyer 2008; 11. Eikenaes et al., 2016 (first published online in 2015); 12. MacDonald et al., 2013; 13. Beeney et al., 2015; 14. Winarick and Bornstein, 2015; 15. Meyer et al., 2001

^aQuality rating by LL and SK based on the Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies published at http://www.nhlbi.nih.gov/health_pro/guidelines/in-develop/cardiovascular-risk-reduction/tools/cohort, accessed 26 August, 2016; rating made in respect of the study's methodology for examining attachment in AVPD; where two ratings are given the authors differed in their opinions of the overall quality. See Appendix for ratings.

^bRc = Canonical correlation; used in scales in which composite measures of attachment constructs were developed.

Measures

¹ Adult Attachment Interview; ²Adult Attachment Scale; ³Relationship Questionnaire; ⁴Attachment Style Questionnaire; ⁵Experiences in Close Relationships; ⁶Inventory of Parent and Peer Attachment; ⁷Interpersonal Relations Assessment; ⁸Experiences in Close Relationships Revised; ⁹Experiences in Close Relationships Short Form

principal component characterised by confidence, discomfort with closeness and viewing relationships as secondary, which the authors suggested was aligned with the avoidant attachment dimension; need for approval and preoccupation with relationships characterised the second component, consistent with anxious attachment. Quality was assessed as fair to good.

3. Brennan and Shaver (1998) administered self-report measures of personality (Personality Disorders Questionnaire Revised; PDQ-R), quality of parental relationships (Mother-Father-Peer Scale), and attachment (Relationship Questionnaire; RQ) to 1407 psychology undergraduates. AVPD was present in 5.9% when stringent criteria were applied. Those who met criteria for AVPD were more likely to have an insecure style than those without AVPD (79.7% vs. 52.1%), and specifically more likely to have a fearful style (38.2% vs. 21.0%). Although participants with a schizoid PD also frequently reported a fearful attachment style, they had a much high rate of dismissing attachment than those with AVPD (46.5% vs. 16.2%), and a much lower rate of preoccupied attachment style (4.2% vs. 25.3%). Quality was assessed as fair.

4. Nakash-Eisikovits and colleagues (2002) recruited psychiatrists and psychologists ($N = 294$) to complete diagnostic and symptom measures on one adolescent patient seen recently in their practice. They also completed the RQ on behalf of this patient, as a measure of attachment. AVPD was most highly correlated with a disorganised/unresolved attachment style ($r = 0.44$; equated to fearful attachment by the authors) and negatively correlated with secure attachment ($r = -0.33$). No other correlations were significant. In contrast, when examining the association of empirically derived adolescent personality prototypes, the withdrawn/avoidant type (characterised by difficulty acknowledging and/or expressing

emotions; tendency to be passive, shy, unassertive; tendency to be unreliable and irresponsible; to lack social skills; to be inarticulate; lacking in energy; inattentive and easily distracted) correlated with an avoidant attachment style, and anxious/ambivalent attachment was negatively correlated with this factor. Quality was assessed as poor to fair.

5. Meyer and colleagues (2005) recruited a non-clinical sample of university students and community participants ($N = 156$). The study sought to compare AVPD and borderline personality disorder (BPD) on various symptom measures and temperamental and risk factors. Personality diagnoses were made using the SCID-II Screening Questionnaire for DSM-IV. Attachment was explored using the parent section of the Inventory of Parent and Peer Attachment (IPPA). This yielded a measure for secure attachment, but otherwise described the perceived quality of the relationship, rather than an attachment style within commonly accepted classifications. There was a small and non-significant negative correlation between AVPD and secure attachment ($r = -0.10$). Regarding the variance in AVPD, 46% was accounted for jointly by total negative mood, temperamental sensitivity, total score for negative reaction to a vignette of social interaction, and BPD features. Only the effect of negative vignette-reactions was a unique predictor for AVPD features, $\beta = 0.57, p < 0.001$. Quality was assessed as poor.

6. Strauss and colleagues (2011) recruited 40 female inpatients of an intensive group psychotherapy program in order to study changes in attachment style with treatment. Participants were chosen on the basis of having a diagnosis of either BPD ($N = 21$) or AVPD ($N = 19$), and completed a structured personality diagnostic interview (German version of SCID-II) and an attachment interview modelled on the AAI (the Interpersonal Relations Assessment, IRA). Seven of the women with AVPD (37%) were classified as having an avoidant attachment style and the rest as having an ambivalent style. After 7 weeks of

therapy, 11 women were classified as having avoidant attachment (58%) and 7 as ambivalent (37%). “Compulsive self-reliant” and “emotionally detached” scores significantly increased for both AVPD and BPD. It was suggested by the authors that the more deactivated style may have been adaptive compared to an ambivalent attachment style. Quality was assessed as fair.

7. Rosenstein and Horowitz (1996) employed the Adult Attachment Interview (AAI) to assess 60 adolescent psychiatric inpatients, ranging in age from 13.08-19.75 years (mean 16.36). The Millon Clinical Multiaxial Inventory was used to yield dimensional scores and categorical diagnoses for DSM-III-R personality disorders. A preoccupied attachment style was most common in the sample, and characterised by higher scores on avoidant personality, anxiety and dysthymia than was observed in the next largest attachment category, the dismissing group. It does not appear that any adolescents reached the diagnostic threshold for AVPD, but of those with clinically elevated scores on AVPD questions, 5 were classified as dismissing and 13 as preoccupied. Overall quality (with respect to the aims of the current review) was judged as fair.

8. Riggs and colleagues (2007) recruited a sample of mainly female (92.5%) patients from a specialised psychiatric inpatient program for treatment of trauma-related disorders. The AAI was used to assess attachment style and personality disorders were identified by means of the MCMI-III. 33.8% of the sample scored above the cut-off for a diagnosis AVPD (compared to 37.5% above the cut-off for dependent and 22.5% for borderline). Comparisons were made using dimensional scores on the MCMI-III without distinguishing whether participants met criteria for disorder. Avoidant personality traits were associated with significantly higher scores for fearful attachment style than dismissing attachment style. A very similar pattern with similar mean scores was observed for the dependent personality style. Avoidant

personality traits were associated with a negative view of both self and other. Quality was assessed as fair.

9. Meyer and colleagues (2004) enrolled 176 psychology undergraduates (84% female) who were shown facial photographs depicting a “neutral” emotional state and asked to rate the person on character and attitudinal factors. Participants completed the SCID-II screening questionnaire items for borderline, avoidant and schizoid PDs, and the Experiences in Close Relationships (ECR) as a measure of attachment. Avoidant personality features correlated with both anxious ($r = 0.22$) and avoidant ($r = 0.37$) attachment. There was also a weak link between avoidant personality features and disliking the persons shown and rating them as more timid. Anxious but not avoidant attachment was correlated with disliking the faces shown. Anxiously attached individuals tended to interpret ambiguous facial cues more negatively, rating the persons represented as unlikely to be a friend, relatively unfriendly, untrustworthy and potentially rejecting. Quality was assessed as fair.

10. Bowles and Meyer (2008) attempted to study the influence of contextual priming on attachment state of mind. They showed 169 psychology undergraduates (90.5% female) one of three pictures designed to prime insecure or secure attachment states of mind (angry man, sad/lonely young boy, loving mother-infant dyad), or no picture, before asking them to complete self-report measures of attachment (ECR), mood, and screening questions for AVPD. Both the anxious and avoidant attachment dimensions correlated with avoidant personality features. The authors concluded that individuals with more features of AVPD tended to make negative appraisals irrespective of the presence or type of priming, suggesting both inflexibility and a tendency to a negative interpretive bias, whereas priming from a positive picture seemed to have a protective effect for participants low on avoidant personality features. Quality was assessed as fair.

11. Eikenaes and colleagues (2015) conducted the most specific study targetting a clinical sample of 90 patients with AVPD and/or SP (65% female). Diagnoses were confirmed with the Mini International Neuropsychiatric Interview (MINI) and SCID-II, and the attachment measure was the ECR. Analyses were conducted based on two groups: SP only (20/90 patients) and AVPD with or without SP (70/90 patients). The AVPD group scored more highly on the anxiety subscale but there was no difference between the groups on the avoidance subscale. Results also suggested that a fearful attachment style may be more common in the AVPD group, and a dismissing style more common in the SP group. Approximately 25% of participants in both groups identified with a preoccupied attachment style. “Anxiety for abandonment” was estimated to explain 11% of the variance in severity of AVPD after controlling for demographic factors and comorbidity. The ECR does not explicitly test fear of rejection, and the authors appear to suggest that fear of abandonment may be a proxy for this concern, at least in this Norwegian sample. It was unclear whether they considered that “abandonment” and “rejection” might be used interchangeably in this context, or whether fear of abandonment should be considered an additional concern. Quality was assessed as good.

12. MacDonald and colleagues (2013) conducted a retrospective chart review of a sample of 357 outpatients (55.2% female) who had attended private psychiatric practice, employing a self-report personality diagnostic instrument (the New Personality Self-Portrait Questionnaire) and the ECR-Revised (ECR-R) as a measure of attachment. Overall, 27.5% of the sample was identified as having a personality disorder. AVPD was most strongly correlated with anxious attachment ($r = 0.362$) but there was also a significant although smaller correlation with avoidant attachment ($r = 0.278$). In terms of Bartholomew and Horowitz’s categories, 29% of those assigned a diagnosis of AVPD were categorised as

having a preoccupied attachment style, 21% as fearful, 17% as dismissive and only 5% as having a secure attachment style. Quality was assessed as fair.

13. Beeney and colleagues (2015) recruited 75 psychiatric patients (65% female) and a probability-based community sample reflective of the general population ($N = 75$) to study social cognition in BPD; participants with AVPD and antisocial personality disorder (ASPD) were included as comparison conditions. Criteria for AVPD were met by 29% of the psychiatric sample and 4% of the community sample as determined by the Diagnostic Interview for DSM-IV Personality Disorder (DIPD-IV). Attachment insecurity was assessed using the Experiences in Close Relationships Revised scale (ECR-R). A correlation was reported between AVPD and both attachment anxiety ($r = 0.25$) and attachment avoidance ($r = 0.34$). Structural equation modelling indicated that attachment avoidance was directly related to AVPD symptoms ($\beta = 0.29$, 95% CI 0.06-0.44, $z = 3.72$, $p < 0.001$). The relationship between attachment anxiety and AVPD appeared to be mediated by problematic self-other boundaries ($\Delta\beta = -0.33$, 95% 0.10-0.56, $z = 2.79$, $p = 0.005$). Quality was assessed as good.

14. Winarick and colleagues (2015) recruited 123 college students (52.8% female) in a study that aimed to compare AVPD and schizoid PD on variables identified from a literature review as being key characteristics of each syndrome. Attachment was included as a variable of interest and measured using the ECR short form (ECR-SF). The self-report International Personality Disorder Examination Screening Questionnaire (IPDE-SQ) was used to establish personality diagnostic group. AVPD dimensional score was correlated with both attachment avoidance ($r = 0.22$) and attachment anxiety ($r = 0.43$). Regression analyses indicated that only non-attachment related factors were unique predictors of AVPD traits. Quality was assessed as good.

15. Meyer and colleagues (2001) included 149 psychiatric inpatients and outpatients in a study employing the Structured Clinical Interview for DSM-III-R Axis II together with informant data, and Pilkonis's prototype methodology (Pilkonis, 1988) was used to determine attachment style. Criteria for AVPD were met by eight participants (17%). AVPD scores on the personality measures were significantly correlated with excessive dependency (analogous to preoccupied attachment; $r = 0.20$), and negatively correlated with secure attachment ($r = -0.34$). Overall quality was assessed as good.

3.5 DISCUSSION

Only a small number of studies were identified in which reliable and validated measures of both DSM personality categories and attachment were used. The ability to draw firm conclusions was limited by the heterogeneity of the samples and the measures used: in all, 10 different measures of attachment were employed across the 15 studies.

These attachment measures assigned attachment styles broadly consistent with the two main models. Four studies employed the four category model of Bartholomew and Horowitz, reporting an association with fearful and to a lesser extent preoccupied attachment styles. Eleven studies employed measures of attachment more closely aligned with Ainsworth's model of secure/anxious-ambivalent/avoidant/disorganised attachment; in these studies anxious and avoidant styles seemed about equally prominent.

A fearful attachment style postulates a negative view of both self and other, coupled with a high level of avoidance of close relationships. In this context it is interesting that Brennan and Shaver (1998) also identified a preoccupied style (negative view of self and positive view of others, coupled with approach rather than avoidance) in a quarter of those with AVPD. This lends support to the suggestion by Lyddon and Sherry (2001) that those with AVPD may have

a view of others that vacillates between positive and negative, with an initial avoidance of intimate relationships followed by a dependent style of interaction if a safe relationship can be established. It is also consistent with the observation that while some individuals have a single coherent strategy they use to interact with the world, many are unable to use a single strategy for all occasions, and fearful individuals may oscillate between strategies. As in the field of personality assessment generally, a dimensional model may be of more value at the level of the individual, and it may be most helpful in AVPD to examine scores in each category, whatever model is used.

Exploring attachment style is relevant both to identifying and ameliorating risk factors, and in treatment. Vulnerability to personality disorder has both a genetic and environmental contribution (Torgersen, 2009; Kendler et al., 2008). In AVPD, it is hypothesised that experiences with early caregivers characterised by criticism, rejection, or isolation may result in anxious, avoidant and fearful attachment styles that influence development of negative beliefs about self and other that in turn lead to the expectations of rejection that drive avoidant interpersonal behaviour; the interpersonal experiences that do occur, as well as the consequences of avoidance, may in turn influence personality, affect, behaviour and cognition typical of the avoidant personality style. Only one of the studies examined childhood experiences as well as using measures that could assign an attachment style and a diagnosis of AVPD and failed to find an association between a range of family variables and anxious or avoidant attachment styles (Nakash-Eisikovits et al., 2002). Two studies that did not specifically assign attachment styles found a positive relationship between early adverse experiences in the family and later avoidant traits, suggesting an association with childhood neglect (Johnson et al., 1999; Johnson et al., 2000) and feeling upset and misunderstood in childhood (Meyer et al., 2005).

Some variability in identified attachment style in AVPD may be attributed to the use of different models; however, it may also highlight the importance of non-attachment factors such as temperamental neuroticism and inhibition. High neuroticism/negative emotionality may represent a necessary and/or additional risk factor for AVPD. It may also mediate the development and consequences of attachment style. Nofle and Shaver (2006) examined associations between Big Five personality factors and a two dimensional model of attachment (anxiety and avoidance). Attachment anxiety was most strongly correlated with neuroticism ($r = 0.42$) and avoidance with agreeableness ($r = 0.22$). This study found that age and relationship status were stronger predictors of attachment style than any Big Five trait. Recent modelling by Wright and colleagues (2012) of prospective AVPD data from the Longitudinal Study of Personality Disorders (Lenzenweger, 2006) suggests a clear relationship between change in AVPD-salient behavioural patterns (such as low affiliation and dominance) and more general personality traits (such as neuroticism). Meyer and colleagues (2005) showed that participants with marked features of AVPD showed high levels of sensitivity to internal and external stimuli with attempts to avoid overstimulation, and anxious affective responses, suggestive of high levels of negative emotionality. These findings are also consistent with an attachment model, in which there is an ongoing transactional relationship between experience, trait-level emotional processing, and development of internal working models of self and other.

3.5.1 Relevance of the findings

The association of adult psychopathology with early childhood trauma is well established. Few studies consider the associations of less severe childhood adversity such as perceived lack of parental warmth, feeling criticised, or feeling misunderstood with psychopathology in adulthood. Such experiences may be particularly relevant for AVPD. Understanding the

associations with family experiences in childhood offers pointers towards potentially beneficial interventions when families come to the attention of health care providers, or when children are identified as having significant interpersonal difficulties. Being aware of attachment styles offers the potential to use tailored approaches to enhance engagement when individuals with AVPD seek help, and to anticipate likely causes of therapeutic rupture.

Any clinical encounter may activate attachment anxiety and create an increased risk of the individual misinterpreting ambiguous cues as critical or rejecting; awareness of this risk when planning treatment could enable the therapist to utilise strategies to manage this anxiety appropriately, for example, by regulating therapeutic distance and emotional intensity (Mallinckrodt, 2000). An anxious attachment style has been associated with more idealistic expectations of the therapist and greater risk of therapeutic rupture (Obegi, 2008). An attachment perspective can also provide guidance around behaviours that act as markers of progress in developing more secure attachment (Obegi, 2008), which provides the foundation for secure and fulfilling relationships.

3.6 LIMITATIONS OF THE DATA

Interpretation, and particularly comparison, of data around attachment styles is complicated by the existence of different models of attachment, and differing means of elucidating attachment styles within these models. The ECR yields scores on only two dimensions of attachment, avoidance and anxiety, although an item response theory analysis suggested that it has good psychometric properties, as does the revised version, ECR-R (Fraley et al., 2000). The RQ and AAQ categorise individuals according to the four category model of Bartholomew and Horowitz (1991), and the AAI utilises the classification of Main and colleagues (Main et al., 1985). Self-report measures of attachment generally do not identify a

disorganised attachment style. Similarly, the use of a range of personality assessment tools varying from screening measures to self-report to semi-structured interview can limit the reliability and comparability of the data. In particular, self-report personality measures are known to have a low threshold for diagnosis of personality disorder and to overestimate the true prevalence. Caution is also needed in generalising findings to clinical populations due to the preponderance of studies based on largely female samples of otherwise healthy psychology undergraduates, or non-clinical samples.

3.7 SUMMARY

Studies that have examined attachment style in AVPD lend support to the hypothesis that AVPD is associated with insecure attachment, and suggest that both anxious and avoidant strategies may be employed. A fearful attachment style was identified in some studies. Research suggests that experiences with critical, demeaning and neglectful early caregivers increases the risk of a fearful attachment style, which is associated with a negative self-concept and the expectation of shaming and rejecting responses from others. These expectations drive the avoidance which is characteristic of the condition and the source of considerable distress. Temperamental factors may conceivably increase the individual's vulnerability to the effects, and possibly even the risk, of negative childhood experiences, increase the adverse impact and contribute to the selection of coping strategies, such as avoidance. Factors such as negative emotionality/neuroticism and approach/avoidance drive are likely candidates. Once AVPD is present, an understanding of attachment pathology can assist in engaging and retaining individuals in therapy and informing the type of therapy and therapeutic strategies employed.

There is a need for future research to elucidate links between key elements of the puzzle: childhood experiences within the family, temperamental predisposition, attachment style, and personality style from both a personality psychology and clinical diagnostic perspective for those with AVPD. Including participants with SP may help to identify meaningful differences. Studies which include as many of these elements as possible are likely to be most helpful. In turn this is likely to enable the generation of testable hypotheses around effective therapeutic strategies, about which little is currently known. AVPD is a condition which due to its prevalence and association with significant distress and impairment warrants much greater attention to identification and treatment.

Chapter Four – Study 1: Avoidant Personality Disorder in an epidemiological sample

Chapter overview

Data from an epidemiological survey was used to calculate the prevalence of AVPD with and without SP, as well as demographic, distress, disability and comorbidity correlates. Consistent with other epidemiological studies and clinical studies in populations with personality disorder, but contrary to reports from most early literature, the data showed that AVPD without SP is more common in the community than is co-occurrence of AVPD and SP. In general, AVPD-only did not score more highly than SP-only on measures of distress and disability, whereas SP+AVPD presented a generally more severe and comorbid picture. The implications of this are discussed.

NOTE TO CHAPTER

A publication based on the findings in this chapter is appended (Lampe and Sunderland, 2015). The current chapter contains additional detail to the publication where this increases clarity, provides integration with other chapters in the thesis, or incorporates new findings from the literature since publication. The research reported in this chapter was conducted solely as part of the author's PhD candidature. Access to the Confidentialised Unit Record File containing the data was provided through the author's membership of a National Survey of Mental Health and Wellbeing data analysis consortium comprising G. Andrews, G. Carter, V. Carr, R. Crino, W. Hall, S. Henderson, I. Hickie, C. Hunt, L. Lampe, A. McFarlane, P. Mitchell, L. Peters, M. Teesson, and K. Wilhelm. An earlier paper (Lampe et al., 2003) used

data from the same epidemiological study but focussed on SP and was not conducted during my PhD candidature.

4.1 INTRODUCTION

The empirical literature on AVPD following its introduction to the DSM in 1980 was largely based on small clinical samples from which it was reported that AVPD without SP was rare, and that AVPD presented essentially as a more severe variant of SP. Yet clinical experience, and a small number of more recent studies, suggested there were meaningful differences.

4.1.1 Overlap with SP

An estimate some years ago of the overlap between SP and AVPD remains current at 25-89% for generalised social phobia (GSP; defined in DSM-IV as “including most social situations” but not operationalised, and therefore interpreted variously by researchers) and 0-63% for non-GSP (Alden et al., 2002). However, this apparent overlap may have been exaggerated by drawing conclusions largely from studies in which all persons had SP, and several authors have argued for the importance of including a group with AVPD-only for comparison (Johnson and Lydiard, 1995; Hummelen et al., 2007; Ralevski et al., 2005; Eikenaes et al., 2013). Additionally, many of the studies on which the estimates were based used the DSM-III-R criteria for AVPD, in which three of seven criteria showed considerable overlap with those for SP, with four criteria required to make the diagnosis.

4.1.2 Prevalence of AVPD

Although numerous epidemiological studies around the world have reported the prevalence of SP, only a small number have examined AVPD, and only a few studies have reported on the prevalence of both AVPD and SP using DSM-IV criteria. A prevalence of DSM-IV AVPD of 6.6% was reported in a Swedish epidemiological sample (Ekselius et al., 2001); since a self-

report diagnostic measure was used, this is likely to be an overestimate. In a large epidemiological survey in the UK, respondents were screened for personality disorder, and a selection of those who screened positive ($N = 626$) participated in further assessment using a structured personality diagnostic instrument (Coid et al., 2006). The weighted prevalence of DSM-IV AVPD was estimated at 0.8% overall, with a slight male excess ($M:F = 1.4:1$). Prevalence and comorbidity with specific anxiety disorders were not reported. An earlier epidemiologically representative sample in the UK had yielded a weighted probability estimate of lifetime prevalence of 1.8%. The National Comorbidity Survey Replication (NCS-R) utilised screening questions for personality disorder from the International Personality Disorder Examination (IPDE). A subsample ($N = 214$) was reappraised using the full interview and the prevalence of AVPD was estimated at 5.2% which the authors acknowledged is likely to have been an overestimate brought about by various methodological issues (Lenzenweger et al., 2007). A population-based, longitudinal female cohort study reported a life-time prevalence rate of AVPD of 9.3% (Quirk et al., 2017). The authors reported higher rates than average of all Cluster C disorders in their sample, and postulated that it may have been due to a greater willingness to please in those who remained in the study over the long term.

A small number of population representative studies have estimated the prevalence of both AVPD and SP. In the US National Epidemiological Survey of Alcohol and Related Conditions (NESARC), the lifetime prevalence of DSM-IV AVPD was reported as 2.4%, and 39.5% of those with AVPD also met criteria for generalised social phobia (GSP; Cox et al., 2009). In a Norwegian study of female twins recruited from a population register, the lifetime prevalence of AVPD was estimated at 2.7%, and 32.5% of those with AVPD also met criteria

for SP (Reichborn-Kjennerud et al., 2007). In a follow-up to this study (83% response rate), 55% met criteria for SP ten years after the earlier data was collected (Torvik et al., 2016).

Although numerous samples have reported the prevalence of AVPD in anxiety samples with SP (referred to above), there are few reports of clinical samples with personality disorder. In a study of major depression with and without PD, 29% of those diagnosed with AVPD met criteria for SP (Ralevski et al., 2005). In a clinical sample of patients attending day hospitals for the treatment of personality disorder, 48% of those diagnosed with AVPD met criteria for SP (Hummelen et al., 2007).

These studies confirm that AVPD without SP is not rare, and provide strong support for the importance of including three distinct groups for comparison (SP-only, AVPD-only and SP+AVPD) before it can be confidently concluded that AVPD is merely a more severe variant of SP.

4.1.3 Distress, disability and impairment in AVPD compared to SP

Research based on groups with SP with and without AVPD for the most part concluded that SP+AVPD was associated with greater symptom severity compared to SP-only (Herbert et al., 1992; Holt et al., 1992, Reich, 2000). However, results are more inconsistent with respect to demographics and disability. A number of studies failed to find differences in employment status (Huppert et al., 2008; Brown et al., 1995; Hummelen et al., 2007; van Velzen et al., 2000), educational level, or age at onset between SP-only and SP+AVPD (Brown et al., 1995). However, one study reported that participants with SP-only were more likely than those with SP+AVPD to be working at least half-time (Eikenaes et al., 2013).

Higher levels of disability (Kose et al., 2009; Marques et al., 2012) and greater impairment on social and occupational, but not intimate relationship functioning (van Velzen et al., 2000) has

been reported. A study comparing clinical samples with SP-only and SP+AVPD reported similar levels of disability, but numerically more days out of role in the past month for SP+AVPD (13.1 vs. 10.9); statistical significance was not computed (Sanderson et al., 2001). One study found no difference between SP-only and SP+AVPD on quality of life (Eikenaes et al., 2013)

However, to date there is limited data comparing AVPD-only, SP-only and AVPD+SP in community samples. Tillfors et al. (2004), using an epidemiological sample, reported greater functional impairment in SP+AVPD compared to SP-only. Most of the large-scale community-based studies that have examined disability and impairment in AVPD have compared AVPD to other personality disorders, other symptom disorders such as depression (but not SP), or to controls. In one such study, compared to controls, persons with AVPD were less likely to be married or cohabiting and to be in paid work; less well educated, and more likely to be receiving a disability payment (Olsson and Dahl, 2012). In a small sample recruited from the community, no differences were reported between SP and SP+AVPD in age or gender ratio, but the SP+AVPD sample was rated lower on the Global Assessment of Functioning scale, indicating greater impairment (Herbert et al., 1992).

The body of evidence suggests that SP+AVPD is associated with greater symptom distress and greater disability than SP-only. There is insufficient data to draw conclusions about a comparison between SP-only and AVPD-only.

4.1.4 The NSMHWB

The first National Survey of Mental Health and Wellbeing (NSMHWB) was a large, national household survey of adults conducted by the Australian Bureau of Statistics, the first to replicate the US National Comorbidity Survey (Kessler et al., 1994) and the UK Survey of

Psychiatric Morbidity (Jenkins et al., 1997; Andrews and Slade, 2001). It included screening questions for a number of personality disorders, including AVPD.

The author was part of a research consortium granted access to a Confidentialised Unit Record File (CURF) database from the NSMHWB. The availability of such a large dataset provided an important opportunity to learn more about AVPD in the community as part of this PhD.

4.2 AIMS AND HYPOTHESIS

The study aimed to estimate the prevalence of AVPD with and without SP in an epidemiologically representative sample, and to compare AVPD without SP (AVPD-only), SP without AVPD (SP-only) and SP comorbid with AVPD (SP+AVPD) on demographic, distress, disability and comorbidity data available from the survey.

It was hypothesised that there are qualitative differences between AVPD and SP that are obscured or undermined by studies that are based only on individuals meeting criteria for SP. Based on the weight of previous evidence, it was expected that, compared to those with SP-only, persons with AVPD (with or without SP) would be more likely to be divorced, separated or never married; less likely to be employed; less likely to have completed higher education; more distressed, more disabled; to endorse more social anxiety symptoms and have more comorbidity. Based on the prevailing severity continuum model, it was hypothesised that there would be no difference between the AVPD-only and SP+AVPD groups on these measures.

4.3 METHODS

4.3.1 Population and sample

The NSMHWB was conducted in Australia in 1997 (Andrews and Slade, 2001). A stratified, multi-stage sampling of private dwellings was undertaken in which one adult was randomly (the adult with the next birthday; Creamer et al., 2001) selected and invited to participate. Each dwelling had an equal and known probability of being selected. The sampling was unweighted, with no group sampled more frequently than its occurrence in the population. The methodology of the survey has been described in detail (Andrews and Slade, 2001; Henderson et al., 2000). A total of 10641 people participated in the survey, representing a response rate of 78%.

Interviews were conducted by persons who had been trained to administer the assessment instruments, using laptop computers. A variety of sociodemographic variables were collected for each respondent including age, sex, marital status, level of education, and employment status. Participants were asked about suicidal ideation and attempts, and mental health consultations.

4.3.2 Measures

The measures used in the NSMHWB relevant to the current study (the Composite International Diagnostic interview, a screening version of the International Personality Disorder Examination, the 12-item Short Form Health Survey, and the Kessler 10-item Psychological Distress Scale) are discussed further:

4.3.2.1 *Composite International Diagnostic Interview (CIDI)*

The symptom disorder (Axis I) diagnostic measure employed was the Composite International Diagnostic Interview (CIDI), version 2.1 (World Health Organisation, 1997a;

Andrews and Peters, 1998). This is a fully-structured, comprehensive diagnostic interview developed by the World Health Organisation to detect and assign diagnoses according to the definitions and criteria of DSM-IV and ICD-10. It was used to assess criteria met within the last 1 month and the last 12 months. The CIDI has been extensively evaluated from a psychometric perspective. In field trials conducted by the WHO in 18 centres around the world for the CIDI 1.0, 17 of 20 diagnoses had Kappa levels for inter-rater reliability of 0.9 or greater (Wittchen et al., 1991). Wittchen (1994) and Andrews and Peters (1998) reviewed test-retest reliability of early versions of the CIDI, based on administration by independent interviewers up to a week apart. Kappa values for the agreement between lifetime DSM-III diagnoses generated by the CIDI ranged from 0.41 (generalised anxiety disorder) to 0.84 (panic disorder).

A number of studies have investigated concordance between the CIDI and other diagnostic instruments. Semler et al. (1987) noted that the CIDI had better diagnostic reliability for the anxiety disorders than the Diagnostic Interview Schedule (DIS; Robins et al., 1981).

Concordance for the CIDI with respect to the widely used Schedules for Clinical Assessment in Neuropsychiatry (SCAN; Wing et al., 1990) for ICD-10 diagnoses in a sample of primary care attendees was moderate to excellent ($\kappa = 0.58-0.97$; Jordanova et al., 2004). Using a probability based subsample of adolescents selected from a national survey sample, Kessler et al. (2009) demonstrated good concordance with the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS; Kaufman et al., 1997). A measure of classification accuracy not influenced by prevalence, the area under the receiver operating characteristic (ROC) curve, was good at 0.88 for any anxiety disorder and 0.89 for any mood disorder. Haro et al. (2006) reported a comparison of the CIDI to the Structured Clinical Interview for DSM-IV (First et al., 2002) in probability subsamples of adults selected from

the WHO World Mental Health (WMH) surveys. Areas under the curve ranged from 0.65 to 0.93 for anxiety and mood disorders. Lifetime concordance between CIDI and SCAN diagnoses indicated only moderate sensitivity for the CIDI (54.4 overall for anxiety disorders; 55.3 for major depressive disorder), good specificity (90.7 overall for anxiety disorders; 93.7 for major depression), moderate to good positive predictive values (74.5 overall for anxiety disorders; 73.7 for major depression), and good negative predictive values (80.0 overall for anxiety disorders; 86.8 for major depression; Haro et al., 2006).

In the NSMHWB the CIDI was used to determine the presence of six anxiety disorders (SP, generalised anxiety disorder, panic disorder, agoraphobia, post traumatic stress disorder, and obsessive-compulsive disorder), depression, dysthymia and four substance use disorders (alcohol dependence, alcohol harmful use/misuse, drug dependence, drug harmful use/misuse).

4.3.2.2 *International Personality Disorder Examination (IPDE)*

The IPDE is a semi-structured diagnostic interview which can generate ICD-10 and DSM-IV personality disorder diagnoses (Loranger et al., 1997). A screening version was developed by the WHO and used to generate ICD-10 personality disorder diagnoses. The screening questions for AVPD are shown in Table 4.1.

Concordance with the full, clinician-administered version (the IPDE) was examined in a small clinical sample (Slade et al., 1998). The internal consistency of the scale for ICD-10 anxious personality disorder (most closely similar to DSM-IV AVPD), as measured by Cronbach's alpha, was reported as 0.62 (0.77 for the full screener). In a receiver operating characteristic analysis, the area under the curve (AUC) was 0.84 for anxious PD (95% CI 0.73,0.91), suggesting that the instrument performs well in discriminating between those who do and who

do not have anxious PD. When scored as recommended by the developers, the instrument was highly sensitive (1.0) but not very specific (0.40) with a PPV of 0.2 and a NPV of 1.0.

The performance of the IPDE screener were further assessed using the same dataset accessed for the current study. The authors concluded that the screener was likely to overestimate the number of persons with PD, but that the number of false positives could be reduced by requiring thresholds for persistence and impairment to be met (Lewin et al., 2005).

4.3.2.3 12-item Short Form Health Survey (SF-12)

The SF-12 is a measure of functional impairment. It was derived from the well validated 36-item Short Form Health Survey, and its developers reported that it achieved multiple R squares of 0.911 in predicting the physical component and 0.918 in predicting the mental component summary scores of the parent instrument (Ware et al., 1996). This scale has been well validated in a range of sample populations and each item has unique reliable variance in predicting aspects of physical and mental health including physical functioning and role, vitality, bodily pain, general health, social functioning, emotional role functioning and mental health. Test retest reliability two weeks apart in community samples in the US and UK ranged from 0.76-0.89. The SF-12 reproduced more than 90% of the variance of the parent measure (Ware et al., 1996). In a validation study using general population survey data from nine European countries, high concordance with the 36-item version of the scale was demonstrated, with mean 36-item summary measures and comparable 12-item summary measures being within 0.0 to 1.5 points (median 0.5 points) in each country and comparable across age groups; the finding that it accounted for >90% of the variance of the 36-item version was replicated (Gandek et al., 1998). The high degree of concordance with the 36-

item version was further demonstrated in an Australian representative national sample (Sanderson and Andrews, 2002).

4.3.2.4 *Kessler 10-item psychological distress scale (K10)*

The K10 was developed as a screening tool to predict the likelihood of mental illness in individuals in the community. It yields a global measure of distress based on questions about anxiety and depressive symptoms experienced in the four weeks prior to completing the scale.

Kessler et al. (2002) reported the development and validation of the K10 in a two stage procedure using initially mail and telephone surveys, followed by a clinical reappraisal study in which it was compared to the Structured Diagnostic Interview for DSM (SCID). The K10 demonstrated a very good ability to discriminate between cases and non-cases on the SCID with an AUC of 0.876. A high level of internal consistency was demonstrated in the NSMHWB ($\alpha = 0.92$). Further, across sociodemographic subsamples defined on the basis of age, sex, and educational attainment, severity parameters were found to be very similar. The K10 has also been shown to perform well when the CIDI is used as the gold standard, achieving an AUC of 0.90 (95%CI: 0.89–0.91) on ROC curve analysis (Furukawa et al., 2003).

4.3.2.5 *Additional assessments*

An assessment of the number of days on which the individual was partially or completely unable to fulfil usual roles was made using the National Comorbidity Survey days-out-of-role questions; an assessment of each individual's perceived need for treatment was made using questions from the UK Survey of Psychiatric Morbidity (Andrews and Slade, 2001; Jenkins et al., 1997).

4.3.3 Analysis

Data was accessed from the CURF supplied by the Australian Bureau of Statistics. The data had been weighted to approximate the age and sex distribution of the Australian population, and to account for the probability of selection. Special software was required to estimate standard errors and confidence intervals because of the complexity of the sampling and the weighting of the data: the SUDAAN software for the analysis of correlated data package was used, release 9.0.3 (Shah et al., 1997).

4.3.3.1 *Social phobia diagnosis*

Exclusion criteria for making a diagnosis of SP in DSM-IV required that the fear of social or performance situations in SP not be better accounted for by another mental condition. Since SP has a typically early age at onset and is most commonly temporally primary (Kessler et al., 2005; Fehm et al., 2008), it was deemed unlikely that another mental disorder would account for the reported symptoms, and so diagnostic criteria were applied without operationalising the hierarchical exclusion criteria.

The version of the CIDI used in the NSMHWB asked participants about six specific social situations (eating/drinking in public, talking to strangers, writing while being watched, taking part or speaking in a meeting or class, going to a party or other social gathering, giving a speech, speaking in public) as part of the diagnostic assessment for SP. Additional questions included whether they had experienced “an unusually strong fear of any other situation where you could be the centre of attention.” In the analysis, GSP was assigned as a diagnosis where respondents endorsed 3 or more of the fears listed above and also met the other criteria for SP (see Table 2.2).

4.3.3.2 *Avoidant personality disorder diagnosis*

The NSMHWB screened for ICD-10 Anxious (Avoidant) Personality Disorder (AAPD), which is not identical to AVPD in DSM-IV (World Health Organisation, 1993b; American Psychiatric Association, 1994). However, the screening questions did not include all ICD-10 criteria. The relationship between these three sources is shown in Table 4.1.

Table 4.1: ICD-10 Anxious (avoidant) personality disorder, DSM-IV Avoidant personality disorder and NSMHWB screening questions.

ICD-10 Anxious (Avoidant) personality disorder	DSM-IV Avoidant personality disorder	NSMHWB screening questions
Persistent and pervasive feelings of tension and apprehension.		I usually feel tense or nervous.
Avoidance of social or occupational activities that involve significant interpersonal contact, because of fear of criticism, disapproval or rejection.	Avoids occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection.	I keep to myself even when there are other people around.
Unwillingness to get involved with people unless certain of being liked.	Is unwilling to get involved with people unless certain of being liked. Shows restraint within intimate relationships because of the fear of being shamed or ridiculed.	I won't get involved with people until I'm certain they like me.
Excessive preoccupation about being criticized or rejected in social situations.	Is preoccupied with being criticized or rejected in social situations. Is inhibited in new interpersonal situations because of feelings of inadequacy.	I worry a lot that people may not like me.
Belief that oneself is socially inept, personally unappealing, or inferior to others.	Views self as socially inept, personally unappealing, or inferior to others. Is unusually reluctant to take personal risks or to engage in any new activities because they may prove embarrassing.	I feel awkward or out of place in social situations.
Restrictions in lifestyle because of need to have physical security.		A lot of things seem dangerous to me that don't bother most people.

Two of the screening questions (“I usually feel tense or nervous” and “A lot of things seem dangerous to me that don’t bother most people”) appeared to lack a specific relationship to interpersonal anxiety, and these questions were excluded from the analysis in order to more

closely reflect DSM-IV criteria. In this study, respondents were required to meet any three out of the remaining four criteria as well as a persistent course and significant interference with life activities for the diagnosis of AVPD to be assigned.

The prevalence and 95% confidence intervals for the total population and for male and females separately were calculated for subpopulations of interest (i.e., SP-only, AVPD-only, SP+AVPD). Restricting the analyses to respondents with a diagnosis of either SP or AVPD, separate multinomial logistic regression models were used to provide odds ratios (OR) comparing respondents with SP-only, AVPD-only, and comorbid SP and AVPD (SP+AVPD) on a variety of sociodemographic and impairment measures. These are presented as either unadjusted odds ratios (OR) where the bivariate association between the predictor and the outcome is assessed, or as adjusted OR where the multivariate association between the predictor and the outcome is assessed controlling for other variables, such as comorbid depression and substance abuse. Chi-square analysis was used to compare the prevalence of GSP and non-GSP between respondents with SP-only and SP+AVPD. Finally, the percentages and OR of specific social fears endorsed by respondents with SP-only, AVPD-only and SP+AVPD were calculated.

4.3.3.3 *Distress and Disability*

Both the K10 and SF-12 have non-normal distributions, and so to permit regression analyses the K10 was dichotomised into those who were distressed and those who were not based on a commonly accepted cut point of 20 (Andrews and Slade, 2001), and the SF-12 mental health component score was dichotomised into those who were impaired and those who were not based on a cut point of 40 (Andrews, 2002).

4.4 RESULTS

A total of 381 respondents with the conditions of interest were identified from the total number of survey respondents of 10,641 and were included in the current study. Fifty-six percent were female and 44% male. Currently married respondents represented 49% of the sample; 29% had never married. Age data was supplied in bands: 28% of the sample was aged 18-34 years, 50% was aged 35-64 years, and 22% was aged over 64 years.

A total of 265 respondents met criteria for SP consistent with an estimated 12-month population prevalence of 2.3% (F:M ratio 1.5:1). A total of 185 respondents met criteria for AVPD, with the 12 month population prevalence estimated at 1.5% (F:M ratio 1.6:1). Of the respondents with a diagnosis of SP, a total of 196 (66.4%) did not meet criteria for AVPD, whilst of the respondents with a diagnosis of AVPD, a total of 116 (62.7%) did not meet criteria for SP. This left a total of 69 respondents (26.0% of those with SP, and 37.3% of those with AVPD) who received comorbid diagnoses of SP and AVPD (F:M ratio, 2:1).

The percentages, 95% confidence intervals, and OR for each diagnosis group with respect to the sociodemographic variables are presented in Table 4.2. Respondents who met criteria for SP-only were less likely than those with SP+AVPD to be aged between 35-54 (OR 0.37, CI 0.2-0.8) and 69% of those with SP+AVPD were in this age group (compared to 45% of those with SP-only and 48% of those with AVPD-only). No significant age differences were seen between SP-only and AVPD-only. There were no differences between the groups with respect to gender, or to marital status after controlling for age and gender. Likewise, there were no differences observed between the groups with respect to employment status or level of education.

Table 4.2: Proportions and multinomial logistic regression analyses (restricted to respondents with either Social Phobia (SP) or Avoidant Personality Disorder (AVPD) (n=381): Sociodemographic variables

		AVPD-only (n=116)		SP-only (n=196)		AVPD+SP (n=69)		AVPD-only vs. AVPD+SP (reference)		SP-only vs. AVPD+SP (reference)		AVPD-only vs. SP-only (reference)	
Socio-Demographics		N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	Odds	95% CI	Odds	95% CI	Odds	95% CI
Age	Young (reference)	31	29 (17-44)	43	31 (23-39)	15	17 (10-29)	-		-		-	
	Middle	56	48 (35-62)	101	45 (37-53)	45	69 (57-78)	0.43	0.1-1.3	0.37	0.2-0.8	1.15	0.5-2.8
	Old	29	23 (15-34)	52	25 (19-31)	9	14 (7-25)	0.98	0.3-3.6	0.98	0.4-2.7	1.00	0.5-2.2
Gender	Male	49	42 (33-52)	80	46 (39-54)	23	40 (25-57)	-		-		-	
	Female	68	58 (48-67)	116	54 (46-61)	46	60 (43-75)	0.91	0.4-2.2	0.77	0.4-1.6	1.18	0.7-2.0
Employment	Employed (reference)	64	52 (38-66)	113	59 (52-66)	36	57 (41-71)	-		-		-	
	Not in labour force	52	48 (34-62)	83	41 (34-48)	33	43 (29-59)	1.19	0.5-3.1	0.91	0.5-1.7	1.31	0.7-2.6
Education	Higher Qualification (reference)	47	36 (26-47)	87	47 (40-55)	30	46 (32-60)	-		-		-	
	No Higher Qualification	69	64 (53-74)	109	53 (45-61)	39	54 (40-68)	1.51	0.7-3.3	0.96	0.6-1.7	1.58	0.9-3.0
Marital Status ^a	Married/Defacto (reference)	41	44 (34-55)	95	53 (46-59)	25	48 (35-61)	-		-		-	
	Separated/Widowed/Divorced	39	27 (18-38)	51	18 (12-26)	26	30 (18-45)	0.95	0.4-2.3	0.54	0.2-1.3	1.77	0.9-3.4
	Never Married	36	29 (20-41)	50	29 (22-39)	18	23 (14-34)	1.50	0.6-4.1	1.26	0.6-2.9	1.19	0.7-2.2

Notes to table:

^a controlling for age and gender; ^b controlling for comorbid depression; ^c controlling for comorbid depression and substance use

Bold indicates significant at the 0.05 level

Table 4.3: Proportions and multinomial logistic regression analyses (restricted to respondents with either Social Phobia (SP) or Avoidant Personality Disorder (AVPD) (n=381): Comorbidity, impairment and distress

Socio-Demographics		AVPD-only (n=116)		SP-only (n=196)		AVPD+SP (n=69)		AVPD-only vs. AVPD+SP (reference)		SP-only vs. AVPD+SP (reference)		AVPD-only vs. SP-only (reference)	
		N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	Odds	95% CI	Odds	95% CI	Odds	95% CI
Comorbidity													
Comorbid Depression	No (reference)	73	62 (50-73)	121	65 (57-73)	27	42 (31-54)	-		-		-	
	Yes	43	38 (27-50)	75	35 (27-43)	42	58 (46-69)	0.43	0.2-1.0	0.39	0.2-0.7	1.13	0.6-2.1
Comorbid Substance use	No (reference)	97	85 (74-92)	155	78 (69-85)	51	77 (62-88)	-		-		-	
	Yes	19	15 (8-26)	41	22 (15-31)	18	23 (12-38)	0.60	0.2-1.7	0.97	0.4-2.5	0.62	0.3-1.6
Suicide Attempt ^b	No (reference)	100	88 (83-92)	176	91 (86-95)	45	75 (63-84)	-		-		-	
	Yes	16	12 (8-17)	20	9 (5-14)	24	25 (16-37)	0.50	0.3-1.0	0.36	0.2-0.8	1.40	0.7-2.8
Suicide Ideation ^b	No (reference)	52	47 (37-57)	105	58 (47-69)	18	31 (20-44)	-		-		-	
	Yes	64	53 (43-63)	91	42 (31-53)	51	69 (56-80)	0.61	0.3-1.4	0.38	0.2-0.8	1.59	0.8-3.1
Impairment and Distress													
SF-12 ^c	Not impaired (reference)	65	55 (46-63)	94	51 (42-59)	27	46 (35-58)	-		-		-	
	Impaired	51	45 (37-54)	102	49 (41-58)	41	54 (42-65)	0.96	0.5-2.0	1.12	0.6-2.1	0.86	0.5-1.6
K10 ^c	Not distressed (reference)	56	47 (37-58)	81	45 (38-53)	11	19 (9-35)	-		-		-	
	Distressed	60	53 (42-63)	115	55 (47-62)	58	81 (65-91)	0.32	0.1-0.9	0.35	0.1-0.9	0.90	0.5-1.7
Mental Health Consultations ^c	None (reference)	65	60 (47-71)	95	52 (43-61)	22	34 (22-48)	-		-		-	
	One or more	51	40 (29-53)	101	48 (39-57)	47	66 (52-78)	0.43	0.2-1.2	0.64	0.3-1.5	0.67	0.3-1.6

Notes to table:

^a controlling for age and gender; ^b controlling for comorbid depression; ^c controlling for comorbid depression and substance use

Bold indicates significant at the 0.05 level

When examined with respect to comorbidity (Table 4.3), respondents with SP-only and AVPD-only reported less 12-month depression than those with SP+AVPD (35% vs. 58%, $p < 0.05$, 38% vs. 58%, $p < 0.05$). After controlling for depression, those with SP-only reported significantly less suicidal ideation over their lifetime than respondents with SP+AVPD (OR 0.4), however there was no difference in suicidal ideation between AVPD-only and SP+AVPD, or between AVPD-only and SP-only. A history of suicide attempts over the lifetime was significantly more likely only in the comorbid group. It was reported by 9% of those with SP-only, 12% of those with AVPD-only, and by 25% of those with SP+AVPD; there was no significant difference between AVPD-only and SP-only.

On the measure of perceived health status (SF-12) there was no difference between any of the groups, with the majority of the variance accounted for by simply having a mental disorder. On the measure of global distress (K10), those with SP-only and AVPD-only reported significantly lower levels of distress than those with SP+AVPD, and this difference persisted when controlling for the effect of meeting criteria for depression or substance abuse (OR 0.35, OR 0.32 respectively). There was no difference between any of the groups in number of consultations with a health professional because of their mental illness when controlling for comorbid depression and substance abuse/dependence.

The proportion of individuals whose SP was generalised was significantly higher amongst those with a comorbid diagnosis of AVPD (63% vs. 43%, $p = 0.01$). There were differences in the pattern of fears endorsed, with generally higher proportions of those in the SP+AVPD group endorsing each social fear than in either the SP-only or AVPD-only groups. The addition of SP to a diagnosis of AVPD increased the odds of endorsing each social fear, but the addition of AVPD to a diagnosis of SP increased the odds of endorsement for only some

fears. Those with SP-only were significantly more likely to endorse 4 of the 6 specific fears asked about than the AVPD-only group. The odds of fearing giving a speech or speaking in public were much greater for the SP-only and SP+AVPD groups than for the AVPD-only group. The mean number of social situations feared was significantly higher in the SP+AVPD group than the SP-only group (3.7 vs. 2.5, $t=5.06$ $p < 0.001$) and AVPD-only group (3.7 vs. 1.3, $t=9.36$ $p < 0.001$). (Details of between group differences are shown in Table 4, Lampe and Sunderland (2015), Appendix C.)

4.5 DISCUSSION

The present epidemiological study compared groups with SP-only, AVPD-only and SP+AVPD on a range of demographic, symptom and comorbidity factors. Suicidal ideation and attempts were compared after controlling for comorbid depression; distress and impairment were compared after controlling for comorbid depression and substance abuse. The current findings confirm that AVPD without SP not only exists, but may be the rule in the community. The results also contribute some new information regarding the relationship between SP and AVPD. Many of the findings in this study are not compatible with a model that views AVPD as a disorder at the severe end of a social phobia continuum, especially the finding that a diagnosis of AVPD *per se* was not associated with greater distress or disability than a diagnosis of SP-only. This is consistent with the findings of Lenzeweger and colleagues (2007), who reported high levels of impairment in those with personality disorders as measured with the WHODAS, but after controlling for Axis I comorbidity, found a much lower association. They found that Axis I disorders were strong predictors of high levels of disability. This supports the inference that it is the additive burden of a personality disorder

and an Axis I disorder that may account for the greater distress, disability and suicide attempts in the SP+AVPD group.

This study estimated the prevalence of AVPD and the extent of comorbidity with SP. The 12-month prevalence of AVPD was estimated to be 1.5%, comparable to a point prevalence of 2.0% in community controls in the UCLA family study (Asarnow et al., 2001), lifetime rates of 2.7% reported in a population sample of female twins in Norway (Reichborn-Kjennerud et al., 2007) and 2.4% in a US epidemiological sample (Cox et al., 2009) but lower than the 6.6% reported in a small Swedish epidemiological study using only self-report measures (Ekselius et al., 2001) and 9.3% in a female community sample (Quirk et al., 2017).

The 12-month prevalence estimate for SP of 2.3% is near the medians of 2.0% (Fehm et al., 2005) and 2.3% (Wittchen and Jacobi, 2005) described for European studies but lower than the 5.1% reported from New Zealand (Wells et al., 2006) and 7.1% reported in the National Comorbidity Survey Replication (NCS-R; Ruscio et al., 2008). Notably, the more recent studies used a later version of the CIDI, asked about more possible feared situations and used different methodology to determine diagnoses (Ruscio et al., 2008; Wells et al., 2006; Lampe et al., 2003), likely accounting for some of the observed differences. The 2007 NSMHWB, also using a later version of the CIDI, estimated the 12-month prevalence of SP to be 4.2% (McEvoy et al., 2011). It is possible that rates of diagnosis of SP increase when more social situations are asked about (Ruscio et al., 2008), which may account for some of the differences but this is not a consistent finding (e.g., Stein et al., 2000) and cultural factors may also be relevant (Slade et al., 2009). Unfortunately the second NSMHWB survey did not screen for personality disorder.

It was for many years generally assumed that all persons with AVPD will also meet criteria for SP, probably because most research has been done using clinical samples in which high rates of comorbid SP and AVPD were observed. However, the data in the current study, where only 37.3% of respondents with AVPD additionally met criteria for SP, are consistent with findings in the NESARC study, the female twin study, and the Norwegian outpatient study described in the introduction. The latter study was notable in that rates of comorbidity with SP for all personality disorders were examined, and a comparable rate to that seen with AVPD was found for schizoid PD (50%), with comorbidity rates of 25-30% reported for schizotypal, paranoid, borderline and dependent PDs (Hummelen et al., 2007).

Secondly, the present study found that SP-only and AVPD-only showed more similarities on demographic, comorbidity, distress and impairment data with each other, than each did with the SP+AVPD group. No significant demographic differences were found between AVPD-only and SP-only; this is consistent with findings in the Collaborative Longitudinal Personality Disorders Study (CLPS) which found no demographic differences between AVPD with and without SP in a sample of inpatients, outpatients and persons recruited from the community (Ralevski et al., 2005), and compares to the Norwegian outpatient sample that reported no age or sex differences between SP and AVPD, but did find a significantly lower proportion of those with AVPD were married or cohabiting (Hummelen et al., 2007). If AVPD were a more severe variant of SP, then greater impact would be expected on social and occupational functioning as indicated by educational attainment, employment and marital status whenever AVPD was present. The findings for a lifetime history of suicidal ideation and attempt are consistent in suggesting that it is the comorbid condition, not the presence of AVPD, which has the most impact on suicidal thinking and behavior.

Thirdly, regarding the nature of the relationship between SP and AVPD, results suggest that the addition of AVPD to SP increased the odds of endorsing social fears that are more related to interpersonal interaction and less performance based, more consistent with a unique contribution than a continuity model. In particular, the odds of fearing giving a speech or speaking in public were much greater in both the SP-only and AVPD+SP groups than in AVPD-only, providing support for the conceptualisation of AVPD as having a focus that is more about intimacy, sociability and interpersonal interaction, and suggesting that the criteria applied in the current study did identify two distinct groups. Similar observations with regard to performance versus interactional fears were reported in the NESARC study (Cox et al., 2009). However, in that study the number of social fears increased from SP-only, to AVPD-only to SP+AVPD, leading the authors to conclude that the findings supported the severity continuum. In the current study, the mean number of fears for those with AVPD-only was about half that of those with SP-only; in a Swedish epidemiological sample the number of social fears endorsed was more closely related to whether SP was generalised or non-generalised, rather than the absence or presence of AVPD (Tillfors et al., 2004).

Although not statistically significant, there was a trend for the comorbid group to be somewhat underrepresented in the youngest age group, and most heavily weighted to middle age, with all three showing smaller numbers in the oldest age group. The relatively greater appearance of the comorbid group later in life would be consistent with the possibility that SP and AVPD each may act as a risk factor for the other. This seems consistent with recently reported data which showed an increased rate of comorbidity ten years after initial assessment (Torvik et al., 2016).

Numerous research findings have reported that groups with SP+AVPD have a higher symptom burden, more distress, impairment and comorbidity than those with SP-only. However, most of this research was conducted in outpatient populations presenting for treatment of SP or recruited for the presence of social anxiety. Most studies relied on small numbers. The current findings, based on an epidemiological sample in which most persons with AVPD did not have a comorbid SP, confirm that SP+AVPD carries a high symptom and distress burden, but overall suggest that AVPD does not differentiate from SP in symptom burden. Rather, it can be argued that it is comorbidity that appears to be of greatest consequence. This is supported by a study where patients with SP+AVPD together with one or more additional PDs were more symptomatic on measures of social anxiety and more dysfunctional than those with SP+AVPD, who in turn scored more highly than those with SP-only (van Velzen et al., 2000). Based on the very large NESARC study, Cox and colleagues (2009) concluded: “... *the evidence from this study strongly suggests that A[V]PD and GSP are not one and the same*” (p. 359). Previous research comparing groups with SP-only and SP+AVPD can be reinterpreted to support this finding. For example, apparent differences between SP-only and SP+AVPD were no longer significant when the severity of SP was statistically controlled (Chambless et al., 2008). An epidemiological sample that restricted comparisons to those with SP found that the presence of AVPD made no difference to ratings of distress or number of feared situations, but the comorbid condition was associated with greater functional impairment (Tillfors et al., 2004). A study of AVPD comorbid with either SP or panic disorder with agoraphobia found that the clinical picture was strongly influenced by the comorbid condition (Perugi et al., 1999). These findings are consistent with the current study in which AVPD does not appear to make an independent contribution to most measures of distress and impairment.

In contrast to the current findings, the Norwegian outpatient sample found that AVPD-only patients had more severe scores on general measures of functioning and severity, and higher rates of suicidal ideation, attempts and hospitalisation (Hummelen et al., 2007), and the CLPS found no difference on global assessment of functioning between AVPD-only and SP+AVPD groups (Ralevski et al., 2005). It should be noted that the CLPS used a mixed clinical and recruited population, did not measure many of the other factors included in the current study, and failed to compare a SP-only group with AVPD-only, factors that may account for some of the differences observed.

The current findings are most supportive of a model in which SP and AVPD each represent a type of social anxiety and where each may predispose to the other. In this model, age represents a risk factor for the comorbid state, with older individuals being at more risk of acquiring both conditions. A similar pattern can be seen in generalised anxiety disorder and major depressive disorder, where comorbidity becomes increasingly likely over time (Moffitt et al., 2007) and where considerable overlap in genetic vulnerability (Kendler et al., 2007) has led to arguments as to whether they may represent different phenotypes. The finding of an increased prevalence of SP+AVPD over time also supports this possibility (Torvik et al., 2016). In common with other comorbidity models, it is proposed that it is the comorbidity of SP and AVPD, rather than one or other condition, which is associated with greater distress and impairment.

4.5.1 Limitations

This study has a number of limitations related to the identification of AVPD. Firstly, the use of a screening tool administered by lay interviewers to identify personality disorder is less reliable than a structured interview administered by a mental health professional.

Secondly, the use of ICD-10 AAPD as a proxy for AVPD has limitations. However, a concordance of 0.84 between DSM-IV AVPD and ICD-10 AAPD in an epidemiological sample which also used self-report (Ekselius et al., 2001), supported the validity of doing so. The current study attempted to enhance the similarity with DSM-IV AVPD by limiting the criteria to those that appeared the closest match to DSM-IV criteria, but this may have had a disadvantageous rather than useful effect, for example, by limiting aspects of the construct that represent true points of difference with SP. ICD-10 AAPD criteria show overlap with the criteria for social anxiety (“I feel awkward or out of place in social situations”, “I worry a lot that people may not like me”) and define a personality style characterised by general anxiety and tension (“I usually feel tense or nervous”) and fears beyond the purely social (“A lot of things seem dangerous to me that don’t bother most people”). Only one criterion shows a close agreement with DSM-IV criteria for AVPD (“I won’t get involved with people until I’m certain they like me”). Estimates of comorbidity with AVPD vary from 0-89% (Alden et al., 2002) depending on the sample, diagnostic instruments and version of the DSM. However, the proportion of those with SP who also met criteria for AVPD in the current study is similar to studies that utilised structured diagnostic instruments for DSM, including clinical (14.5% and 28% using DSM-III-R; Baillie and Lampe, 1998; Dyck et al., 2001) and epidemiological (36%; Cox et al., 2009) samples though lower than the 65-90% reported in some other outpatient samples (Alnaes and Torgersen, 1988; Chambless et al., 2008). In the current study some differences emerged between SP-only and AVPD-only groups in the pattern and likelihood of social fears endorsed, suggesting that two distinct groups were defined.

Only approximately one third of those with AVPD also met criteria for SP. The CIDI requires that only one or more of six social situations are feared, yet it is possible that those with AVPD failed to meet the SP criterion requiring that exposure to the feared situation almost always provokes anxiety because their avoidance is so comprehensive that situations are never confronted.

It has been suggested that the more situations that respondents are explicitly asked about, the greater the average number of social situations endorsed as feared. This survey asked only about 6 situations, compared to 14 in the NCS replication survey. Therefore, the survey may have underestimated the prevalence of SP. Possibly, some of those classified as AVPD-only may have met criteria for SP had more situations been surveyed.

DSM-IV specifies GSP if the individual “fears most social situations” (American Psychiatric Association, 1994, p. 417) but does not operationalise the definition. In this study, “most” was defined as three or more of the six fears enquired about. However, other studies have varied in the definition of this construct. Too few situations endorsed could result in a relatively “mild” GSP; requiring too many might reduce distinctions between GSP and non-GSP.

4.6 CONCLUSION

This study makes a valuable contribution to the examination of differences between AVPD and SP by using population-level data. Differences between SP-only, AVPD-only and SP+AVPD were identified that are not fully explained by a severity continuum model.

Chapter Five –

Study 2: Examination of demographics and disability in three sample groups: Avoidant Personality Disorder without Social Phobia, Social Phobia without Avoidant Personality Disorder and Avoidant Personality Disorder comorbid with Social Phobia

Chapter overview

This chapter examines demographic, distress and disability in a recruited sample of persons with AVPD with and without SP. By including a group with AVPD-only, the design of this study aimed to overcome the potential limitations of earlier research that restricted the study of AVPD to groups with SP. Previous demographic and disability findings for SP and AVPD are briefly reviewed. Since prior studies examining these variables were carried out using two different editions of the DSM, involving changes that impact on the interpretation of the data, the changes in diagnostic criteria for SP and AVPD from DSM-III-R to DSM-IV are summarised. Results of the current study identified relatively few differences between the three diagnostic groups of SP-only, AVPD-only and SP+AVPD. Notably the pattern of differences varied, with AVPD-only on some measures showing more similarity to the SP-only group, and on other measures showing greater similarity with the SP+AVPD group. The findings support a more complex relationship between AVPD and SP than one based solely on severity.

5.1 INTRODUCTION

The severity continuum hypothesis posits that avoidant personality disorder (AVPD) represents essentially a more severe version of social phobia (SP), and is otherwise not meaningfully distinct. This hypothesis arose from studies comparing SP and AVPD on a range of demographic, symptom, distress and comorbidity variables, which reported similar

symptom profiles and demographics, and usually more severe distress and disability.

However, the majority of these studies used a sample of persons with SP and compared subsamples with and without AVPD, without including an AVPD-only group, which was formerly considered to be rare or non-existent. Studies published prior to approximately 1999 were largely conducted using the 3rd revision of the Diagnostic and Statistical Manual of Mental Disorders, revised (DSM-III-R) to classify participants. In the 4th revision of the DSM (DSM-IV) used for the current study, criteria for AVPD criteria were somewhat different from DSM-III-R: it has been suggested that changes were made in order to more closely capture the underlying motivation for the observed behaviour according to Millon's original conceptualisation of AVPD (Millon, 1991), and improve the internal consistency of items (Nurnberg et al., 1994; Baillie and Lampe, 1998). DSM-III-R and DSM-IV criteria for AVPD are compared in Table 5.1.

Table 5.1: AVPD in DSM-III-R and DSM-IV

DSM-III-R	DSM-IV
Avoids social or occupational activities that involve significant interpersonal contact.	Avoids occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection.
Is unwilling to get involved with people unless certain of being liked.	Is unwilling to get involved with people unless certain of being liked. Shows restraint within intimate relationships because of the fear of being shamed or ridiculed.
Is easily hurt by criticism or disapproval.	Is preoccupied with being criticized or rejected in social situations. Is inhibited in new interpersonal situations because of feelings of inadequacy.
Is reticent in social situations because of fear of saying something inappropriate or foolish, or of being unable to answer a question.	Views self as socially inept, personally unappealing, or inferior to others. Is unusually reluctant to take personal risks or to engage in any new activities because they may prove embarrassing.
Exaggerates potential difficulties, physical dangers, or risks involved in doing something ordinary but outside his or her usual routine.	
Has no close friends or confidants (or only one) other than first degree relatives.	
Fears being embarrassed by blushing, crying or showing signs of anxiety in front of other people.	

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In contrast, relatively few changes were made to the criteria for SP. The focus on social and performance situations was made clearer. It was indicated that AVPD should be considered as an additional diagnosis; however, some of the characteristic features of AVPD (such as feelings of inferiority, low self-esteem and hypersensitivity to criticism) were added as associated features of SP in the accompanying text, which noted that AVPD “*may be a more severe variant of Social Phobia ... that is not qualitatively distinct*”, indicating ambivalence regarding the distinctness of these two categories (American Psychiatric Association, 1987; p. 455). DSM-III-R and DSM-IV criteria for SP are compared in Table 5.2.

Table 5.2: SP in DSM-III-R and DSM-IV

DSM-III-R	DSM-IV
<p>A. A persistent fear of one or more situations (the social phobic situations) in which the person is exposed to possible scrutiny by others and fears that he or she may do something or act in a way that will be humiliating or embarrassing.</p> <p>B. If an Axis II or another Axis I disorder is present, the fear in A is unrelated to it, e.g., the fear is not of having a panic attack (Panic Disorder), stuttering (Stuttering), trembling (Parkinson's Disease), or exhibiting abnormal eating behaviour (Anorexia Nervosa or Bulimia Nervosa).</p> <p>I. During some phase of the disturbance, exposure to the social phobia stimulus (or stimuli) almost invariably provokes an immediate anxiety response.</p> <p>J. The phobic situation(s) is avoided, or is endured with intense anxiety.</p> <p>E. The avoidant behaviour interferes with occupational functioning or with usual social activities or relationships with others, or there is marked distress about having the fear.</p> <p>F. The person recognises that his or her fear is excessive or unreasonable.</p> <p>G. If the person is under 18, the disturbance does not meet criteria for Avoidant Disorder of Childhood or Adolescence.</p> <p>Specify generalised type if the phobic situation includes most social situations, and also consider the additional diagnosis of Avoidant Personality Disorder.</p>	<p>A. A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing</p> <p>G. The fear or avoidance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition, and is not better accounted for by another mental disorder (e.g., Panic Disorder With or Without Agoraphobia, Separation Anxiety Disorder, Body Dysmorphic Disorder, a Pervasive Developmental Disorder, or Schizoid Personality Disorder).</p> <p>H. If a general medical condition or another mental disorder is present, the fear in Criterion A is unrelated to it, e.g., the fear is not of Stuttering, trembling in Parkinson's Disease, or exhibiting abnormal eating behaviour in Anorexia Nervosa or Bulimia Nervosa.</p> <p>C. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack.</p> <p>D. The feared social or performance situations are avoided or else are endured with intense anxiety or distress.</p> <p>E. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.</p> <p>B. The person recognises that the fear is excessive or unreasonable..</p> <p>F. In individuals under age 18 years, the duration is at least 6 months.</p> <p>Specify if: Generalized: if the fears include most social situations (e.g., initiating or maintaining conversations, participating in small groups, dating, speaking to authority figures, attending parties). Note: also consider the additional diagnosis of Avoidant Personality Disorder</p>

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A focus of the earliest studies was to compare non-generalised SP with generalised SP (GSP) and GSP with AVPD (GSP+AVPD). In DSM-III-R and DSM-IV, GSP was described as avoidance of “most” social situations, but not further operationalised. Studies mostly employed clinical samples of persons presenting for treatment of SP; a few recruited persons specifically for research into assessment or treatment, and a small number used student, community or epidemiological samples. Findings relevant to the current study are summarised below.

Studies have consistently shown that non-generalised SP occurs less frequently than generalised SP and is less disabling (Acarturk et al., 2008; Aderka et al., 2012) but it has also been argued that there is no clear distinction, with distress and disability being proportionate to the number of feared situations (Stein et al., 2010; El-Gabalawy et al., 2009).

Studies of AVPD have mainly been conducted in populations with SP, although some more recent studies have also examined AVPD with and without SP. Findings are reviewed below and summarised in Table 5.3.

5.1.1 Clinical studies of SP with and without AVPD

Numerous studies were conducted in samples of persons with SP in which those with and without an additional diagnosis of AVPD were compared. For the most part these studies found SP+AVPD to be associated with greater symptom burden and disability. This gave rise to the so-called “continuum hypothesis” (described in more detail in Chapter Two) which proposes that AVPD is a more severe variant of SP. These studies are summarised below and in Table 5.3.

In clinical samples, several studies reported no differences in sex, age or married status, between AVPD-only, SP-only and SP+AVPD (Brown et al., 1995; Eikenaes et al., 2013; Huppert et al., 2008; Marques et al., 2012; van Velzen et al., 2000). Other studies also failed to find differences in employment status (Huppert et al., 2008; Brown et al., 1995; Hummelen et al., 2007; van Velzen et al., 2000), educational level, or age at onset between GSP and GSP+AVPD (Brown et al., 1995). However, one study reported that participants with SP-only were more likely than those with SP+AVPD to be working at least half-time; differences between these groups and AVPD-only were not significant (Eikenaes et al., 2013). A study comparing clinical samples with SP-only and SP+AVPD reported similar levels of disability, but numerically more days out of role in the past month for SP+AVPD (13.1 vs. 10.9); statistical significance was not computed (Sanderson et al., 2001). No difference in age or age at onset was reported two studies which used DSM-III-R criteria for AVPD (Holt et al., 1992; Tran and Chambless, 1995). One study using DSM-IV criteria also reported on quality of life, finding no difference (Eikenaes et al., 2013).

Some researchers examined disability and found higher levels in the comorbid group (Kose et al., 2009; Marques et al., 2012). A GSP+AVPD sample was found to be more impaired on social and occupational, but not intimate relationship functioning (van Velzen et al., 2000).

One small (N = 24) clinical study found more males in the GSP+AVPD group compared to GSP-only (Kose et al., 2009) and one study reported that those with GSP+AVPD were more likely to be single than those with GSP-only (Tran and Chambless, 1995).

Annual income was shown to differ in GSP+AVPD from both GSP and non-generalised SP groups (Brown et al., 1995).

5.1.2 Non clinical samples of SP with and without AVPD

In a community sample no differences were reported between GSP and GSP+AVPD in age or gender ratio, but the GSP+AVPD sample was rated lower on the Global Assessment of Functioning scale, indicating greater impairment (Herbert et al., 1992).

More functional impairment was evident in those who screened positive for SP+AVPD in an epidemiological sample (Tillfors et al., 2004).

5.1.3 Clinical studies which included samples with both SP and AVPD-only

These studies are generally few in number. In one study, SP-only was compared to AVPD-only in a sample drawn from psychiatric clinics specialising in the treatment of personality disorder (Hummelen et al., 2007). No between group differences in gender ratio (65-71% female) , age or social support were reported, but a smaller proportion of the AVPD-only group was married or cohabiting (40%) compared to the SP-only group (56%) and the GAF was somewhat lower (Hummelen et al., 2007). The AVPD-only group was significantly more likely to report previous psychiatric hospitalisation, suicidal ideation and suicide attempts.

In a later sample from some of the same clinics sampled by Hummelen and colleagues (2007), fewer participants with AVPD-only and SP+AVPD were working at least part-time compared to those with SP, but no differences were seen in age, relationship status and level of education (Eikenæs et al., 2016).

In a mixed population (participants recruited from the community, psychiatric inpatient and psychiatric outpatient settings) no differences between AVPD-only and SP+AVPD were seen for age, gender ratio (67%, 60.4% female respectively), marital status, educational level or

employment status (Ralevski et al., 2005). In this study there was no significant difference in Global Assessment of Functioning, which was low for each group.

Table 5.3: Demographic features and disability in SP and AVPD

Variable/s	Finding	Study/ies
Sex, age, marital status	SP-only = AVPD-only = SP+AVPD	(Brown et al., 1995; van Velzen et al., 2000; Huppert et al., 2008; Marques et al., 2012; Eikenaes et al., 2013; Herbert et al., 1992)
	AVPD-only = SP+AVPD	(Ralevski et al., 2005)
	More males in SP+AVPD than SP-only	(Kose et al., 2009)
	SP+AVPD more likely to be single than SP-only	(Tran and Chambless, 1995)
	AVPD-only more likely to be single than SP-only	(Hummelen et al., 2007)
	(Did not study SP+AVPD)	
Employment status	SP-only = SP+AVPD	(Brown et al., 1995; van Velzen et al., 2000; Hummelen et al., 2007; Huppert et al., 2008)
	SP-only more likely to be in employment than SP+AVPD	(Eikenaes et al., 2013)
	SP-only more likely to be working at least part-time vs. AVPD (with or without SP)	(Eikenæs et al., 2016)
Educational level, age at onset	SP-only = SP+AVPD (Did not study AVPD-only)	(Brown et al., 1995; Holt et al., 1992; Tran and Chambless, 1995)
Quality of life	SP-only = AVPD+/-SP	(Eikenaes et al., 2013; Hummelen et al., 2007)
Disability	SP-only < SP+AVPD	(Kose et al., 2009; Marques et al., 2012; Herbert et al., 1992; Tillfors et al., 2004)
	SP-only < AVPD-only (Did not study SP+AVPD)	
Relationship functioning	SP-only > SP+AVPD = SP+OPD (other personality disorder) for social and occupational functioning;	(van Velzen et al., 2000)
	SP-only = SP+AVPD = SP+OPD	

5.1.4 Limitations of prior research

Failure to include persons with AVPD without SP can be seen as a limitation of previous studies (for example, Brown et al., 1995; Chambless et al., 2008; Holt et al., 1992; van Velzen et al., 2000) as it precludes examination of the possibility that AVPD without SP may differ in significant respects to SP+AVPD. Prior research has suffered from additional limitations including use of less precise personality diagnostic tools: many studies (for example, Tran and Chambless, 1995; Tillfors et al., 2004), employed only screening measures, which are known to have high rates of false positives (Loranger, 1992), or selected out from well validated instruments only questions relevant to AVPD (for example, Brown et al., 1995; Schneier et al., 1991), in a practice that is noted to have potential limitations (Huprich et al., 2011) and to the author's knowledge has never been validated. In the IPDE, for example, the items pertaining to AVPD are somewhat distributed through the instrument in a method that its principal developer describes as "natural flow" for the interview (Loranger, 1999). Selecting only items related to one personality style might risk response bias.

5.2 AIMS

Study 1 of this thesis (Chapter Four) examined community data from a large population-representative sample and provided confirmation that AVPD commonly occurs in the community without SP comorbidity. This enabled subsamples with SP-only and AVPD-only to be compared to a subsample with SP+AVPD as a reference category. Few comparisons were identified in which a significant difference was seen solely between SP-only and SP+AVPD on the variables measured. The SP-only group was likely to be younger, and

somewhat less likely to abuse substances, but did not show differences to AVPD-only or SP+AVPD on other demographic variables, comorbidity, distress or disability.

Hence, some findings in Study 1 were inconsistent with a severity continuum hypothesis. The results also pointed to potentially important limitations of omitting an AVPD-only comparison group. A limitation of Study 1, however, was the use of a proxy measure for AVPD.

The current study therefore proposed to address some of the limitations of previous research and examine demographic characteristics, comorbidity and disability in a sample in which reliable and valid diagnostic instruments were used to establish diagnostic status and allow the identification of three comparison groups: SP-only, AVPD-only and SP+AVPD.

5.3 METHODS

5.3.1 Study Design

The study was planned as an observational study involving one measurement point. Ethics approval was obtained from the Human Research Ethics Committee of the candidate's University.

5.3.2 Recruitment

The study was advertised on the University's research website (http://sydney.edu.au/research/involved/volunteer_categories.html) and the websites of the clinics where the candidate, principal and associate supervisors worked (CADE Clinic www.cadeclinic.com; Clinical Research Unit for Anxiety and Depression www.virtualclinic.org.au). The hospital at which the candidate was based (Royal North Shore Hospital, Sydney) distributed a media release to local and metro media and advertised the

study on the North Sydney Local Health District (LHD) website, the LHD intranet, and tweeted it via their @nthsydhealth account. An article also appeared in a local newspaper (the *North Shore Times*) reporting the commencement of the study. The candidate's email address was provided for contact, as well as a dedicated telephone number on which a message referred interested persons to the website for more details, and invited them to leave their telephone contact details. Individuals who provided their telephone contact details were then phoned by the candidate in order to conduct screening and provide further information about the study.

5.3.2.1 Inclusion criteria

Participants were required to be aged between 18 and 65 years, to speak and understand English well enough to complete written questionnaires and participate in diagnostic interviews and to describe symptoms typical of SP and/or AVPD. Participants taking psychotropic medication were required to have been on a stable dose for at least 4 weeks. Participants with previous or comorbid diagnoses of bipolar disorder or schizophrenia were included providing they had no acute symptoms of these disorders.

5.3.2.2 Exclusion criteria

Individuals with substance dependence or acute symptoms of another psychiatric disorder (apart from depression or anxiety) were excluded from the study.

5.3.3 Data Collection

Each participant contributed data by two methods: completion of online questionnaires and face to face attendance for a diagnostic interview and computerised diagnostic assessment. Participants accepted for the study were sent a personalised email link to complete online

questionnaires hosted on the Survey Monkey platform. The questionnaires included well validated measures of distress (K6) and disability (WHODAS 2.0), as well as measures of symptoms and vulnerability factors described in detail in Chapter Six. Demographic data including current age, age at onset of social anxiety, relationship status, educational attainment, employment status and main source of income were also collected online. The questionnaires used are provided in Appendices E1-E9. To preserve confidentiality, respondents were not asked to provide any personally identifying data and no details of their computer or Internet Protocol (IP) number were stored. Participants entered the study ID number that was sent to them in the email link.

Personality and symptom disorder diagnostic measures were completed when the participant met personally with the candidate.

5.3.4 Measures

5.3.4.1 *Composite International Diagnostic Interview-Automated*

The symptom disorder (Axis I) diagnostic measure employed was the Composite International Diagnostic Interview (CIDI) 2.0. This is a fully-structured, comprehensive diagnostic interview developed by the World Health Organisation (WHO) to detect and assign diagnoses according to the definitions and criteria of DSM-IV and ICD-10 (World Health Organisation, 1997b). It assesses criteria met within the last 12 months as well as over the lifetime. The CIDI has been extensively evaluated from a psychometric perspective, as has been detailed in Section 4.3.2.1.

The computerised version, the CIDI-Auto 2.1 (World Health Organisation, 1997a) is a self-report, automated version of the CIDI 2.0 which generates diagnoses according to computer

algorithms. It has been demonstrated to be acceptable to those being tested and, in fact, less embarrassing than face to face diagnostic interviews (Peters et al., 1998). In a clinical sample of mainly anxiety disorders, the CIDI-Auto was noted to have moderate concordance with the SCAN (canonical correlations = 0.66-0.69, $p = 0.05$), with much higher inter-rater reliability (overall intraclass kappa = 1.0 for CIDI-Auto vs 0.67 for SCAN) which was attributed to the greater variability inherent in the interviewer-administered SCAN (Andrews et al., 1995). Findings from studies comparing clinician diagnosis with the CIDI-Auto have been inconsistent, with some showing good concordance (Peters and Andrews, 1995) and others suggesting moderate or poor concordance (Rosenman et al., 1997; Komiti et al., 2001). Specificity tends to be high (e.g. 0.88-0.99 for DSM-IV diagnoses; Komiti et al., 2001) but sensitivity poor to moderate (e.g. 0.17-0.67 for DSM-IV diagnoses; Komiti et al., 2001). However, it should be noted that these studies tended to use small samples and to be conducted in specialist treatment centres. Overall, the available data supports the use of the CIDI-Auto as a valid and reliable tool for generating DSM-IV diagnoses in this study of a mixed community and clinical sample. Where available, clinical interview data was also considered in assigning participants to group with respect to a diagnosis of social phobia.

5.3.4.2 *International Personality Disorder Examination*

The personality diagnostic instrument employed was the International Personality Disorder Examination, DSM-IV and ICD-10 version (IPDE). This is a semi-structured questionnaire measure designed to be used by a clinician. It was developed within the Joint Program for the Diagnosis and Classification of Mental Disorders of the World Health Organisation (WHO) and U.S. National Institutes of Health (NIH), and provides diagnoses within both the DSM-IV and ICD-10 classification systems. The IPDE is reported to be the only personality

diagnostic tool based on worldwide field trials. Excellent inter-rater reliabilities were reported for the DSM-III-R version ($\kappa = 0.84-0.92$; Lenzenweger, 1999) and specifically in the WHO multi-centre field trials of >700 psychiatric patients, an inter-rater reliability was reported for AVPD of 0.82, with a temporal stability (2-12 months) of $\kappa = 0.78$ (Loranger et al., 1994).

The IPDE both generates dimensional scores and allows assignment to personality disorder categories. Respondents are asked a series of 99 scripted questions, typically very open questions, followed by a number of probe questions. Each personality disorder is assessed by means of a number of questions. The interviewer scores the respondent's answers to each question against well defined descriptive criteria and scoring rules that generate ordinal scores of 0 (trait absent or normal), 1 (exaggerated or accentuated trait, but subthreshold), or 2 (pathological and/or clearly meets criterion level). A scoring algorithm identifies which questions are to be counted for each personality disorder. Scores of "2" on a question indicate that the threshold level has been met. One or more questions may contribute to each personality disorder criterion, and the number of criteria that must be met to assign a personality disorder diagnosis corresponds with the relevant classification system (DSM-IV or ICD-10). Diagnostic status is considered "definite" when the minimum number of criteria is met or "probable" when N-1 criteria for diagnosis are met according to the scoring algorithm. For example, a "definite" diagnosis of AVPD requires at least 4 of 7 criteria to be met, and a "probable" diagnosis is assigned when 3 of 7 criteria are met. For a positive diagnosis, symptoms are required to be typical of the individual over at least the last five years, and to have been present within the last 12 months. Symptoms meeting the threshold for at least one criterion of a disorder are required to have had an onset prior to the age of 25 years, although codes for late onset (after 25 years) and past personality disorder can be

assigned. Scores on each item are also summed to give a dimensional score for each personality style.

The IPDE was used to assign participants a categorical DSM-IV avoidant personality disorder status (present/absent). Because the IPDE is a conservative instrument (Lenzenweger et al., 2007), both “definite” and “probable” status was used to make a positive diagnosis and assign participants to one of the AVPD groups (with or without SP, depending on their results on the CIDI-Auto). In some analyses the AVPD dimensional score was used.

5.3.4.3 K6

The K6 is a six-item shorter form of the K10 (see section 4.3.2.4), and a non-specific measure of psychological distress (Appendix E1). It has been used as a screening tool to predict the likelihood of mental illness in individuals in the community (Kessler et al., 2010) with the K6 reported to be preferable for screening for mood and anxiety disorders since it shows less subsample variation (Furukawa et al., 2003). In development, the K6 was tested in a nationally representative sample, followed by a clinical reappraisal study (Kessler et al., 2002). Using the SCID as the gold standard, the K6 was found to have very good discrimination with the AUC in a ROC curve analysis reported as 0.876 (Kessler et al., 2002). In the NSMHWB, using ROC curve analyses to examine the ability of the K6 to discriminate CIDI cases and non-cases, the AUC for the K6 was substantial at 0.89 (95% CI: 0.88 to 0.90; Furukawa et al., 2003). It has also been demonstrated to show substantial concordance with clinical appraisal (Kessler et al., 2003).

The total K6 score was used in analyses.

5.3.4.4 *WHODAS*

The World Health Organisation Disability Assessment Schedule (WHODAS 2.0) provides a standardised measure of health and disability that has been widely used in epidemiological surveys as well as being suitable for clinical settings. It has good reliability and item-response characteristics, a robust factor structure, and is sensitive enough to detect changes with treatment interventions (Üstün et al., 2010). It assesses level of functioning in six areas of life: cognition, mobility, self-care, interpersonal interaction, activities of daily living (including work, school and domestic functioning) and participation in community and society. Originally a 36-item scale with very good psychometrics, a 12-item version was developed with the advantages of being shorter and easier to score. Exploratory and confirmatory factor analyses conducted on data from the NSMHWB indicated a good fit between the 12-item WHODAS and a theoretically derived model that posited both a general disability factor and factors related to the six domains of information in the questionnaire (Andrews et al., 2009). The best fit on factor analyses was for a second-order one factor solution, consistent with a global disability latent factor, and six first-order factors corresponding to the six areas of functioning sampled (Tucker-Lewis fit index = 0.99, comparative fit index = 1.00, standardised root mean-square residual = 0.07, root means square error of approximation = 0.04, Aikake information criterion = 546; Andrews et al., 2009). The psychometric performance of the WHODAS 12-item scale was also tested using item response theory in a large sample of general practice patients (Luciano et al., 2010). The items performed well to discriminate varying levels of disability, and there was no evidence of gender bias. Together with the extensive literature supporting the validity of the parent instrument, the literature supports the utility and validity of the 12-item WHODAS. It thus

has the advantages of being a well validated measure and containing items pertinent to the conditions under study.

The 12-item version of the WHODAS was used (Appendix E2) and the “simple scoring” method where the scores on each item were summed (Üstün et al., 2010).

5.3.4.5 *Mini-SPIN*

The Mini-SPIN (Appendix E3) is a three item screening measure for SP which has been shown to have high sensitivity (88.7%) and specificity (90.0%) with a positive predictive value of 52.0% and a negative predictive value of 98.5% (Connor et al., 2001). Ethics approval was obtained to add it to the study after commencement, in order to be able to assign a diagnostic group to participants who may have been unable to complete the face to face interview.

5.3.5 Data analysis

5.3.5.1 *Missing data*

The flow of participants through the study is shown in Figure 5.1. Six participants completed all parts of the online questionnaires but did not complete personality and symptom disorder diagnostic measures. Only ten participants completed the mini-SPIN because this measure was only added later in the study: of those who were asked to complete this measure, all did and there was no missing data.

The face to face part of the study involved diagnostic assessment which allowed assignment of group membership. Hence, missing data in this part of the study is essentially a problem of missing group membership.

With respect to the participants who did not attend for the face to face components, this could represent data Missing Completely at Random, in which failure to attend was due to reasons unconnected with AVPD or the variables being studied. For example, inconvenience rather than anxiety. This possibility is supported by the given reasons by one participant of urgent family business arising, and by two participants as work commitments precluding attendance. However, after completing the online questionnaires, one participant failed to respond to further emails and two failed to attend diagnostic appointments without notice, raising the possibility of other categories of missing data. This data could be Missing At Random, for example, because these individuals might have been more depressed. It could also have been Missing Not at Random if these individuals were more incapacitated by their AVPD, or more highly avoidant. In order to test these possibilities contrasts were performed between four groups (Missing, SP-only, AVPD-only and SP+AVPD groups) and 3 groups (Missing, SP-only, AVPD +/- SP groups; Howell, 2015). Groups were compared on age, gender, marital and employment status, highest level of education, and earliest onset of concerns. Chi-square tests were used to compare gender, employment and marital status; and for age and age at onset one-way ANOVA was used with bootstrapping with bias-corrected acceleration to compensate for the non-normal distribution in some diagnostic groups. No overall between group differences were observed. Therefore, it was concluded that missing group status is most likely due to random factors and the group may be classified as Missing at Random. Data for these 6 participants was then excluded from further analysis.

5.3.5.2 Outliers

Examination of descriptive plots and statistics did not identify any outliers on the distress and disability measures. A multiple outlier was identified on personality comorbidity data, prompting further analyses (discussed in section 5.4.4).

5.3.5.3 Identification of diagnostic groups

Participants were assigned to one of three diagnostic groups on the basis of their results on the CIDI-Auto, IPDE and, where available, clinical interview with a psychiatrist other than the investigator. Participants who were given a clinical, DSM-IV or ICD-10 diagnosis of SP were considered to have this disorder; in two cases the CIDI did not assign a diagnosis of SP, but the participants were positive on the mini-SPIN and had been clinically diagnosed with SP in an interview with a psychiatrist: they were therefore assigned a diagnosis of SP. Both participants also met criteria for AVPD. As noted above, the IPDE is a conservative instrument; therefore participants who met criterion threshold on three or more DSM-IV criteria for AVPD were considered to have this disorder.

5.3.5.4 Data analysis

The IBM Statistical Package for the Social Sciences (SPSS) Version 22 was used for all data analysis. Corrections were employed to minimise the risk of Type I errors.

For interval data, tests of normality were conducted using the Shapiro Wilks W, considered most appropriate for small to medium sample sizes ($N < 2000$). Levene's test was used to test homogeneity of variances. For normally distributed interval data, a one-way between groups ANOVA was used to compare groups. Data transformation was employed for ratio data with

non-normal distribution, and where this was unsuccessful, non-parametric methods of analysis were employed. For ordinal data, non-parametric statistical tests were used to compare groups. Kruskal-Wallis One-way ANOVA (k samples) with stepwise step-down comparisons and comparisons of medians using pooled sample medians was used to examine between group differences. For between group comparisons of nominal data, Pearson's chi-square test was used, and if significant, the effect size was estimated by means of the contingency coefficient. Fisher's exact test was employed for tables with low frequency cells. Regression analyses were conducted to test whether any diagnostic group was more likely to be associated with particular demographic categories.

5.4 RESULTS

A total of 108 persons responded to advertisements and 71 persons completed at least one part of the study. The flow of participants through the study is shown in Figure 5.1.

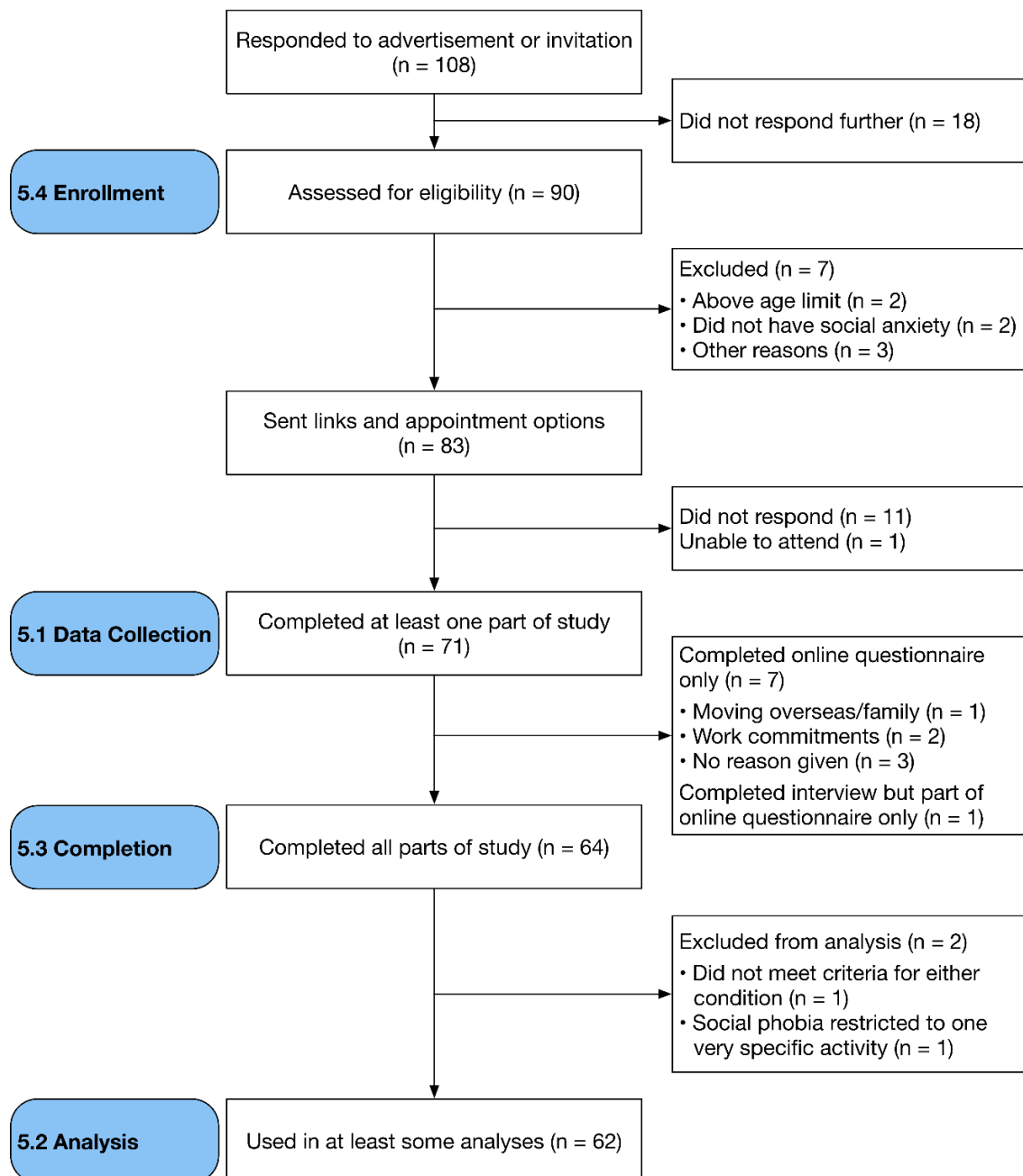


Figure 5.1: Study flow diagram

5.4.1 Demographic data

The average age of the total sample was 34.9 years (SD 11.86 years; range 20-65 years). The mean age which participants reported as the earliest they could recall problematic social

concerns was 10.1 years (SD 4.9 years; range 3-23 years). The sample as a whole was 55% female with no significant differences between the groups in proportions of males/females. No gender differences were evident for the overall sample on age, age at onset of social concerns, relationship, educational or employment status or main source of income.

The number of participants in each diagnostic group was as follows:

- Social phobia without avoidant personality disorder (SP-only; N = 18)
- Avoidant personality disorder without social phobia (AVPD-only; N = 8)
- Social phobia comorbid with avoidant personality disorder (SP+AVPD; N = 35)

Demographic data is summarised for each diagnostic group in Table 5.4.

The small sample size made interpretation of normality challenging (Field, 2013; p. 202).

Age data was normally distributed in the AVPD-only group, but not the SP-only or SP+AVPD groups as indicated by histograms (data was skewed to the left) and significant Shapiro-Wilks tests. This is consistent with many of the participants having been recruited from a university. Age at onset data was normally distributed in the SP-only and AVPD-only groups, but skewed towards a younger age in the SP+AVPD group. However, there was no violation of homoscedasticity identified. Transformation of the current age data using natural log, Log10, square root and reciprocal transformations was not successful in achieving a normal distribution in all groups, therefore, bootstrapping with bias corrected acceleration was employed in a one-way ANOVA to test for differences between the groups. Age and earliest age at onset were not significantly different between the groups. This was examined further by testing the level of correlation with AVPD dimensional score. Kendall's tau-b indicated that there were no significant correlations between age, age at onset or AVPD dimensional score. Natural log transformation of age at onset scores succeeded in creating a

normal distribution of data; a one-way ANOVA confirmed that there were no significant between group differences ($F(2,58) = 1.02, p = 0.365$).

Table 5.4: Demographic variables by diagnostic group

Demographic variable	SP-only N = 18	AVPD-only N = 8	SP+AVPD N = 35
	Mean (SD)	Mean (SD)	Mean (SD)
Age (years)	28 (12.6) years	35 (6.8) years	35 (12.1) years
Age of onset of social concerns	11.6 (4.8) years	10.2 (5.0) years	9.7 (5.0) years
	N (%) of group	N (%) of group	N (%) of group
Female gender	10 (55.5)	5 (62.5)	19 (54.3)
Employment status			
Working full-time	5 (27.8)	3 (37.5)	7 (20.0)
Working part-time	2 (11.1)	2 (25)	10 (28.6)
Unemployed, looking for work	7 (38.9)	2 (25)	8 (22.9)
Unemployed or retired, not looking for work	3 (16.7)	1 (12.5)	8 (22.9)
Retired	1 (5.6)	0	0
Disabled, unable to work	0	0	2 (5.7)
Self as main financial support	7 (38.9)	4 (50.0)	15 (42.9)
Educational attainment			
Year 10 and below	1 (5.5)	0 (0)	3 (9.1)
Year 12/High School	2 (11.1)	1 (12.5)	9 (27.3)
Undergraduate degree or similar	10 (55.6)	5 (62.5)	17 (48.6)
Any postgraduate qualification	5 (27.8)	2 (25)	4 (11.4)
Currently enrolled as student	6 (33.3)	1 (12.5)	15 (42.9)
Relationship status			
Married	5 (27.8)	1 (12.5)	9 (25.7)
Divorced	1 (5.6)	0	0
Separated	1 (5.6)	0	0
In a domestic partnership or civil union	2 (11.1)	2 (25.0)	2 (5.7)
Single but cohabiting with a significant other	3 (16.7)	1 (12.5)	2 (5.7)
Single, never married	6 (33.3)	4 (50.0)	22 (62.9)

Participants were asked about 6 categories of employment status, and the proportion in each category is shown in Table 5.4. The only group in which there were participants too disabled to work (cause not specified) was the dual diagnosis group. However, overall, other categories of employment were more evenly distributed through this group, than for SP-only (where the category with the greatest number of persons was “unemployed and looking for work”; 38.9% of the group). Due to small numbers in some cells, cells were collapsed for statistical analysis into: Employed (full-time or part-time); Not employed, looking for work; and Not employed, not looking for work. The two disabled participants were excluded as such small numbers precluded meaningful statistical analysis. A multinomial logistic regression did not identify any significant differences between groups in the odds of being employed.

With respect to highest educational attainment in the total sample, 9.7% had completed Year 10, 19.3% had completed Year 12, 53.2% had completed some tertiary qualification, and 17.8% had a post graduate qualification. The SP+AVPD group had the highest proportion of participants for whom Year 10 or Year 12 was the highest educational attainment; the lowest proportion of participants who had completed any qualification after high school, but the highest proportion currently enrolled as students. By contrast, the SP-only and AVPD-only groups appeared similar to each other and more highly educated, with more than 80% of each group having completed a qualification after high school. Pearson chi-square tests did not support any significant difference between diagnostic groups in educational category: $\chi^2(3, N = 62) = 2.80, p = 0.42$, but it is notable that some cell sizes are very small. To address this problem, categories were collapsed: educational achievement into two categories of high school education only vs. completion of any type of post graduate qualification; and SP-only

and AVPD-only groups were combined, as these appeared most similar. Fisher's exact test (2-sided) indicated that there was a significant difference between single diagnosis (SP-only and AVPD-only combined) and dual diagnosis (SP=AVPD) groups ($p = 0.049$); this is shown graphically in Figure 5.2.

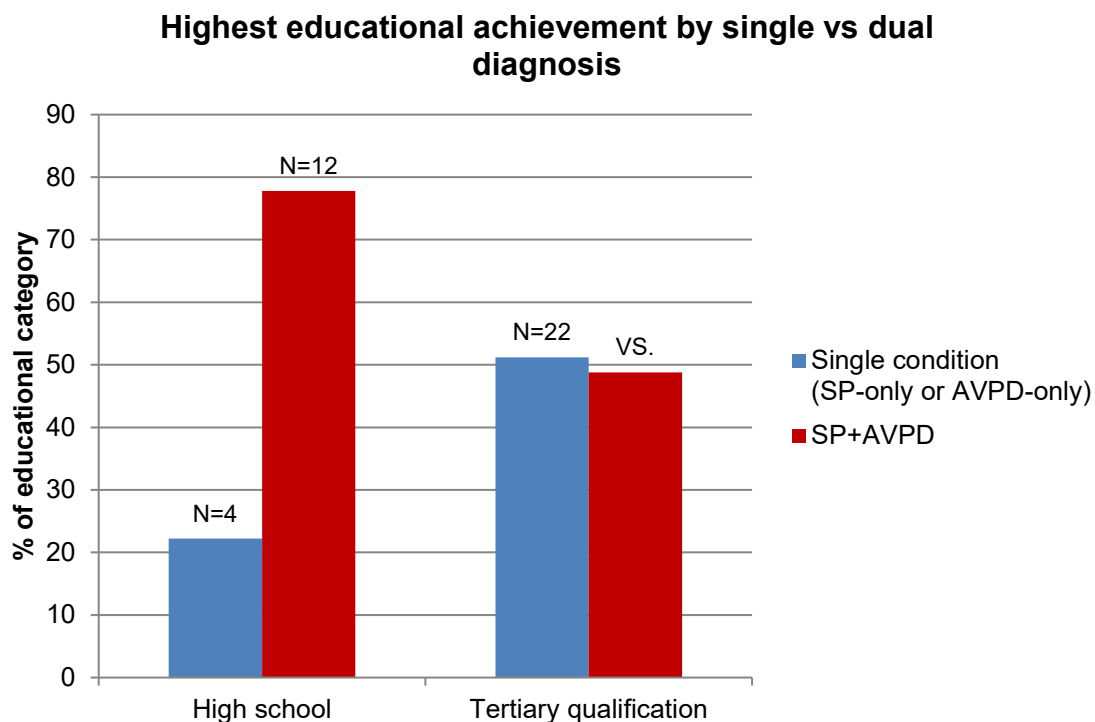


Figure 5.2: Highest educational achievement by single vs. dual diagnosis

Of the total sample, 29% was currently enrolled in formal study, 72% of them on a full-time basis. There were no between group differences evident regarding the basis of enrollment (full-time/part-time; Fisher's exact test $p = 0.149$, two-sided), or in the proportion in each group that was currently enrolled in study (Fisher's exact test $p = 0.270$, two-sided).

Relationship status was initially examined in 7 categories (married; widowed; divorced; separated; in a domestic partnership or civil union; single but cohabiting with a significant other; single, never married), as shown in Table 5.4. About a third of each diagnostic group

was married or cohabiting at the time of the study. Almost two thirds of the SP+AVPD group was single and had never married, compared to 50% of the AVPD-only group and 33% of the SP-only group.

Due to small numbers in some cells, relationship status was collapsed in to two categories for further analysis: “ever partnered” and “never partnered”. The “ever partnered” group was created by combining all categories apart from “single, never married”. Although there appeared to be numerical differences between the groups (Figure 5.3), they failed to reach significance (Pearson χ^2 (2, $N = 61$) = 4.18, $p = 0.124$, two-sided). Differences between SP-only and AVPD with or without SP (χ^2 (1, $N = 61$) = 3.74, $p = 0.053$, two-sided), and between SP+AVPD and SP-only combined with AVPD-only (χ^2 (1, $N = 61$) = 3.56, $p = 0.059$, two-sided) also failed to reach significance. Figure 5.4 illustrates the two category results.

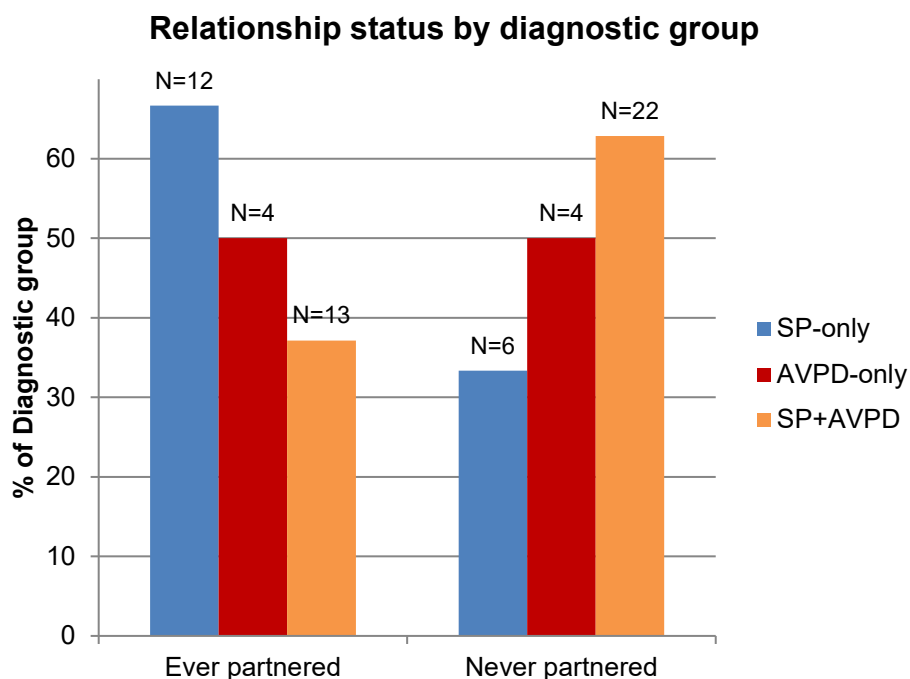


Figure 5.3: Relationship status by diagnostic group

Since relationships are a key variable in understanding AVPD, a further analysis was conducted in which a Mann-Whitney U test was used to compare the two categories of partnering status on dimensional (ordinal) scores derived from the IPDE on the AVPD items. The test indicated that the AVPD dimensional score for “ever partnered” participants ($Mean Rank = 28.38$, $N = 29$) was not significantly different to the score for “never partnered” participants ($Mean Rank = 33.38$, $N = 32$), $U = 540.0$, $z = 1.11$, $p = 0.27$, two-tailed; Figure 5.4). Logistic regression analyses indicated that age but not gender was a significant predictor of relationship status (Wald = 7.138, $p = 0.008$); with increasing age there was a slightly reduced likelihood of never partnering (bootstrapped OR = 0.94, 95% CI 0.89-0.98). However, it accounted for only a small proportion of the variance (Cox and Snell $R^2 = 0.118$; Nagelkerke’s $R^2 = 0.158$).

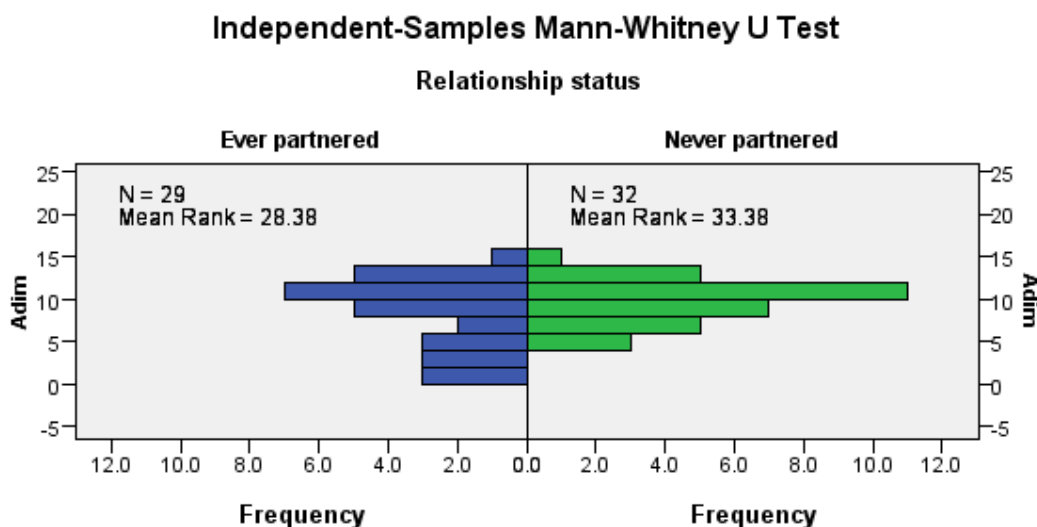


Figure 5.4: Mann-Whitney U test of AVPD dimensional score across relationship group

The main source of income identified by participants from a list of options provided is shown for each group in Figure 5.5. Due to small cell sizes, categories were collapsed into three

main income sources for statistical analysis: self-supported (salaried employment or self-employed), main financial support from partner or family, main financial support from government benefit. No significant differences were evident (Fisher's exact test $p = 0.986$, two-sided). Nor was there any significant difference when data were re-analysed in line with many previous studies, comparing SP-only with a diagnosis of AVPD with or without SP (Fisher's exact test $p = 0.936$, two-sided).

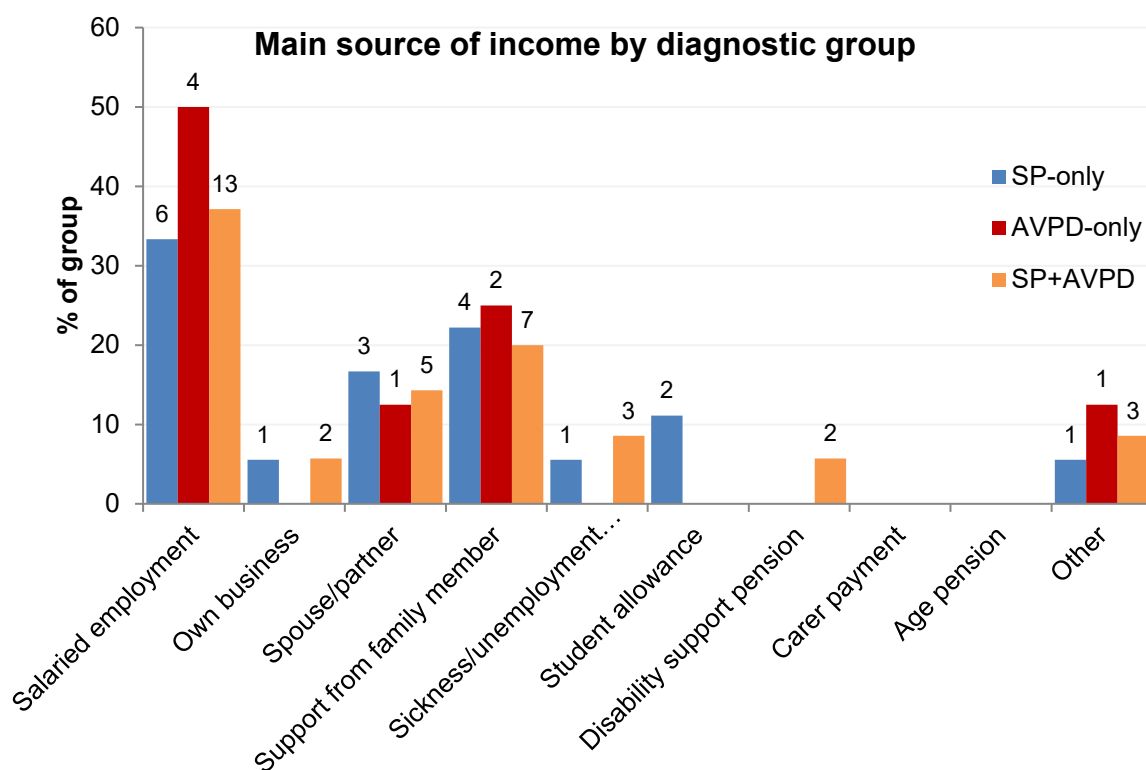


Figure 5.5: Main source of income by diagnostic group

Note. N's for each group are shown above each bar.

5.4.2 Regression analyses

Multinomial logistic regression was employed to test the likelihood of an association between diagnostic groups and demographic variables. Because of low cell sizes, some categories in Table 5.4 were collapsed to those shown in Table 5.5. Age was included in the model because it accounted for some of the variance in relationship status.

Table 5.5: Categories included in Multinomial Logistic Regression analyses

Variable	Number of categories	Categories
Employment	3	Employed full-time or part-time Not employed, looking for work Not employed, not looking for work
Main source of financial support	2	Self Other
Highest level of education	2	Year 12 or below Any tertiary qualification
Relationship status	2	Ever partnered Never partnered

Multinomial logistic regression did not identify any significant differences between groups in odds of being employed, of the main source of income being self-generated, or in the highest level of education being a tertiary qualification. Only relationship status had predictive value for diagnostic group, with never partnered status associated with a reduced likelihood of being in the SP-only group compared to the SP+AVPD group (OR = 0.214; 95% CI 0.05-0.83); age was controlled for in the model. Table 5.6 presents the betas, odds ratios and confidence intervals for the model.

Table 5.6: Multinomial logistic regression statistics for relationship status

Diagnostic group ^a		B	Std. Error	Sig.	Odds Ratio	95% Confidence Interval for Odds Ratio	
						Lower Bound	Upper Bound
AVPD only	Intercept	-.97	1.39	.48			
	Age	.02	.04	.64	1.02	.94	1.11
	Ever partnered	-.88	.96	.36	.42	.06	2.73
	Never partnered	0 ^b	.	.	.	.	.
SP+AVPD	Intercept	.34	.98	.73			
	Age	.03	.03	.28	1.03	.97	1.10
	Ever partnered	-1.54	.69	.03	.21	.06	.83
	Never partnered	0 ^b	.	.	.	.	.

Notes to table:

^a. The reference category is: SP only.

^b. This parameter is set to zero because it is redundant.

5.4.3 Diagnostic patterns

Table 5.7 shows the responses to each criterion for AVPD across the three diagnostic groups. Next to each criterion is the IPDE question number that relates to that criterion. Participants who met three or more criteria for AVPD were classified as having the disorder. This corresponds with “probable” and “definite” diagnosis categories according to the scoring algorithm for the IPDE.

The number and proportion of each diagnostic group endorsing each AVPD criterion as assessed by the IPDE is shown in Table 5.7. Five participants were unable to meet Criterion 4 (“is preoccupied with being criticised or rejected in social situations”) because they were not socialising at all and had not done so for some years. As a result, their dimensional score for AVPD is likely to have been underestimated.

Pearson chi-square tests indicated that there were significant overall between group differences on proportions fully or partially meeting each criterion for AVPD.

Table 5.7: Number (% of sub group) of participants endorsing each DSM-IV AVPD diagnostic criterion by diagnostic group.

Criterion (IPDE Question)		SP-only (N = 18)	AVPD-only (N = 8)	SP+AVPD (N = 35)
1	Avoids occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection. (Q4 IPDE)* [†]	P 5 (27.8%)	4 (50.0%)	4 (11.4%)
		F 2 (11.1%)	2 (25.0%)	19 (54.3%)
2	Is unwilling to get involved with people unless certain of being liked.(Q29 IPDE)**	P 5 (27.8%)	0 (0.0%)	4 (11.4%)
		F 4 (22.2%)	8 (100%)	26 (74.3%)
3	Shows restraint within intimate relationships because of the fear of being shamed or ridiculed. (Q28 IPDE)*	P 1 (5.6%)	0 (0.0%)	8 (25.8%)
		F 0 (0.0%)	3 (37.5%)	7 (22.6%)
4	Is preoccupied with being criticized or rejected in social situations. (Q30 IPDE)**	P 6 (33.3%)	1 (12.5%)	3 (8.6%)
		F 3 (16.7%)	7 (87.5%)	30 (85.7%)
5	Is inhibited in new interpersonal situations because of feelings of inadequacy. (Q27 IPDE)*	P 6 (33.3%)	0 (0.0%)	4 (11.4%)
		F 4 (22.2%)	7 (87.5%)	23 (65.7%)
6	Views self as socially inept, personally unappealing, or inferior to others (Q13 IPDE)**	P 6 (33.3%)	2 (25.0%)	5 (14.3%)
		F 3 (16.7%)	6 (75.0%)	29 (82.9%)
7	Is unusually reluctant to take personal risks or to engage in any new activities because they may prove embarrassing. (Q60 IPDE)*	P 7 (38.9%)	1 (12.5%)	5 (14.3%)
		F 4 (22.2%)	6 (75.0%)	27 (77.1%)

Notes to table:

P: partially met criterion; F: fully met criterion

*Omnibus Fisher's exact $p \leq 0.01$; **Omnibus Fisher's exact $p < 0.001$ (Pearson Chi-Square)

[†]AVPD-only vs. SP+AVPD $p < 0.05$ ($\chi^2 = 6.74$, df 2)

Since the criterion scores also reflected ordinal measures of severity, Kruskal-Wallis ANOVAs comparing the distribution of median criterion scores across groups provided more information about group differences. Omnibus tests once again indicated significant between group differences, with p values ranging from 0.000-0.01. Follow-up pairwise tests using the adjusted significance values calculated by SPSS to reduce the chance of Type I error indicated that differences were largely due to SP-only, as shown in Table 5.8. SP-only was significantly different from SP+AVPD on every criterion, and differed from AVPD-only on several criteria. Effect sizes related to these differences were generally large. AVPD-only was not statistically significantly different from SP+AVPD on any criterion, however, the mean rank scores for AVPD-only were numerically lower than for SP+AVPD on every criterion.

Table 5.8: Post hoc pairwise group comparisons for IPDE AVPD criteria (significant results)

	Criterion (IPDE Question)	Comparison	N	Z	p	ES
1	Avoids occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection. (Q4 IPDE)	SP-only vs. SP+AVPD	53	-2.68	0.02	-0.37
2	Is unwilling to get involved with people unless certain of being liked. (Q29 IPDE)	SP-only vs. SP+AVPD	53	-3.68	0.00	-0.50
		SP-only vs. AVPD-only	26	-3.51	0.00	-0.69
3	Shows restraint within intimate relationships because of the fear of being shamed or ridiculed. (Q28 IPDE)	SP-only vs. SP+AVPD	53	-2.98	0.01	-0.41
4	Is preoccupied with being criticized or rejected in social situations. (Q30 IPDE)	SP-only vs. SP+AVPD	53	-5.06	0.00	-0.69
		SP-only vs. AVPD-only	26	-3.62	0.00	-0.71
5	Is inhibited in new interpersonal situations because of feelings of inadequacy. (Q27 IPDE)	SP-only vs. SP+AVPD	53	-2.71	0.02	-0.37
		SP-only vs. AVPD-only	26	-2.77	0.02	-0.54
6	Views self as socially inept, personally unappealing, or inferior to others (Q13 IPDE)	SP-only vs. SP+AVPD	53	-5.02	0.00	-0.69
		SP-only vs. AVPD-only	26	-3.17	0.01	-0.62
7	Is unusually reluctant to take personal risks or to engage in any new activities because they may prove embarrassing. (Q60 IPDE)	SP-only vs. SP+AVPD	53	-3.87	0.00	-0.53
		SP-only vs. AVPD-only	26	-2.49	0.04	-0.49

Notes to table:

IPDE: International Personality Disorder Examination; ES: Effect Size

The three groups were also examined with respect to patterns on SP criteria. The number of feared social situations was significantly different across the groups (means: SP-only = 4.3; AVPD-only = 4.0; SP+AVPD = 4.8; omnibus ANOVA significant at $p = 0.049$) with a significant difference between AVPD-only and SP+AVPD groups ($p < 0.05$, 95% CI -1.31, -0.24). Based on responses to the CIDI-Auto, the AVPD-only group appeared less likely to endorse the criterion that exposure to the feared situation/s almost always caused anxiety (SP-only 88.2%; AVPD-only 57.1%; SP+AVPD 100%; Omnibus Fisher's exact $p \leq 0.01$ (Pearson Chi-Square)).

5.4.4 Comorbidity

Groups were also compared with respect to dimensional scores and criteria met for other personality disorders.

Table 5.9 shows the mean number of criteria met and mean dimensional scores for each personality disorder. The “Avoidant” category reflects the key variable used to assign a diagnosis of AVPD and is provided for comparison, but not included in statistical analyses comparing the level of personality pathology between groups.

Descriptive plots and statistics identified eight cases with scores that were three or more times the interquartile range above the median score for some PD categories (Dependent, Borderline, Narcissistic and Antisocial). However, in all but one case these scores were not likely to be clinically significant; although higher than the group median, the median scores of the whole group were very low in these categories. For example, the outlier in the SP-only group on the Narcissism dimension had a score of 3, which is still well below the threshold score of 10 required for a diagnosis of Narcissistic PD. One case, however, in the SP+AVPD group, was a multiple outlier with clinically relevant high scores in several personality domains (scores between 8-13).

Differences between groups on scores for PDs apart from AVPD were analysed by means of Kruskal-Wallis ANOVAs comparing mean ranks, with and without exclusion of the multiple outlier. Where omnibus tests were significant, follow-up analyses were conducted through SPSS to evaluate pairwise differences among the three groups, controlling for Type I error by using adjusted significance levels. (Table 5.9; scores for AVPD are included for reference).

After excluding the multiple outlier, overall differences between groups on schizotypal PD dimensional score were no longer significant, nor were the differences between groups on schizoid PD criteria scores. Follow-up testing indicated that SP-only separated from SP+AVPD on dimensional scores for schizoid and borderline PDs. No significant differences were observed between SP-only and AVPD-only, or between AVPD-only and SP+AVPD (except on AVPD dimensional and categorical scores).

Table 5.9: Mean number of criteria and mean dimensional score for each personality disorder by diagnostic group (IPDE data; AVPD included for reference)

Personality Style		SP-only	AVPD-only	SP+AVPD	
				With outlier data	Without outlier data
Avoidant	Mean dimensional score	4.2 ^{a,b}	10.5 ^a	10.1 ^b	10.1
	Mean number criteria met	1.1	4.8	4.6	4.6
Paranoid	Mean dimensional score	1.6	1.4	2.3	2.1
	Mean number criteria met	0.5	0.4	0.9	0.8
Schizoid	Mean dimensional score	1.1 ^c	2.6	2.3	2.4 ^c
	Mean number criteria met	0.3	0.6	0.9	0.9
Schizotypal	Mean dimensional score	0.6	1.1	1.7	1.6
	Mean number criteria met	0.2	0.1	0.6	0.6
Antisocial	Mean dimensional score	0.7	0.6	1.6	1.3
	Mean number criteria met	0.2	0.1	0.6	0.5
Borderline	Mean dimensional score	1.3 ^c	2.0	2.9	2.7 ^c
	Mean number criteria met	0.3	0.5	1.0	0.8
Histrionic	Mean dimensional score	0.4	0.4	0.3	0.3
	Mean number criteria met	0.1	0.0	0.0	0.0
Narcissistic	Mean dimensional score	0.2	0.5	0.5	0.6
	Mean number criteria met	0.0	0.0	0.1	0.1
Dependent	Mean dimensional score	1.2	1.8	1.5	1.2
	Mean number criteria met	0.4	0.6	0.5	0.4
Obsessive-Compulsive	Mean dimensional score	3.2	3.5	3.7	3.7
	Mean number criteria met	1.1	1.0	1.2	1.2

Notes to table:

Bold: significantly different across groups (Kruskal-Wallis Omnibus $H \leq 0.05$).

Superscripts indicate pairs that are statistically significantly different from each other on follow-up testing (p values corrected for multiple tests):

a = $p < 0.001$; b = $p < 0.001$; c = $p < 0.05$

Further examining comorbidity, additional anxiety disorder diagnoses were common. The number of additional diagnoses increased from SP-only to AVPD-only to SP+AVPD groups (see Table 5.10), although the differences were not statistically significant. Additional definite personality disorder diagnoses were rare, however, the number of “probable” additional PD diagnoses (that is, one less criterion than threshold), was much higher in the SP+AVPD group, occurring in almost a third of the group.

Table 5.10: Comorbidity data for each diagnostic group

Comorbidity data	SP-only	AVPD-only	SP+AVPD
Mean number of additional Axis I disorders	0.9	1.5	1.5
Additional Axis I disorders (number and/or proportion of group)	Depression (22.2%)	Depression (37.5%)	Depression (45.7%)
	Dysthymia (11.1%)	Dysthymia (37.5%)	Dysthymia (17.1%)
	Anxiety (38.9%)	Anxiety (37.5%)	Anxiety (54.3%)
	Eating disorder ($N = 1$; 5.6%)	Bipolar disorder ($N = 1$; 12.5%)	Bipolar disorder ($N = 1$; 2.9%)
Number of participants with additional Axis II disorder/s (Type)	1	1	2
	(Obsessive-compulsive)	(Obsessive compulsive)	(One participant with Dependent and Borderline PDs; one with Paranoid PD)
Number of participants with <i>probable</i> additional Axis II disorder/s (Type)	0	0	11 (31%)
			(OCPD $N = 6$; Schizoid $N = 3$; Paranoid $N = 2$; Dependent $N = 1$)

5.4.5 Distress (K6) and disability (WHODAS)

The median K6 scores were 12.0 (SP-only), 21.0 (AVPD-only), and 14.0 (SP+AVPD). A K6 score of 12-24 has been considered as presenting high risk of meeting criteria for a psychological disorder. There were significant between group differences in K6 with omnibus testing using Kruskal-Wallis ANOVA ($H = 8.55$, $df = 2$, $p = 0.014$). Follow-up pairwise testing using adjusted significance levels indicated that the difference between SP-

only and AVPD-only was significant ($p = 0.012$). Women overall reported higher levels of distress (K6) than men (*Mean Rank* female = 34.79, $N = 33$; male = 25.26, $N = 27$, $U = 304.0$, $z = -2.108$, $p = 0.03$, two-tailed). A regression analysis was conducted including gender as a factor. In this analysis, a higher K6 score was associated with increased odds of being in the AVPD-only group compared to the SP-only group (OR 1.2; 95% CI 1.04-1.55; $p = 0.02$); gender made no independent contribution to the odds of being in any particular diagnostic group.

Mean ranks for K6 and WHODAS scores across diagnostic groups are shown in Table 5.11.

Table 5.11: Measures of distress and disability.

	SP-only	AVPD-only	SP+AVPD
K6 (distress) total score			
Mean Rank	23.15 (N = 17)	40.69 (N = 8)	31.74 (N = 35)
WHODAS (disability) total score			
Mean Rank	21.94 (N = 18)	35.31 (N = 8)	34.67 (N = 35)

Median WHODAS scores were 14.6 (SP-only), 32.3 (AVPD-only) and 31.2 (SP+AVPD) with higher scores indicating greater disability. Significant overall differences for disability (WHODAS) were also evident from Kruskal-Wallis omnibus ANOVAs ($H = 6.67$, $df = 2$, $p = 0.036$) across the three diagnostic groups. Follow-up analyses indicated that statistically significant differences in WHODAS scores were limited to SP-only vs. SP+AVPD (adjusted significance $p = 0.04$). No gender differences were apparent regarding disability (WHODAS).

5.4.6 Summary

The current study identified areas of similarity and difference across the three diagnostic groups studied. There were no statistically significant differences between groups on current age, age at onset, employment status or main source of income, although the SP+AVPD group was the only group in which there were participants too disabled to work. Where there were differences, there was no consistent pattern. That is, on some variables there appeared to be a severity gradient across SP-only to AVPD-only to SP+AVPD (such as for total dimensional scores on AVPD criteria, and additional Axis I and Axis II disorders); on other variables SP-only and AVPD-only clustered more closely and differed from SP+AVPD (such as for highest educational level achieved, and proportion who had never partnered). SP-only was significantly different from AVPD-only on distress, and significantly different from SP+AVPD on disability. Regression analyses indicated that only dichotomous partnering status (ever vs. never partnered) predicted diagnostic category.

5.5 DISCUSSION

Overall, few demographic differences were evident between the three diagnostic groups under study. However, the SP+AVPD group was associated with more personality dysfunction, and differences emerged in the key area of relationships, in disability and comorbidity. Similarities and differences to the findings of an epidemiological sample are evident: Cox and colleagues (2009) found a gradient of decreasing mental health related quality of life from SP-only to AVPD-only to SP+AVPD, although the relationship was mediated by number of social fears reported.

Employment

In contrast to a study of psychiatric outpatients which found that a SP+AVPD group were less likely to be in paid employment than a SP-only group (Eikenaes et al., 2013), there were no significant differences in the current study. Overall less personality comorbidity was identified in this sample than has been reported in other studies. These differences may be the result of Type II error given the small sample size, but perhaps more likely reflects that participants were recruited from the community as well as clinical settings. It is known that clinical samples tend to be more severe and comorbid (Lenzenweger, 2006).

Educational attainment

In this sample, in respect of the highest educational attainment, 9.7% had completed Year 10, 19.3% had completed Year 12, 53.2% had completed some tertiary qualification, and 17.8% had a post graduate qualification. On the whole this suggested a somewhat higher level of education than that reported in a large prospective observational study, the Collaborative Longitudinal Personality Disorders Study (CLPS), where high school was the highest educational attainment for 29% of those with AVPD, and college (university) or above for 43% (Skodol et al., 2002). Comparing to the general population, Australian data from the 2015 Survey of Education and Work regarding highest educational attainment estimated that 26% of persons aged 15 to 74 years had completed Year 11 or less, 18% had completed Year 12, 35% had completed a Certificate III or IV or a Bachelor degree, and 5.6% had a postgraduate degree (Australian Bureau of Statistics, 2015). In the current study, 29% of the sample was currently enrolled in formal study. By comparison, in May 2015 it was estimated that 19% of people aged 15 to 64 years in Australia were enrolled in formal study. Hence,

this sample on average is better educated than the general population. These differences are likely accounted for by the fact that in the current study most participants had discovered the research online through the University of Sydney website meaning that this tended to be a well educated sample. This could limit generalisation of the findings in this study to those with AVPD in the wider population. However, this is a limitation common to most research in the field, and must be balanced against the advantages of being able to collect more breadth and depth of data than is possible with more population-representative sampling, such as occurs in epidemiological surveys.

Disability and distress

The SP+AVPD group was shown to be more impaired, as measured by a reliable and valid measure of disability. This is consistent with many studies comparing SP-only with SP+AVPD (e.g., Marques et al., 2012), but not all, (e.g., Kose et al., 2009). In the current study, SP-only was significantly different from AVPD-only on distress, but showed significant differences only with SP+AVPD on disability. Hence, there was no consistent gradient from SP to AVPD. Results for disability and distress could not be directly compared with epidemiological data from Study 1 (Chapter Four) due to the use of different instruments.

Comorbidity

In terms of comorbidity, whilst relatively few differences reached significance, Table 5.10 shows a trend for more comorbidity on both Axis I and Axis II for the dual diagnosis group of SP+AVPD. The number in this group with probable obsessive compulsive PD (OCPD) appears quite striking. Later comparison of dimensional and categorical scores did not show

statistically significant differences between groups, suggesting that a slight elevation in obsessive-compulsive personality traits may be common to all groups. The higher scores on borderline PD dimensional score in the SP+AVPD may be influenced by one participant in this group meeting criteria for the disorder, but may also reflect a generally higher level of personality dysfunction in this comorbid group that would seem to separate it from both the SP-only and the AVPD-only groups. These findings have both similarities and differences to those of Eikenaes and colleagues (2013), who found more Axis I diagnoses in their AVPD-only group compared to their SP-only group, but not more Axis II diagnoses.

Diagnostic criteria

Regarding the DSM-IV diagnostic criteria for AVPD, the CLPS reported that differences between AVPD-only and SP+AVPD were limited to the proportions that endorsed the criterion “Is unusually reluctant to take personal risks or to engage in any new activities because they may prove embarrassing” (61.6% vs. 76.2% respectively; Ralevski et al., 2005). In the current study, no statistically significant differences were found but mean rank on dimensional (ordinal) scores was lower for AVPD-only compared to SP+AVPD on every criterion, which may indicate that there are true differences. The sample size may have been too small for these differences to reach significance, or it may be that the differences are too small to be clinically relevant.

Greatest differences between SP-only and SP+AVPD on “Avoid getting involved with someone unless certain they will like you”, were reported from a study that did not include an AVPD-only group (Marques et al., 2012). This criterion also showed differences in the current study, but “Views self as socially inept, personally unappealing, or inferior to others”

appeared equally discriminating. Marques and colleagues (2012) also reported that the number of criteria met for AVPD was a significant predictor of interpersonal difficulties and poor quality of life, even after controlling for the presence of comorbid depression in their sample.

The two least endorsed items by participants with AVPD in the current study were “Avoids occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection” and “Shows restraint within intimate relationships because of the fear of being shamed or ridiculed”. Consistent with this, in the CLPS, the occupational avoidance criterion was found to be the least stable over two years (McGlashan et al., 2005). A psychometric evaluation of the DSM-IV criteria for AVPD reported that the item “Shows restraint within intimate relationships because of the fear of being shamed or ridiculed” performed most poorly (Hummelen et al., 2006), and it was of interest that although significantly more persons with AVPD than SP-only endorsed this item, it had a relatively low rate of endorsement even in AVPD. Based on clinical interviews, the likeliest explanation may be that if a participant had been able to establish an intimate relationship, it was generally with someone from whom they did not fear rejection or shaming.

In the current study, the inapplicability of Criterion 4 (“Is preoccupied with being criticized or rejected in social situations”) to five participants because they were not socialising at all, raises issues about the usefulness of this criterion in capturing more severe interpersonal difficulties that are highly relevant to AVPD.

In terms of meeting criteria for SP, those with AVPD were less likely to report that exposure to feared situations almost always provoked anxiety. This is an interesting finding not readily

explained by the data. It is possible that it could reflect greater use of covert avoidance strategies, or “safety behaviours”, such as saying nothing or staying in the background. It is worthy of further examination.

Relationships

In the domain of intimate relationships, the SP+AVPD group reported a significantly lower rate of having ever been partnered than the SP-only group, but differences were not significant between AVPD-only and the other groups. The finding that there were equal numbers of participants in the “ever-partnered” and “never-partnered” categories within the AVPD-only group is interesting, and the overall pattern of responses appeared to show a gradient across SP-only to AVPD-only to SP+AVPD (Figure 5.3) suggesting the possibility that while AVPD may have a more adverse impact on the establishment of intimate relationships than SP-only, it may be the burden of having both disorders that has the greatest adverse impact. The percentage of participants who had never married was somewhat higher than that found in Study 1 for persons with AVPD-only and SP+AVPD in an epidemiological sample, although the rates were comparable for those with SP-only. Age was a significant predictor of relationship status, and the failure to find significant differences between the ever-partnered and never-partnered groups on AVPD dimensional scores may reflect the true situation, that is, that AVPD may not be specifically related to likelihood of partnering. Further study of lifetime relationship patterns in larger samples is likely to be helpful in gaining a more definitive answer about the specific relevance of AVPD.

5.5.1 Limitations

The current study involved relatively small numbers, especially in the AVPD-only group. This raises the possibility that real differences may have failed to achieve statistical significance. The risk of multiple tests inflating significance was addressed by adjustment of significance levels and use of robust means of analysis, such as bootstrapping. Nevertheless, generalisability of the findings to people with AVPD in the community may be limited by the sampling bias towards a highly educated, student population. It was also a highly computer-literate sample since this was how most participants discovered the study. However, participants within this sample ranged in age from 20-65 years, which may mitigate the student bias to some degree.

5.6 CONCLUSIONS

The current study overcame some of the limitations of previous research by using the full version of a reliable and valid personality diagnostic instrument, and by including and separately analysing data for three comparison groups, including AVPD-only. For some variables, no statistically significant overall differences were evident, as was the case for current age, age at onset and employment status, although persons who reported being too disabled to work were found only in the SP+AVPD group. Where differences were evident, the only consistent finding was that the SP+AVPD group was more adversely impacted. The position of AVPD-only relative to SP-only and SP+AVPD was not consistent. On some variables, the AVPD-only group was more similar to SP-only than to SP+AVPD, such as was the case for educational attainment, distress level and additional personality pathology. On other variables, there appeared to be a gradient of severity from SP-only to AVPD-only to SP+AVPD, such as was the case for total dimensional AVPD scores and comorbidity with

other Axis I disorders. In a third pattern, AVPD-only appeared more similar to SP+AVPD and more severely affected than SP-only, as was the case for relationship status.

Dichotomous lifetime relationship status (ever vs. never partnered) was the only significant predictor of diagnostic status.

The severity continuum model hypothesis proposes that AVPD represents a more severe version of SP, and therefore predicts that both AVPD-only and SP+AVPD should separate from SP-only, and that AVPD-only should appear most similar to SP+AVPD. The results of the current study are mixed with respect to these predictions of the severity continuum hypothesis. They provide some support for AVPD as a more severe condition, but the comparatively higher symptom and impairment burden found for the SP+AVPD group suggests an additive burden that is not specifically related to the condition of AVPD.

In summary, the results of the current study provide some disconfirmatory evidence for the severity continuum hypothesis by reason of the variable nature of the relationships of SP-only, AVPD-only and SP+AVPD groups with various demographic, distress and symptom variables. This finding also provides support for the importance of including an AVPD-only group in this and future research. It appears likely that the relationship between the disorders under study is more complex than that represented by a model in which AVPD is characterised as a more severe variant of SP.

Chapter Six –

Study 3: Comparison of symptoms and vulnerability factors in three sample groups: Avoidant Personality Disorder without Social Phobia, Social Phobia without Avoidant Personality Disorder and Avoidant Personality Disorder comorbid with Social Phobia

Chapter overview

This chapter briefly reviews findings of prior research exploring emotional and cognitive symptom and vulnerability factors associated with AVPD. The rationale for the design of the current study is outlined and the chosen measures described. This study fills an important gap in the literature in comparing groups with AVPD-only, SP-only and SP+AVPD, and in examining a number of factors that have been proposed as being relevant to the development of AVPD and its distinction from SP, but which have so far received little empirical study. A model that included a measure of negative family environment/neglect, presence of a fearful attachment style, level of disability, relationship status, neuroticism and behavioural activation was the best fit to the observed data. Neither level of depression, anxiety, self-esteem nor shyness appeared to make a significant contribution. A novel finding of variable patterns of relationships between predictors and diagnostic group, in which the AVPD-only group occupied variously an intermediate, equivalent or more severe position compared to the SP+AVPD group is also reported, and has implications for the severity continuum hypothesis, which proposes that AVPD is best characterised as a more severe variant of SP.

6.1 INTRODUCTION

Study 1 provided novel information about the demographic associations with SP-only, AVPD-only and SP+AVPD, and confirmed that AVPD is most commonly found without comorbid SP in the community. However, there were limitations to Study 1, including the use of a proxy measure for AVPD, and the limited range of variables examined. Study 2 therefore examined a sample in which reliable and valid diagnostic instruments were used to establish diagnostic status. As described in the previous chapter, there were very few demographic differences between SP-only, AVPD-only and SP+AVPD sample groups, and differences emerged only in the areas of relationships and disability. In the domain of intimate relationships, the SP+AVPD group reported a significantly lower rate of having ever been partnered than both the SP-only and AVPD-only groups. Similarly, the SP+AVPD group was shown to be more impaired, as measured by a reliable and valid measure of disability. There was a trend towards more comorbidity in the SP+AVPD group. Overall, the lack of a consistent linear trend of severity between SP and AVPD, and the finding that AVPD-only appeared more similar to SP-only than to SP+AVPD on partnering status did not support the severity continuum hypothesis. Study 3 extends the domains of comparison to symptom and vulnerability measures, and fills an important gap in the literature.

Apart from demographic, distress and disability measures, prior research has examined other domains of interest in comparing AVPD and SP, including anxiety and depressive symptomatology and severity. Some studies have also looked at associations with temperamental and personality traits. Relatively little research has as yet been conducted into other domains of possible relevance, including childhood adversity, attachment style, shyness and self-esteem, although these have been proposed in theoretical papers as relevant factors.

Since the setting in which the research was conducted (e.g., psychiatric clinic, community, laboratory), the characteristics of the participants (e.g., psychiatric patients, volunteers), and the diagnostic groups identified for study (SP, AVPD, AVPD-only) are relevant to the generalisability of the findings, information will be organised under these headings. Findings are summarised in Tables 6.1 and 6.2.

6.1.1 Community, clinical and experimental studies of AVPD

Numerous studies identified groups with AVPD or AVPD traits. These included community and epidemiological studies, those drawn from clinical populations, and studies using volunteers, including university undergraduates. Results are summarised in Table 6.1.

A number of prospective community studies, such as the Longitudinal Study of Personality Disorders (Lenzenweger, 2006), the Collaborative Longitudinal Personality Disorders Study (Zanarini et al., 2000), and the Children in the Community Study (Johnson et al., 2000) have examined the relationship of personality disorders to various vulnerability factors and symptom variables, but have not used a comparison group of persons with SP. In these and other studies, a consistent association between emotional neglect and AVPD has been reported (Johnson et al., 2000; Afifi et al., 2011; Joyce et al., 2003; Hageman et al., 2015) with ORs for AVPD ranging from 1.6 -5.6.

In a study of outpatients with DSM-III AVPD (comorbidities not specified) and age- and sex-matched controls with no psychiatric diagnosis, those with AVPD perceived parents as less affectionate (using the Parental Bonding Instrument; Parker et al., 1979), more rejecting, guilt-engendering, favouring other siblings, less tolerant and less encouraging of achievement

(using the EMBU; Stravynski et al., 1989). There was no reported difference on either scale for the dimension of parental overcontrol.

Table 6.1: Summary of research findings into variables of interest in samples with AVPD without identification of SP

Factor	Finding in AVPD
Parent/family factors	
Parental criticism	Parents less tolerant and encouraging compared to normal controls (Stravynski et al., 1989)
Parental rejection	Positive history (Stravynski et al., 1989) Negative correlation with "warm acceptance" (Brennan and Shaver, 1998) No association (Meyer et al., 2005)
Parental neglect	Decreased parental affection (Stravynski et al., 1989) No physical neglect (Rettew et al., 2003) Increased in AVPD+major depression vs. bipolar disorder+major depression (Joyce et al., 2003)
Physical abuse	Not different to depressed group; less than other personality disorders (Rettew et al., 2003)
Emotional abuse	Not different to depressed group; less than other personality disorders (Rettew et al., 2003) Positive history: (Bernstein et al. 1998; Grilo and Masheb, 2002; Joyce et al., 2003; Hageman et al., 2015)
Emotional neglect	Positive history: (Johnson et al., 2000; Joyce et al., 2003; Afifi et al., 2011; Hageman et al., 2015)
Negative home climate	Positive history (Arbel and Stravynski, 1991) Related to AVPD symptoms in non-clinical sample (Meyer and Carver, 2000)
Parental overcontrol	Not different to controls (Stravynski et al., 1989) Small correlation (Brennan and Shaver, 1998) Associated with AVPD symptoms in non-clinical sample (Carr and Francis, 2010)
Parents less sociable	Positive finding in AVPD (Arbel and Stravynski, 1991) Higher in AVPD than other PDs (Rettew et al., 2003) Associated with AVPD symptoms in non-clinical sample (Carr and Francis, 2010)
Separations	No difference to controls (Arbel and Stravynski, 1991) Not supported (Rettew et al., 2003)
Fear of separation	Reported by 25% of AVPD group (Arbel and Stravynski, 1991)
Other environmental factors	
Teasing	Association with AVPD symptoms in non-clinical sample (Hageman et al., 2015)
Personal factors	
Attachment style	Fearful (Brennan and Shaver, 1998; Nakash-Eisikovits et al., 2002; Riggs et al., 2007); Preoccupied (Brennan and Shaver, 1998; Meyer et al., 2001; Eikenaes, 2016); Anxious and avoidant (Bowles and Meyer, 2008; MacDonald et al., 2013; Winarick and Bornstein 2015; Beeney et al., 2015); Preoccupied and avoidant (Meyer et al., 2001).

Table 6.1: Summary of research findings into variables of interest in samples with AVPD without identification of SP

Factor	Finding in AVPD
Positive life expectancies and optimism	Negative correlation between optimism and AVPD features in highly sensitive individuals (Meyer and Carver, 2003) Pessimism and approach-inhibition accounted for 11% of variance in AVPD dimensional scores (Meyer, 2002)
Hypersensitivity	Positive finding (Meyer and Carver, 2003)
Temperamental factors	
Harm avoidance	High in AVPD+MDD vs. BPD+MDD (Joyce et al., 2003) Positively correlated ($r^2 = 0.60$; (Griego et al., 1999)
Persistence	Negatively correlated ($r^2 = -0.17$ (Griego et al., 1999)
Novelty-seeking	No correlation (Griego et al., 1999)
Reward-dependence	No correlation (Griego et al., 1999)
Introversion/Extraversion	AVPD high on introversion remembered parents more negatively vs. those with lower introversion scores (Stravynski et al., 1989) Negative loading for AVPD on extraversion (Widiger and Costa, 2012)
Neuroticism	Together with introversion accounted for 41.7% of variance in AVPD dimensional scores (Meyer, 2002) Positive loading on neuroticism (Widiger and Costa, 2012) Higher in AVPD than controls (Stravynski et al., 1989)

Emotional abuse and neglect may be especially relevant to AVPD with a number of community and clinical studies reporting statistically significant associations (Afifi et al., 2011; Bernstein et al., 1998; Grilo and Masheb, 2002; Hageman et al., 2015; Johnson et al., 2000; Joyce et al., 2003; Klein et al., 2015). Childhood experiences were examined in the CLPS. Participants with a primary personality disorder (PD) diagnosis or major depression without PD were recruited from clinics and the community (Rettew et al., 2003). Relatively few differences were found between AVPD and other personality disorders, although all PD groups tended to differ from patients with a major depressive disorder. Specifically, there were no differences between AVPD (N = 146) and “Other Personality Disorder” (OPD; N = 371) on reported experiences of physical or emotional abuse, or caretaker emotional denial. However, those with a primary diagnosis of AVPD reported fewer positive relationships with other adults and poorer parental social ability, less often reported playing any sport well, and

less hobby involvement as well as less sexual abuse and physical neglect than the OPD group (Rettew et al., 2003). When those with comorbid AVPD were excluded from the OPD group, there were significant differences between the two groups on extracurricular involvement and popularity (both lower in AVPD). Importantly, no differences from OPD or major depressive controls were found for inconsistent parenting, physical neglect, childhood separations by divorce or death, or frequent moves.

Temperamental factors and childhood risk factors for personality disorders were examined in a study of depressed patients (Joyce et al., 2003). The results suggested that in depressed patients, AVPD is most closely linked to neglect, and borderline PD to the combination of neglect and abuse. With regard to temperament, AVPD was associated with high harm avoidance, and borderline PD with both high harm-avoidance and high novelty-seeking. A limitation of this study is that including only individuals with comorbid depression and AVPD may fail to reveal the broader picture for individuals with AVPD and bias the interpretation of the findings.

Attachment was explored with respect to AVPD in a sample of psychiatry inpatients (Riggs et al., 2007). The Adult Attachment Interview (AAI), which assesses adult attachment states of mind through discourse analysis of conversation about early caregiver experiences, and a self-report measure of attachment, the Experiences in Close Relationships (ECR) scale were administered. AVPD was more likely to be associated with negative views of both self and other, as predicted by the four-category attachment model of Bartholomew and Horowitz (1991; see Chapter Three, Fig. 3.1). It was also found that fearful and preoccupied styles were more frequent than dismissing attachment styles, although only the difference between fearful and dismissing was statistically significant. It seems likely that most of the individuals

with AVPD were classified as “unresolved” on the AAI, but results were not reported specifically.

Attachment style was also assessed in a large sample of university undergraduates (Brennan and Shaver, 1998). Self-report measures were used to diagnose personality disorders and assess attachment style. Participants were asked about experiences of parental death or divorce, as well as their perceptions of early relationships with their parents, specifically feeling accepted versus rejected, parental fostering of independence versus overprotectiveness, and defensive idealisation (e.g., [mother/father] “had not a single fault that I can think of”). Neither parental divorce nor death accounted for more than 1% of the variance in any personality disorder scale. AVPD (as well as many other PDs) showed significant but small negative correlations (range -0.12 to -0.23) with acceptance, fostering independence and idealised view of parents.

In an investigation of an early maladaptive schema (EMS) paradigm, a dimensional measure of AVPD symptoms was used in a student sample, and associations were found with maternal overprotection and family sociability that were mediated in part by an EMS of belief in the need to subjugate personal needs, wants and desires to avoid negative interpersonal outcomes (Carr and Francis, 2010).

In a non-clinical sample, participants with higher levels of AVPD symptomatology were likely to report higher levels of childhood emotional abuse and neglect, sexual abuse, higher parental overprotection and lower care, and childhood teasing (Hageman et al., 2015). A regression analysis indicated that only sexual abuse and teasing made unique contributions to AVPD symptomatology.

The association of personality traits with AVPD (measured by reading the DSM-IV criteria out and asking respondents to indicate the extent to which they believed each criterion described their personality, on a Likert scale of 0-3) was examined in a study of undergraduate volunteers (Meyer and Carver, 2000). Dimensional AVPD score was moderately negatively correlated ($r = -0.53$) with optimistic life expectancies; moderately positively correlated with negative childhood memories ($r = 0.45$) and temperamental hypersensitivity ($r = 0.43$); and modestly correlated with current negative mood ($r = 0.30$; Meyer and Carver, 2000). Regression analyses indicated that these correlations remained significant after controlling for mood. The association with optimism was only significant for those who were highly sensitive. A limitation of this study is the use of unstructured instruments and instruments not in wide use, making generalisation to current conceptualisations of constructs such as neuroticism/negative affectivity difficult.

In the BIS/BAS model (introduced in Chapter Two, section 2.5.1), “onlooking” behaviour, where a child watches others play but is too anxious to attempt to join them, has been described as a behavioural marker of an “approach-avoidance” conflict (high BIS and high BAS), said to be typical of shy children (Coplan et al., 2006; Asendorpf, 1993). In this model, an avoidant child is said to be low on social approach and high on social avoidance. In a study of school age children divided into four groups (avoidant, shy, unsociable and sociable) based on their BIS and BAS scores, the avoidant children differed significantly from the other three groups by having higher scores on measures of depressive symptoms, negative affect, fear of negative evaluation, positive affect (lower), and well-being (lower). The shy children were intermediate between the avoidant children and the other groups on fear of negative evaluation but otherwise did not differ from the other groups on these measures

(Coplan et al., 2006). It has been suggested that the avoidant group might be particularly prone to AVPD (Eggum et al., 2009). Whilst this definition of “avoidant” cannot be directly equated to the DSM-IV diagnosis, the conceptualisation of it as involving a longing to interact that is overwhelmed by anxiety and avoidance has important similarities, suggesting that further consideration of this temperamental construct in adult studies may be warranted. Other authors have attempted to draw parallels between the BIS/BAS scales and other models, such as linking BIS with neuroticism.

University undergraduates completed the Eysenck Personality Questionnaire, self-report measures of mood, self-esteem (Rosenberg Self-Esteem Scale), negative expectancy, emotional responsiveness to threat and incentive, and were asked to indicate the extent to which they believed each DSM-IV criterion for AVPD, Dependent PD (DPD) and Schizoid PD described their personality (Meyer, 2002). The correlation between AVPD and DPD was 0.67, and between AVPD and Schizoid PD was 0.52. AVPD was more highly correlated with neuroticism than DPD. Neuroticism and extraversion accounted for 41.7% of the variance in AVPD dimensional scores in this study, with approach/inhibition measures and pessimism adding approximately another 11%. A limitation of this study is the use of self-report measures for personality disorder, and failure to identify SP or other Axis I disorders, or other Axis II disorders, as possible confounders in this population.

In another study of undergraduates, the TCI was used along with a self-report instrument for DSM-IV Axis II disorders to examine for temperamental correlates of PD (Griego et al., 1999). A correlation of 0.60 was found between AVPD and harm avoidance, and of -0.17 with persistence but the correlations with novelty-seeking and reward dependence were $< |0.10|$. Results for AVPD and DPD showed many similarities.

University students were also the subjects of a study into shyness. Using the results of a self-report questionnaire on shyness, students scoring in the top decile were compared to those in the 40th-60th percentiles with respect to DSM-IV SP (diagnosed using the CIDI) and AVPD (using the SCID-II module for AVPD). It was found that GSP occurred about 9 times as frequently in the highly shy group as in the normative group, and AVPD about 3.5 times as frequently; these differences were significant but odds ratios were not reported. AVPD was about 2.5 times more frequent in the GSP group compared to the non-GSP group (Chavira et al., 2002), and there was no-one with AVPD without SP. Not all highly shy individuals met criteria for SP, and highly shy individuals with a diagnosis of major depressive disorder (MDD) were more likely to meet criteria for SP than those highly shy individuals without MDD. It has also been noted that shy behaviour attracts peer rejection after the age of about 10 years, and hence of itself may become a perpetuating factor (Eggum et al., 2009).

6.1.2 Studies of SP with and without AVPD

As noted in the Introduction and in Chapter Five, data deriving from research in which all participants have SP presents some limitations for understanding AVPD. Nevertheless, it can provide important negative findings and guide future enquiry. Some studies identified a distinct SP subgroup of generalised social phobia (GSP), defined by DSM-III-R and DSM-IV as involving a fear of “most” social situations (American Psychiatric Association, 1994; American Psychiatric Association, 1987), and focussed investigation in this group, arguing that it presents the greatest overlap with AVPD (Boone et al., 1999). Accordingly, most early studies specify whether the group under study had GSP; the method of categorisation would be determined by each research group as it was not operationalised in the DSM. Later studies

more often simply refer to “SP” since the results of large community datasets have called into question the validity of subtypes (El-Gabalawy et al., 2009; Stein et al., 2000).

Prior studies were conducted in a range of clinical and non-clinical settings. Some early studies used measures of social anxiety that predated the introduction of SP as a diagnosis, such as the Fear of Negative Evaluation Scale and Social Avoidance and Distress Scale (Watson and Friend, 1969). Many of the early studies employed symptom measures developed for SP, including the Liebowitz Social Anxiety Scale (Safren et al., 1999), Social Phobia and Anxiety Inventory (Turner et al., 1989), Social Phobia Scale and Social Interaction Anxiety Scale (Mattick and Clarke, 1998). Early studies also employed more general measures of anxiety such as the Fear Questionnaire (Marks and Matthews, 1979), Beck Anxiety Inventory (Beck et al., 1988), State and Trait Anxiety Inventory (Spielberger et al., 1983); and measures of general distress and social adjustment. Temperament and personality measure are more likely to have been employed in more recent studies.

Results are summarised in Table 6.2.

Table 6.2: Summary of research findings into variables of interest in samples comparing subgroups with AVPD and SP

Variable	Differences in severity between AVPD and SP on variables examined ^a	
	<i>SP-only less severe</i>	<i>No difference between SP-only and AVPD</i>
Parent/family factors		
Parental neglect	Eikenaes et al., 2015	
Physical abuse		Eikenaes et al., 2015
Parental overcontrol		Eikenaes et al., 2015
Personal factors		
Attachment style	Anxious attachment (Eikenaes et al., 2016)	Avoidant attachment (Eikenaes et al., 2016)
Shyness	Chambless et al., 2008; Marteinsdottir et al., 2003 Smaller proportion "highly shy" (Chavira et al., 2002)	
Self esteem	Chambless et al., 2008	SP-only = AVPD-only > SP+AVPD (Eikenaes et al., 2013)
Interpersonal sensitivity	Turner et al., 1986; Hummelen et al., 2007 ^b	van Velzen et al., 2000
Positive life expectancies and optimism	Hummelen et al., 2007 ^b	
Temperamental factors		
Novelty-seeking		Marteinsdottir et al., 2003
Harm avoidance	Marteinsdottir et al., 2003	
Reward dependence		Marteinsdottir et al., 2003
Openness		Hummelen et al., 2007 ^b
Introversion/ Extraversion		Hummelen et al., 2007 ^b
Neuroticism	van Velzen et al., 2000; Hummelen et al., 2007 ^b	
Symptoms		
Social avoidance and distress	Holt et al., 1992; Boone et al., 1999; Turner et al., 1986; Kose et al., 2009; Marques et al., 2012;	Brown et al., 1995; Tran and Chambless, 1995; Tillfors et al., 2004 (distress);
Social fear/anxiety	Chambless et al., 2008	Holt et al., 1992; Brown et al., 1995; Kose et al., 2009; Turner et al., 1992
Fear of negative evaluation	van Velzen et al., 2000; Chambless et al., 2008	Boone et al., 1999; Brown et al., 1995; Holt et al., 1992; Tran and Chambless, 1995; Turner et al., 1986
General anxiety		Turner et al., 1992; Brown et al., 1995; Hummelen et al., 2007 ^b ; Chambless et al., 2008; Kose et al., 2009

Table 6.2: Summary of research findings into variables of interest in samples comparing subgroups with AVPD and SP

Variable	Differences in severity between AVPD and SP on variables examined ^a	
	<i>SP-only less severe</i>	<i>No difference between SP-only and AVPD</i>
Depression	Kose et al., 2009; Tran and Chambless, 1995; Turner et al., 1986; Turner et al., 1992; van Velzen et al., 2000; Hummelen et al., 2007 ^b	Brown et al., 1995; Holt et al., 1992; Eikenaes et al., 2013; Eikenaes et al., 2016
Social adjustment	Turner et al., 1992	
Comorbidity		
Axis I	Marques et al., 2012 (but numerically very small differences)	Chambless et al., 2008
Axis II		Chambless et al., 2008

Notes to table:

^aAll results except Eikenaes et al., 2013 and Hummelen et al., 2007 compared SP to SP+AVPD, and did not utilise an AVPD-only comparison group; ^b Hummelen et al., 2007 confined their study to SP-only vs. AVPD-only.

All but two of the identified studies reported mixed findings; that is, finding that SP-only was less severe on some measures, but finding no difference from AVPD (with or without SP) on other measures.

GSP with and without AVPD did not differ from GSP-only on levels of depression or social anxiety in a number of outpatient studies (Brown et al., 1995; Boone et al., 1999). Conflicting findings exist for a measure of social avoidance and distress (SADS) with higher levels in GSP+AVPD reported compared to GSP-only (Boone et al., 1999).

Fear of negative evaluation (FNE) is recognised as a core cognitive feature of SP; no differences between groups with and without AVPD were found in one sample (Boone et al., 1999). However, given that all participants had SP, this cannot completely address the issue of distinctions between SP and AVPD. Self-esteem was lower in a group with SP+AVPD than a group with GSP alone in one study (Chambless et al., 2008).

A small study of persons recruited for social anxiety through advertisements used the SCID I and II for diagnosis. SP was compared to SP+AVPD on the TCI, and the comorbid group was only noted to differ significantly by having higher scores on harm avoidance. The harm avoidance subscale of “shyness with strangers” was the strongest predictor of comorbid AVPD in persons with SP (Marteinsdottir et al., 2003).

A small number of studies employed measures likely to be more salient to AVPD, such as perceived risk of intimacy. In a study employing the Risk in Intimacy Inventory, higher scores indicative of higher perceived risk were reported for GSP+AVPD, and although statistically significant, differences were numerically small (mean score 30.8 in GSP-only vs. 32.0 in GSP+AVPD; Marques et al., 2012). Perceived social support was not statistically different (Marques et al., 2012).

6.1.3 Clinical studies that recruited participants with AVPD with and without SP

Studies that recruited samples with AVPD with and without SP have the potential to shed more light on the nature of differences between the two conditions. Notably, only two studies were identified which included an AVPD-only group for comparison (Eikenaes et al., 2013; Hummelen et al., 2007) and the range of variables studied was quite small. A variable pattern of differences was reported by both studies.

Hummelen and colleagues (2007) recruited patients (N=2274) from Day Hospitals in Norway that specialised in the treatment of personality disorder. Each patient was thoroughly evaluated using self-report and structured instruments for DSM-IV Axis I and II, observation over time, expert evaluation and consensus. Approximately half of those who met criteria for AVPD also met criteria for at least one other PD. Approximately 86% of patients who met

criteria for SP also had at least one PD, in 72% of cases this included AVPD; the mean number of PDs for this sample was 1.45. AVPD-only compared to SP-only patients scored more highly on the General Severity Index of the SCL-90-R ($p = 0.002$) and also on obsessive-compulsivity, depression, interpersonal sensitivity, paranoid ideation, and psychoticism. Levels of anxiety and phobic anxiety were not significantly different. On the NEO-PI-R there were few differences, although the AVPD-only group scored significantly higher on neuroticism and lower on conscientiousness. Scores on extraversion, openness and agreeableness did not differ significantly, although there were differences on some facets of extraversion (warmth and positive emotions).

Eikenaes and colleagues (2013) recruited patients from a range of specialist psychiatric treatment settings, also in Norway. Reliable methods of personality and symptom disorder diagnosis were used, and patients were also evaluated for self-esteem, interpersonal and psychosocial functioning, and quality of life. No significant demographic differences were identified. Although generally more similar to the SP+AVPD group on most measures, there were exceptions: the AVPD-only group was more similar to the SP-only group on level of self-esteem, work and social adjustment and social avoidance.

6.1.4 Summary

Previous research indicates that a range of variables may be significant risk factors for AVPD, with the most consistent findings being for neuroticism and negative childhood experiences. The patterns of difference and similarity with SP are variable, and this variability is contributed to by considerable methodological heterogeneity amongst the available studies. Since SP+AVPD does not consistently show a more severe symptom profile, these results call into question the severity continuum hypothesis. The failure to find

a difference between SP-only and SP+AVPD in many studies has been interpreted as suggesting that an additional diagnosis of AVPD adds little to the clinical picture . However, the preponderance of studies compared SP-only with SP+AVPD, which leaves open the question of how an AVPD-only group might compare on various symptom measures. Two studies which compared groups with SP-only and AVPD-only generally found few or variable differences on the variables studied; this would seem to undermine the severity hypothesis, but raise questions about diagnostic distinctness. It is possible that the variables reported may not reflect domains in which clinically meaningful differences are to be found. In order to address these gaps in knowledge, the current study aims to investigate variables proposed to be highly relevant to AVPD, and a later study in this thesis employs qualitative methodology to investigate clinically meaningful differences not captured by commonly reported measures (Chapter Seven).

6.2 AIMS

This study aimed to test for differences between SP-only, AVPD-only and SP+AVPD on variables selected on the basis of theory, research or clinical experience as likely to be of particular salience to AVPD.

6.3 METHODS

6.3.1 Ethics approval

Conduct of the study was approved by the University of Sydney Human Research Ethics Committee.

6.3.2 Recruitment

Participants were recruited from the community and psychiatric outpatient clinics by means of advertisements placed on the University of Sydney's research volunteer page, and the webpages of the clinics where the candidate and her supervisors worked. Interested persons were invited to contact the candidate by phone or email for more information and to arrange a time to speak by telephone for screening to determine that the individual was likely to have SP and/or AVPD, and to rule out exclusionary factors, such as substance dependence.

Individuals who wished to participate and who were accepted into the study were emailed the Participant Information Statement and Consent Form, and a personalised, secure link to self-report questionnaires hosted on the Survey Monkey platform. An appointment was made for them to attend in person at the clinic where the candidate worked for the computerised diagnostic assessment (Composite International Diagnostic Interview, automated; World Health Organisation, 1997a) and the personality diagnostic interview (International Personality Disorder Examination; Loranger, 1999).

6.3.3 Inclusion/exclusion criteria

Participants were required to be between the ages of 18-65 years, to meet criteria for SP and/or AVPD, not have a current substance dependence or significant substance abuse problem, and if on medication the dose needed to be stable for at least 4 weeks. Participants needed to be able to speak and understand English well enough to participate, and needed to be able to attend the candidate's place of work, a clinical research unit within a large public hospital, for the diagnostic interviews.

6.3.4 Data Collection

Symptom, distress, disability and vulnerability factor data was collected via online self-report questionnaires. Eligible participants were emailed a personalised link to the questionnaires loaded online on the Survey Monkey platform. No identifying data was collected (such as Internet Protocol addresses) and participants were identified only by means of their study ID number.

6.3.5 Measures

In choosing measures a number of goals and limitations required to be balanced. It was desired to measure as broad a range of putative symptom and vulnerability factors as possible, using measures with good psychometric properties, yet against this needed to be balanced statistical concerns about variable numbers with respect to a relatively small sample size, and participant factors such as the need to avoid the possibility of fatigue or undue distress in respondents. For these latter reasons, shorter questionnaires with acceptable psychometrics were chosen above longer questionnaires which might have provided more detail (for example through facets or subscales). The selected measures are described below.

6.3.5.1 *Behavioural Activation System (BAS) and Behavioural Inhibition System (BIS) Scales (Carver and White, 1994)*

The BIS/BAS Scales were developed by Carver and White to measure sensitivity of two physiological self-regulatory systems, behavioural activation and behavioural inhibition, and were chosen for inclusion in this study on the basis of a model proposing a predictive role for this scale in social anxiety (Kimbrel, 2008), the fact that the scales add unique information with respect to the other temperament and personality scales used (Jorm et al., 1998), and the

established links with functional brain systems (Corr, 2004). The BIS/BAS scales were developed to be consistent with Reinforcement Sensitivity Theory (RST), a neurobiologically based theory of personality first proposed by J.A. Gray in 1970 (Corr, 2004). RST has some similarities with Eysenck's biosocial model of personality and was developed out of research on Eysenck's neuroticism and extraversion dimensions. RST is concerned with reward and punishment sensitivities, and two systems were proposed: the Behavioural Approach System (BAS) involving cognitive and neurophysiological systems related to appetitive rewards, and the Behavioural Inhibition System (BIS) concerned with risk assessment and avoidance. The BIS has an inhibitory function and is said to be sensitive to signals of non-reward, punishment and novelty (Carver and White, 1994). The BIS is also said to be responsible for resolving goal conflict, for example, approach-avoidance (Corr, 2004). The BAS initiates movement toward reward (both conditioned and unconditioned). Kimbrel argued that Corr's joint subsystems hypothesis, based on RST, predicts that individuals who are high on BIS sensitivity and low on BAS sensitivity should show the most severe anxiety and avoidance in the face of anxiety-provoking social cues (Kimbrel, 2008), but has subsequently shown that low BAS appears to most closely relate to social interactional rather than performance anxiety (Kimbrel et al., 2010).

The BIS scale was developed to measure sensitivity to anxiety-provoking stimuli. The BAS has three subscales, BAS Drive, BAS Fun-seeking and BAS Reward-responsiveness. The Drive subscale relates to the persistent pursuit of rewarding stimuli; Fun-seeking attempts to measure the response to novelty, and spontaneity in pursuing a potential reward; and Reward-responsiveness attempts to measure the reaction to reward or its anticipation (Carver and White, 1994). Jorm and colleagues (1998) confirmed the four-factor structure of the scales in

a large Australian community sample. They reported a Cronbach's alpha of 0.76 for the BIS, 0.83 for the BAS overall, 0.65 for Reward-responsiveness, 0.80 for Drive and 0.70 for Fun-seeking and were able to report age and gender norms for each subscale, which were used as a reference in the current study.

Subscale scores (BAS Drive, BAS Reward-responsiveness, BAS Fun-seeking, BIS) were used in the initial analyses as recommended by the developers (Carver and White, 1994).

6.3.5.2 *Revised Cheek and Buss Shyness Scale (Cheek, 1983)*

Shyness has been proposed as a possible differentiating factor between SP and AVPD (Eggum et al., 2009; Marteinsdottir et al., 2003; Rettew, 2000). The Revised Cheek and Buss Shyness Scale (RCBS) was chosen to measure this factor as it is relatively brief (13 items) and has good psychometric properties, with strong internal consistency and test-retest reliability (Hopko et al., 2005). No significant gender differences have been reported.

Using data from a university student sample, Hopko and colleagues (2005) reported that internal consistency was high ($\alpha = .86$) and 2-week test-retest reliability was strong ($r = .88$). The same authors noted corrected item-total correlations ranging from 0.23 to 0.66 (all statistically significant; $p < 0.01$). Convergent validity was examined against measures of social anxiety (range 0.56-0.84), and discriminant validity was acceptable against a measure of depression (Beck Depression Inventory, 0.43) and somatic anxiety (Beck Anxiety Inventory, 0.37).

The RCBS total score was utilised in analyses.

6.3.5.3 *Child Abuse and Trauma Scale (Sanders and Becker-Laussen, 1995)*

A role for adverse parenting experiences in childhood has been proposed by several authors as of aetiological relevance to AVPD (Stravynski et al., 1989; Meyer and Carver, 2000; Arbel and Stravynski, 1991). Sanders and Becker-Laussen (1995) developed the Child Abuse and Trauma scale (CATS) as a quantitative measure of childhood adversity that was sensitive to self report and could be used for testing outcome hypotheses. It has the advantages of being relatively short and using a deliberately “mild” way of asking about potentially painful issues, and hence was suitable for online use. In development of the scale, a three factor solution gave rise to three subscales: neglect/negative atmosphere, punishment experiences and sexual abuse. A high internal consistency of the overall CATS, measured by Cronbach's alpha, of .90 was reported by the authors and replicated by another team (Kent and Waller, 1998). For the negative home atmosphere/neglect scale, α was .86; for sexual abuse subscale, $\alpha = 0.76$; and for the punishment subscale, $\alpha = 0.63$. Only the sexual abuse score showed a significant gender difference. Kent and Waller (1998) extended the scale by using a number of items with a high face validity for emotional abuse, all but one of which were unassigned to any existing subscale, and incorporating them into a new subscale that they called emotional abuse. In testing, the new subscale was found to have a high level of internal validity ($\alpha = .88$). This subscale was included in the current study.

Four subscale scores (neglect/negative home environment, punishment, sexual abuse and emotional abuse) and the total score were included in the initial analyses.

6.3.5.4 *Depression Anxiety Stress Scales 21 item (Lovibond, 1995)*

The Depression Anxiety Stress Scales (DASS) is a well validated self-report instrument with good psychometric properties (Lovibond and Lovibond, 1995). The depression subscale particularly taps into low motivation, pessimism and loss of self-esteem. The anxiety subscale has an emphasis on fear-related symptoms, while the stress subscale most closely relates to a state of persistent arousal and tension with a low threshold for becoming upset or frustrated. The original measure had 42 items, but a 21 item scale (DASS-21) has also been shown to have acceptable to excellent psychometric properties (Antony et al., 1998) and was the version used in the current study.

The three factor structure of the original 42 item scale was confirmed in a non-clinical sample, with the three factors accounting for 41.3% of item variance (Lovibond and Lovibond, 1995). Most scale items demonstrated moderate to high loadings with their own factor (mostly in the range 0.4-0.7) and low loadings on the other factors (around 0.2). The correlations between factors were: depression-anxiety $r = 0.42$; anxiety-stress $r = 0.46$; and depression-stress $r = 0.39$. The three factor solution was also the best fit on confirmatory factor analysis. Testing of convergent validity indicated that the DASS anxiety scale was highly correlated ($r = 0.81$) with an established measure of anxiety, the Beck Anxiety Inventory (BAI; Beck et al., 1988), and the DASS depression scale was moderately highly correlated ($r = 0.74$) with the Beck Depression Inventory (BDI; Beck et al., 1961). Lovibond and Lovibond (1995) considered that inclusion of items that are not uniquely associated with depression, such as weight loss and irritability, likely accounted for the lower correlation, since the DASS largely excludes somatically focussed items from the depression scale.

The performance of the 21 item version of the DASS was evaluated using clinical and non-clinical samples by Antony and colleagues (1998). Factor analysis in the whole sample indicated that a three factor solution accounted for 67% of the variance. Correlations between the factors were slight lower than those reported for the 42 item version (0.28, 0.48, 0.53). Compared to the 42 item version, the DASS-21 demonstrated lower intercorrelations of factors, higher mean loadings, and fewer cross-loading items. All items on the stress and anxiety scales loaded only on those factors; six of the seven items of the depression scale loaded only on that factor, but one item has a loading of 0.323 on the depression scale, representing an improvement on the 42 item version. The DASS-21 was shown to have a high level of internal consistency (Cronbach's alphas of 0.94 for depression, 0.87 for anxiety, and 0.91 for stress). In tests of convergent validity, the DASS-21 depression scale correlated moderately highly with the BDI ($r = 0.79$), the anxiety scale correlated highly with the BAI ($r = 0.85$), and the stress scale correlated moderately highly with both the BDI and the BAI ($r = 0.69, 0.70$ respectively). These findings support the use of the DASS as a reliable and valid measure of anxiety and depression, with the stress scale providing unique information not captured by the other scales.

Depression, anxiety and stress scores were included in analyses.

6.3.5.5 *NEO Five-Factor Inventory-3 (Costa and McCrae, 2010)*

The five factor model (FFM) of personality is the dominant model in psychology today and widely used in personality research. In contrast to the aim of the BIS/BAS to identify a biologically based classification of personality dimensions, the FFM has a lexical foundation, with the aim of robust taxonomic classification based on clinically derived personality trait

descriptions (Smits and Boeck, 2006; McCrae and Costa, 1987). The NEO Five-Factor Inventory-3 (NEO-FFI-3) is a 60-item version of the larger NEO Personality Inventory-3 (NEO-PI-3) that provides a reliable and accurate measure of the five domains of personality according to the five factor model of personality. It provides a subscale score for each of neuroticism, extraversion, openness, agreeableness, and conscientiousness; norms are provided in the Manual. Internal consistency estimates have been shown to range from 0.78 to 0.86 in adults, with high 6-month test-retest reliability (Costa and McCrae, 2010). The NEO-FFI-3 was used and administered in an online format with the written permission of the copyright owner, Psychological Assessment Resources, PAR, limited.

NEO neuroticism, extraversion, openness, agreeableness and conscientiousness scores were included in the analyses.

6.3.5.6 *Relationship Questionnaire (Bartholomew and Horowitz, 1991)*

Early experiences with caregivers shape internal representations of self-other relationships and influence the nature and experience of future close relationships, or attachments. As described more fully in Chapter Three, there are two main traditions of conceptualising and exploring attachment, the first is a more qualitative assessment from a developmental perspective based on the work of Main and others (Main, 1996) and the second a more quantitative approach focussed on the study of attachment in adult romantic relationships. The second approach was employed in this study. The Relationship Questionnaire (RQ; Bartholomew and Horowitz, 1991) is a widely used self-report measure of the attachment. In a comparison of interviewer administered measures, other-report and self-report measures, Griffin and Bartholomew (1994) were able to demonstrate through acceptable (around 04-

0.5) correlations between self, peer and family reports that attachment dimensions can be reliably assessed by self-report. Data from self-report measures were aggregated in their study, but the RQ was one of the included measures.

The RQ has the advantage of brevity over other self-report measures such as the Experiences in Close Relationships scale, and acceptable stability (70%) and test-retest reliability (average 0.60 over periods up to 4 years; Brennan and Shaver, 1998).

The RQ operationalises the four-category attachment model of its authors (secure, preoccupied, dismissing, fearful), a model based on Bowlby's work and now widely accepted in the field of psychology. The RQ asks respondents to rate the degree to which they feel each style applies to them (on a scale of 1 to 7), and also to nominate the one style they think most applies to them, based on short descriptive paragraphs. Data reported in the development of the scale showed a convergence between family and peer ratings, between ratings from a semi-structured attachment interview, self-reports, and reports of a friend (Bartholomew and Horowitz, 1991). Griffin and Bartholomew (1994) have suggested that a dichotomous (positive/negative) model of self-other may also be derived from these scales.

Main attachment style (categorical variable) and ordinal scores on each attachment style were used in analyses.

6.3.5.7 *Rosenberg Self-Esteem Scale (Rosenberg, 1965)*

Self-esteem has been proposed by a number of authors to be a feature that might differentiate SP and AVPD (Hummelen et al., 2007; Millon, 1981b). The Rosenberg Self-Esteem Scale (RSES) is a widely used measure; it has 10 items, offering the advantage of being quick to complete. The RSES samples an individual's sense of self-worth, and tendency towards self-

criticism, and its brevity and simplicity has seen it translated into many languages and used around the world (Schmitt and Allik, 2005). RSES scores have been shown to relate negatively to neuroticism, positively to extraversion, and weakly or not at all to openness in terms of the FFM, and to relate positively to a positive model of self within romantic attachments (Schmitt and Allik, 2005). A principal components analysis in an Australian sample demonstrated a one factor solution with 52.1% of the variance explained by the first principal component; all items of the scale performed well; with regards to internal validity a Cronbach's alpha of 0.89 was reported for the Australian sample, and 0.81 for the whole international sample (Schmitt and Allik, 2005).

The RSES total score was used in analyses.

6.3.5.8 *International Personality Disorder Examination (IPDE)*

The International Personality Disorder Examination (IPDE) was used to assign personality diagnoses according to DSM-IV. It has been described in detail in Chapter Five.

6.3.5.9 *Composite International Diagnostic Interview (CIDI)*

The Composite International Diagnostic Interview, computerised version (CIDI-Auto) was used together with clinical assessment, to assign Axis I (symptom disorder) DSM-IV and ICD-10 diagnoses. It has been described in detail in Chapter Five.

6.3.5.10 *Statistical Analysis*

The IBM Statistical Package for the Social Sciences (SPSS) Version 22 was used for all data analysis.

6.3.5.11 Outcome variables

The three diagnostic groups of interest, as determined by the diagnostic measures of IPDE and CIDI, were SP without AVPD (SP-only), AVPD without SP (AVPD-only) and co-occurring SP and AVPD (SP+AVPD).

6.3.5.12 Predictor variables and analyses

Data consisted of a mixture of ordinal (BIS/BAS, RCBS, CAT, DASS, NEO, RSES, RQ) and nominal (RQ main style) data. Non-parametric statistical tests were used to compare the three diagnostic groups of SP-only, AVPD-only and SP+AVPD. Kruskal-Wallis one-way ANOVA (k samples) using a stepwise step-down method with significance levels adjusted for multiple testing was used to examine between group differences. Pairwise follow-up testing of significant omnibus differences utilised the significance correction applied by SPSS. For between group comparisons of nominal data, chi-square tests were used, and if significant, the effect size was estimated by means of the contingency coefficient.

Variables were first analysed comparing all three groups. To allow comparison with previous research, groups were also compared when categorised as SP-only or AVPD with or without SP (i.e., combining AVPD-only and SP+AVPD groups). In order to consider an alternative perspective, participants were also re-categorised into a single diagnosis (SP-only or AVPD-only) group and a dual diagnosis (SP+AVPD) group for comparison.

Given the acknowledged problems with categorical cut-offs for making personality disorder diagnoses, some analyses were also conducted with AVPD dimensional scores as a way of avoiding this limitation. Using a similar method to that described by Hengartner and colleagues (2015), bivariate associations between the fearful attachment style scores, the

overall severity of DSM-IV AVPD traits (total dimensional avoidant personality score), CATS negative environment and emotional abuse scales, and Rosenberg self-esteem scores were examined. A bootstrapping procedure based on 1000 samples and a bias-corrected accelerated method was employed to calculate 95% confidence intervals of the correlation coefficients. Spearman's correlations were used as the data were ordinal, and bias corrected accelerated (BCA) bootstrapping has been shown to be robust across all values of the estimated population value of Spearman's rank correlation (ρ_s) and various types of marginal distributions (Ruscio et al., 2008). Variables with non-significant correlations were excluded from further analysis, as were any highly correlated variables ($r > 0.7$; as recommended by Tabachnick and Fidell, 2007), to determine a final set of predictors. Reducing the number of predictor variables was also preferable given the relatively small sample size.

Finally, multinomial logistic regression analyses were conducted, seeking predictors for the three diagnostic categories of SP-only, AVPD-only and SP+AVPD. Main effects were examined first, then interaction terms informed by the literature review and theoretical considerations. Negative affectivity (neuroticism) as measured by the NEO-FFI-3 has been reported in numerous studies to account for some of the variance in factors such as self-esteem, attachment style, anxiety and depression (Lonnqvist et al., 2009). Therefore, correlations between these variables were examined, and where these were < 0.7 , all variables were retained, and interaction terms involving NEO N were tested for attachment, child abuse and trauma, and self-esteem. An interaction of BIS/BAS to test Kimbrel's hypothesis that individuals who are high on BIS sensitivity and low on BAS sensitivity should show the most severe anxiety and avoidance was included (Kimbrel et al., 2010). Finally, an interaction

between childhood trauma and abuse (CATStotal) and self-esteem was tested, based on previous empirical observations of a relationship between these factors (Mullen et al., 1996; Sperry and Widom, 2013).

6.4 RESULTS

6.4.1 Missing data

A similar approach to the treatment of missing data in respect of diagnostic group assignment to that discussed in Chapter Five was taken. Six participants failed to complete the diagnostic interviews and hence could not be assigned to a diagnostic category. Kruskal-Wallis One-way ANOVA and comparison of medians was chosen as an initial test of differences for the ordinal data, and chi-square tests for nominal data. Overall between group differences were observed only on total childhood abuse and trauma (CATS) scores. Follow-up pairwise testing with the significance level corrected for multiple tests indicated that the missing group differed from the SP-only and AVPD-only group but was equivalent to the SP+AVPD group. Given the lack of substantial differences overall, the missing data was treated as Missing Completely at Random and the six participants were excluded from further analysis.

6.4.2 Outliers

Outliers were noted on some variables; all were within one standard deviation of the mean. There were three multivariate outliers, two of which had more extreme scores in the same direction as the overall sample. The decision was taken to keep these cases in the analyses in the interest of maximising numbers in the dataset, and on the assumption that they may reflect normal population variability. In the third case, the outlier's scores were in the opposite direction to the main group on two variables, that is, high on extraversion and low

on neuroticism. This case was excluded from analyses on the basis that such different values might significantly distort results in a small sample.

6.4.3 Participant characteristics

A total of 67 persons completed the measures under study in this chapter, and 61 persons completed all measures, which allowed allocation into diagnostic groups; after exclusion of one multivariate outlier the remaining sample numbered 60 persons. The sample ranged in age from 20-65 years with a mean of 35 ± 12.1 years, and comprised 56% females; 47.5% of the sample were in full-time or part-time employment; 70.5% had an educational qualification beyond high school; and 52.5% were single and never married.

6.4.4 Descriptive statistics

Medians, interquartile ranges and reported norms for each measure are shown in Table 6.3.

Table 6.3: Descriptive statistics for sample and population norms for each dependent measure/predictor variable

Variable	SP-only Median (IQR) N = 17	AVPD-only Median (IQR) N = 8	SP+AVPD Median (IQR) N = 35	Established norms /cutoffs
				Ranges†:
BIS	25.0 (4)	25.0 (4)	26.0 (3)	19.3-22.0 (SD approx. 3.5)
BAS reward responsiveness	16.0 (2)	12.5 (5)	15.0 (4)	15.5-17.6 (SD approx. 2.0)
BAS fun seeking	10.0 (3)	8.0 (5)	10.0 (4)	9.9-12.3 (SD approx. 2.3)
BAS drive	9.0 (4)	7.0 (4)	8.0 (2)	8.9-10.9 (SD approx. 2.5)
RBCS	47.0 (8.5)	49.0 (8)	50.0 (7)	University samples: Means range from approx. 29-33‡ (SD approx. 7-9)
				University samples*:
CATS neg	0.79 (1.04)	1.43 (0.79)	1.57 (0.86)	0.83 (0.86)
CATS pun	1.17 (1.00)	1.17 (1.13)	1.67 (1.33)	1.12-1.27 (0.51-0.82)

Table 6.3: Descriptive statistics for sample and population norms for each dependent measure/predictor variable

Variable	SP-only Median (IQR) N = 17	AVPD-only Median (IQR) N = 8	SP+AVPD Median (IQR) N = 35	Established norms /cutoffs
				Ranges†:
CATS emot	1.57 (1.07)	2.07 (1.18)	2.29 (1.57)	0.83 (0.86)
CATS sa	0 (0)	0 (0.13)	0 (0.17)	♀0.13 (0.32) ♂0.06 (0.20)
CATS tot	0.58 (0.79)	1.03 (0.74)	1.21 (0.79)	0.77-0.78 (SD 0.42-0.66)
DASS dep	14 (16)	25 (28)	20 (18)	Normal ≤ 4 Mild 5-6 Moderate 7-10 Severe 11-13 Extremely severe ≥ 14
DASS anx	6 (9)	12 (12)	12 (20)	Normal 0-3 Mild 4-5 Moderate 6-7 Severe 8-9 Extremely severe ≥ 10
DASS stress	16 (14)	18 (18)	18 (14)	Normal 0-7 Mild 8-9 Moderate 10-12 Severe 13-16 Extremely severe ≥ 17
NEO N	37.0 (15)	36.0 (4)	35.0 (8)	Very low ≤1-8 Low 9-16 Average 17-25 High 26-32 Very high 33-≥40
NEO E	17.0 (12)	16.0 (11)	15.0 (12)	Very low ≤13-18 Low 19-24 Average 25-31 High 32-37 Very high 38-≥44
NEO O	29.0 (8)	32.0 (17)	30.0 (10)	Very low ≤12-18 Low 19-24 Average 25-31 High 32-38 Very high 39-≥44
NEO A	35.0 (7)	34.0 (8)	34.0 (6)	Very low ≤17-22 Low 23-28 Average 29-35 High 36-41

Table 6.3: Descriptive statistics for sample and population norms for each dependent measure/predictor variable

Variable	SP-only Median (IQR) N = 17	AVPD-only Median (IQR) N = 8	SP+AVPD Median (IQR) N = 35	Established norms /cutoffs
				Ranges†:
NEO C	29.0 (17)	22.0 (13)	26.0 (14)	Very high 42-≥47 Very low ≤17-22 Low 23-29 Average 30-35 High 36-42 Very high 43-48
RSES	26.0 (6)	18.5 (4.5)	20.0 (6)	Mean: 31.07 (SD 5.15)
RQ-secure	2.0 (3.5)	1.5 (2.0)	2.0 (1.0)	Norms not reported: available scoring range 1-7
RQ-preoccupied	4.0 (3.5)	4.5 (3.5)	5.0 (3.0)	
RQ-dismissing	3.0 (4.0)	4.5 (4.25)	3.0 (2.0)	
RQ-fearful	5.0 (2.0)	6.0 (2.5)	6.0 (2.0)	

Notes to table:

BIS/BAS: Behavioural Inhibition System scale; BAS: Behavioural Activation System Scale; RCBS: Revised Cheek and Buss Shyness scale; CATS: Child Abuse and Trauma scale: neg (negative environment/neglect), pun (punishment), emot (emotional abuse), sa (sexual abuse), tot (total); DASS: Depression Anxiety Stress Scale: dep (depression), anx (Anxiety), stress subscales; NEO: NEO-FFI-3: N(neuroticism), E (extraversion), A (agreeableness), O (openness), C (conscientiousness) subscales; RSE: Rosenberg self-esteem scale.

†Means for BIS and BAS vary with age and gender; ranges for ages 18-69 across male and female genders are given; community sample N = 2725 (Jorm et al., 1998)

‡(Hopko et al., 2005)

♦(Kent and Waller, 1998; Sanders and Becker-Laussen, 1995)

All groups scored in the average/normal range for agreeableness, high on behavioural inhibition, neuroticism, shyness, stress, and emotional abuse in childhood, and low on extraversion and conscientiousness. The SP-only group mean scores differed from the other groups in respect of the following: normal range for reward-responsiveness, fun-seeking, drive, the negative home environment subscale of the Child Abuse and Trauma measure, and openness. By contrast, mean scores for those in the AVPD-only and SP+AVPD groups were below average on reward responsiveness and drive, and higher on negative home environment, and showed more severe elevations of depression and anxiety. There were some apparent differences between AVPD-only and SP+AVPD, which did not show a consistent

direction of severity. Mean rank values for BAS total score and selected variables showing a trend for pairwise differences are plotted in Figure 6.1.

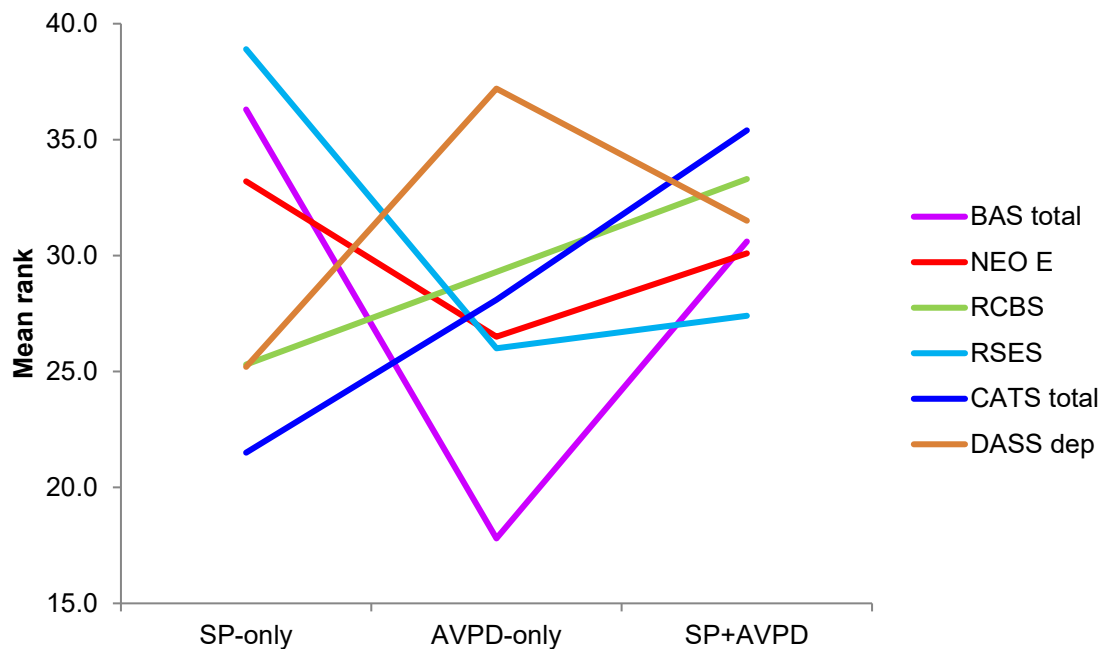


Figure 6.1: Mean rank for each diagnostic category on Behavioural Activation Scale (BAS) total score, NEO Extraversion (E) score, Revised Buss and Cheek Shyness scale (RCBS), Rosenberg Self-Esteem Scale (RSES), Childhood Abuse and Trauma Scale (CATS) total score, and Depression Anxiety Stress Scale (DASS) depression score.

6.4.5 Between group analyses

6.4.5.1 Overall analyses

Given the relatively large number of variables, BAS subscale scores were combined to give a total BAS score, and only the CATS total score was used in analyses, to give a total of 13 variables and a corresponding adjusted alpha level of 0.004. A Kruskal-Wallis ANOVA was used to compare scores on ordinal measures across diagnostic categories, with pairwise follow-up analyses in the case of significant omnibus tests, using Bonferroni-adjusted

significance levels offered by SPSS. Chi-square contingency tests were used to compare groups on reported main relationship style, a nominal variable.

6.4.5.2 *Symptom and vulnerability variables (BAS, BIS, RCBS, RSES, CATS, NEO, DASS)*

There was trend for significance across groups for CATS total ($H(2) = 7.51, p = 0.023$) with step-down follow-up analysis indicating that any difference was most likely to be between SP-only and SP+AVPD groups (adjusted $p = 0.02$). The BAS total score showed a trend towards significance ($H(2) = 6.16, p = 0.046$), with follow-up analysis indicating a trend towards a difference between SP-only and AVPD-only (adjusted $p = 0.039$).

6.4.5.3 *Attachment style (RQ)*

Attachment style as measured by the Relationships Questionnaire (RQ) generated two types of data. One was an ordinal score on each of the four attachment styles (secure, preoccupied, dismissing and fearful), which could be rated from 1 (not at all like me) to 7 (very much like me). The fearful attachment category received the highest dimensional (ordinal) rating by all diagnostic groups (median = 6), with moderately high scores also in the preoccupied category (median = 5), and low scores in the secure category (median = 2; see Table 6.2). Norms have not been reported, although it is known that approximately 55-58% of the population may be classified as securely attached (Benoit, 2014; van Ijzendoorn and Bakermans-Kranenburg, 1996). There were no statistically significant overall differences.

The RQ also required participants to identify their main attachment style from a vignette, yielding nominal data. No participants with AVPD-only or SP+AVPD were accorded a secure attachment style. The proportions of individuals assigned to each style as their main

attachment style is shown graphically in Figure 6.2. Data indicated that a fearful attachment style was most common overall. It has been suggested that a fearful attachment style may differentiate AVPD from SP. When dichotomous categories of fearful vs. other attachment style were created, there was a trend towards a significant overall difference: $\chi^2(6, N = 60) = 7.833$; Fisher's exact test (two-sided) = 0.018, with z tests of column proportions suggesting that differences trended towards being greatest between SP-only and SP+AVPD.

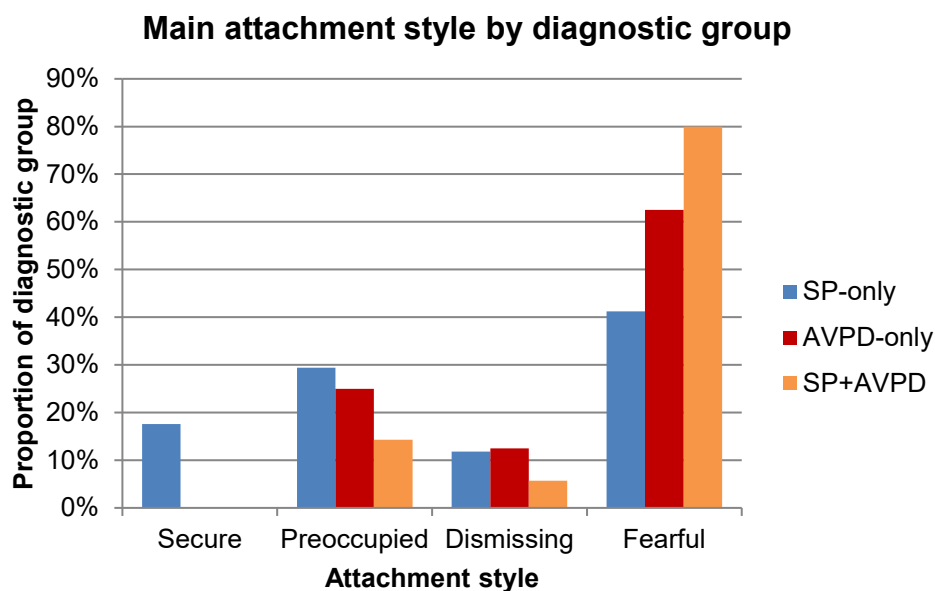


Figure 6.2: Main attachment style by diagnostic group.

Differences not statistically significant: $\chi^2(6, N = 60) = 12.319$; Fisher's exact test (two-sided) = 0.040.

6.4.5.4 Two-category diagnostic models

In order to permit comparison with previous research findings, and inform consideration of alternative models, analyses were conducted using two-category diagnostic models of SP-

only compared to (AVPD-only and SP+AVPD), and SP+AVPD compared to (SP-only and AVPD-only).

6.4.5.5 *Symptom and vulnerability variables (CATS, RSES, BAS, DASS)*

Groups were compared on variables that had approached significance in the initial analysis including behavioural activation (total score), childhood trauma (total score), self-esteem, depression and stress. A corrected alpha level of significance of 0.01 was applied. Results are shown in Table 6.4.

SP-only vs. AVPD with or without SP: Mann-Whitney U tests (Fishers exact, two-tailed) were not significant at the adjusted alpha level, although there was a trend towards significance for CATS total ($p = 0.011$) and Rosenberg self-esteem score ($p = 0.017$).

AVPD-only and SP-only vs. SP+AVPD: Mann-Whitney U tests (Fishers exact, two-tailed) indicated that there were significant differences (Fishers exact, two-tailed) only for CATS total score ($p = 0.009$). Effect size calculations as recommended by Allen and Bennett (2012) suggested that this was a medium sized effect ($r = -0.33$).

Table 6.4: Comparison of two-category diagnostic groups on selected variables

Variable	SP-only vs. (AVPD-only & SP+AVPD)	(SP-only & AVPD-only) vs. (SP+AVPD)
	p	p
Child abuse (CATS) total score	0.01	0.001
Self-esteem (RSES) score	0.02	0.11
Depression (DASS dep) score	0.14	0.59
Anxiety (DASS anx) score	0.10	0.17
Behavioural activation (BAS) total score	0.10	0.98

Notes to table:

Tests of difference using Mann-Whitney U, Fisher's exact, two-tailed tests of significance; adjusted $\alpha = 0.01$

6.4.5.6 Relationship Questionnaire: fearful attachment style

A Pearson's chi-square test of contingencies (with α adjusted to 0.01) was used to evaluate whether a fearful attachment style was related to diagnostic group with respect to presence of AVPD. Differences were significant between SP-only and SP+AVPD ($\chi^2(1, N = 60) = 6.936, p = 0.008$, with a Φ of 0.34), but also between a single condition group (SP-only and AVPD-only) and dual condition (SP+AVPD) group ($\chi^2(1, N = 60) = 6.720, p = 0.010$, with a Φ of 0.34). These Φ values indicate moderate effect sizes.

6.4.6 Correlations

Pearson bivariate correlations were examined between AVPD dimensional scores, DASS subscales, NEO subscales, shyness and self-esteem scores, CATS total score and RQ scores. The disability measure (WHODAS) shown in Study 2 to differ between diagnostic categories was also included. The other significant demographic variable, relationship status, was categorical and could not be included. All correlations are shown in Table 6.5.

Correlations with Avoidant dimensional score significant at $p < 0.01$ were found for disability (WHODAS), extraversion (NEO E), shyness (RCBS), self-esteem (RSES), childhood abuse, neglect and trauma (CATS total), and DASS depression and anxiety. Correlations significant at $p < 0.05$ were found for agreeableness (NEO A), DASS stress, secure and fearful attachment styles (RQ secure, fearful), and behavioural activation (BAS total).

No correlations above 0.7 occurred between any of the predictor variables, suggesting that collinearity was unlikely to be a problem in regression analyses (Tabachnick and Fidell, 2007).

Table 6.5: Bivariate correlation matrix between predictor variables and outcome (Avoidant dimensional score)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1 Avoidant dim score	--																		
2 WHODAS	.40**	--																	
3 NEO N	.19	.47**	--																
4 NEO E	-.45**	-.37**	-.36**	--															
5 NEO O	-.00	-.03	.26*	.03	--														
6 NEO A	-.27*	-.19	.07	.29*	.23	--													
7 NEO C	-.21	-.56**	-.45**	.34**	.01	.08	--												
8 RCBS	.41**	.31*	.18	-.44**	-.20	-.19	-.06	--											
9 RSES	-.36**	-.45**	-.53**	.43**	-.13	.02	.52**	-.18	--										
10 CATS total	.35**	.10	.25	-.03	.25	-.35**	-.11	-.01	-.17	--									
11 DASS depression	.38**	.52**	.54**	-.50**	-.03	-.30*	-.39**	.26*	-.65**	.08	--								
12 DASS anxiety	.36**	.44**	.39**	-.15	.08	-.02	-.10	.31*	-.25	.11	.34**	--							
13 DASS stress	.32*	.41**	.43**	-.11	.13	-.01	-.09	.39**	-.25	.24	.28*	.67**	--						
14 RQ secure	-.27*	-.19	-.17	.31*	-.01	-.15	.18	-.26*	.27*	.02	-.15	-.26*	-.16	--					
15 RQ fearful	.32*	.13	.12	-.24	-.19	-.17	.14	.41**	-.14	.13	.07	.32*	.29*	-.26*	--				
16 RQ preoccupied	.03	.13	.14	.17	.35**	-.00	-.12	.03	-.05	.14	-.02	.24	.13	.16	.02	--			
17 RQ dismissing	.00	-.06	-.06	-.23	.08	-.03	.10	-.05	-.16	-.06	.20	.06	.08	-.21	.02	-.29*	--		
18 BAS total	-.28*	-.22*	-.04	.49**	.24	.23	.29*	-.23	.20	.13	-.25	-.02	.05	.23	-.21	.16	-.13	--	
19 BIS	.09	.03	.33*	-.15	.03	.24	-.03	.20	-.17	.01	-.07	.05	.27*	-.28*	.16	-.11	.04	-.11	--

Notes to table:

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

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

6.4.7 Regression analyses

Significantly correlated variables, as well as relationship status as a dichotomous variable (ever/never partnered), were entered into multinomial logistic regression analyses as main effects.

In the next level of testing, interactions predicted by the literature (BIS*BAS, RQ*NEON, CATS*RSES) or on theoretical grounds (CATS*NEON) were included. Interaction terms were not significant.

A model with six predictors (WHODAS, NEON, CATS total score, BAS total score, fearful attachment style (dichotomous) and relationship status (dichotomous) provided a statistically significant improvement over the constant only model: $\chi^2(12, N = 60) = 36.97, p < 0.000$.

The Nagelkerke R^2 indicated that the model accounted for about 54% of the variance (Cox and Snell R^2 46%). This model correctly classified 75% of participants. Using the marginal frequencies, the proportional by chance accuracy was estimated at $(0.283^2 + 0.133^2 + 0.583^2 = 0.438)$; a 25% improvement is represented by 54.7% correctly classified, which is well exceeded.

Table 6.6 shows the classification table and Table 6.7 the parameter estimates for the model.

Table 6.6: Classification table for multinomial logistic regression model

Observed	Classification			Percent Correct
	Predicted			
	SP only	AVPD only	SP+AVPD	
SP only	12	1	4	70.6%
AVPD only	1	2	5	25.0%
SP+AVPD	2	2	31	88.6%
Overall Percentage	25.0%	8.3%	66.7%	75.0%

Likelihood ratio tests indicated that neuroticism ($\chi^2 (2, N = 60) = 6.22, p < 0.05$), disability level ($\chi^2 (2, N = 60) = 7.20, p < 0.03$), behavioural activation ($\chi^2 (2, N = 60) = 7.32, p < 0.03$) and childhood trauma ($\chi^2 (2, N = 60) = 12.95, p = 0.002$) made significant contributions to the model.

Table 6.7: Parameter estimates for regression model to predict membership of SP-only category

Diagnostic group ^a		B	Std. Error	Odds Ratio and 95% Confidence Intervals		
				Lower	Odds Ratio	Upper
AVPD only	Intercept	7.49	4.63			
	WHODAS_total	.04	.04	.96	1.04	1.14
	NEON	-.10	.11	.73	.91	1.13
	CATS	2.34	1.23	.95	10.43	115.04
	BAS	-.22	.09	.6	.8*	.97
	[relstat2=1]	-.98	1.1	.04	.37	3.21
	[relstat2=2]	0 ^b	.	.	.	.
	[RQfearcat=0]	-.73	1.08	.06	.48	3.99
	[RQfearcat=1]	0 ^b	.	.	.	.
SP+AVPD	Intercept	6.61	3.90			
	WHODAS_total	.079	.04	1.01	1.08*	1.16
	NEON	-.20	.09	.68	.82*	.98
	CATS	3.12	1.08	2.72	22.62**	188.38
	BAS	-.07	.07	.81	.94	1.08
	[relstat2=1]	-1.84	.94	.03	.16*	1.00
	[relstat2=2]	0 ^b	.	.	.	.
	[RQfearcat=0]	-1.70	.85	.04	.18*	.96
	[RQfearcat=1]	0 ^b	.	.	.	.

Notes to table:

^a. The reference category is: SP only.

^b. This parameter is set to zero because it is redundant.

$R^2 = .47$ (Cox and Snell), $.55$ (Nagelkerke). Model $\chi^2 = 37.64, p < 0.001$

* $p < .05$, ** $p < .01$

WHODAS: World Health Organisation Disability Assessment Schedules; NEON: NEO-FFI-3 Neuroticism score; NEOE: NEO-FFI-3 Extraversion score; CATS: Child Abuse and Trauma total score; BAS: Behavioural Activation Scales combined score; relstat2: relationship status (ever/never partnered); RQfearcat: Fearful attachment style on RQ (absent/present).

The Wald tests indicated that behavioural activation significantly predicted AVPD-only, and that disability, neuroticism, childhood trauma and abuse (CATS), lifetime relationship status and fearful attachment style predicted SP+AVPD. However, the CATS parameters were associated with broad confidence intervals, raising questions regarding reliability.

6.5 DISCUSSION

These findings highlight that SP and AVPD share many characteristics including higher than average levels of negative affectivity (neuroticism), behavioural inhibition and shyness; and lower than average levels of extraversion and self-esteem. They also share higher scores on measures of childhood neglect, negative home atmosphere, punishment and emotional abuse, and most commonly report an insecure attachment style. Despite these similarities, some between group differences emerged, with higher scores on the measure of childhood abuse and trauma, lower self-esteem, and a lower rate of secure attachment evident for those with AVPD with or without SP, compared to those with SP-only.

A range of variables were selected for examination including temperament/personality, symptom and environmental variables, chosen on the basis of theory, clinical observation and prior research. Adult personality is said to develop from a biobehavioural substrate of negative affectivity, positive affectivity and inhibitory regulation, with strong genetic contributions and influence from the environment (Clark, 2005). Several studies have confirmed an association for AVPD with high neuroticism and low extraversion, including expert consensus studies and a meta-analysis (Lynam, 2001; Saulsman and Page, 2004; Alden et al., 2002). Saulsman and Page (2004) estimated from their meta-analysis that 74% of persons with AVPD would score high on neuroticism and 72% low on extraversion. They

were roughly equally likely to score high or low on the other dimensions of the NEO FFM measure. In this study, the minimum NEO N score in the AVPD-only group was in the high range (28) and for the SP+AVPD group at the upper level of average (25), and at least 75% of each of those groups scored in the low range on the NEO E

The research on differentiating SP from AVPD on these factors was more scarce; the limited empirical literature had suggested that the best predictors were introversion (low extraversion on the NEO-FFI-3) and depressive symptoms (van Velzen et al., 2000). In the current study, those variables did not differentiate SP from AVPD. Some of the theoretically derived variables, including attachment style, behavioural activation and negative experiences in the childhood home received most support from the current study. A model incorporating disability, relationship status, attachment style, and several temperamental factors was able to account for an estimated 46-55% of the variance in predicting diagnostic category. The 75% predictive accuracy was better than chance.

A striking finding in the current study was that none of the participants in the AVPD-only or SP+AVPD groups endorsed a descriptive paragraph consistent with a secure attachment style, and only 17.6% of the SP-only group. These rates are lower than community averages and closer to those reported in a study of adult women with psychosocial stressors (chronic problems in relationships), low self-esteem or a history of childhood adversity, 24% of whom were found to have a secure attachment style compared to 49% in a comparison group selected from the same primary care settings (Bifulco et al., 2002). The findings in the current study are also very similar to those of Eikenaar and colleagues (2016), who recently reported the first study comparing attachment style between SP and AVPD. That study of 90 participants similarly employed the four category model of Bartholomew and Horowitz

(1991) introduced in Chapter Three (section 3.2). The authors did not report findings for a separate AVPD-only group, but found only 15% of the SP group and 10% of the AVPD+/-SP group to have a secure attachment style. The current study found very high rates of endorsement of a fearful attachment style with a suggestion of a severity gradient from SP-only (41.2%) to AVPD-only (62.5%) to SP+AVPD (80%). A fearful attachment style was a significant predictor of being in the SP+AVPD group rather than the SP-only group. By comparison, rates of fearful attachment style in the Eikenaes and colleagues (2016) study were 20% in SP, and 46% in the AVPD+/-SP group. In contrast to the current study, Eikenaes and colleagues found high rates of a dismissing attachment style in the SP group (40%). In a dismissing attachment style, an individual is more likely to devalue relationships with others. This would seem to be counter to the desire for affiliation that is said to characterise AVPD, but it can also be seen as a defensive strategy against the pain of rejection. The main differences in rates of principal attachment style between the study of Eikenaes and colleagues (2016) and the current study were in the dismissing quadrant. Both were small studies and are likely to have been influenced by participant factors: a highly educated group recruited largely from a university community in the current study, and a sample sourced from psychiatric centres specialising in the treatment of personality disorder in the Norwegian study. Although the limitations of these small sample sizes and the self-report nature of the instruments used must be considered, these data support the importance of further investigation.

In an attempt to find evidence linking attachment style to self-concept, Stroop colour-naming methodology using positive and negative, self-referent and non-self-referent adjectives was employed in a sample of high school students (Mikulincer, 1995). It was hypothesised that

self-referent adjectives should be more readily recalled and result in greater Stroop interference (thus resulting in slowed colour-naming). Students with an avoidant attachment style showed significantly greater interference than both secure and ambivalently attached individuals on positive self-referent adjectives, and significantly less than both groups on negative self-referent adjectives. This was interpreted as indicating that securely attached individuals can integrate both positive and negative aspects of themselves, and also supporting hypotheses that the avoidant attachment style is associated with a failure to acknowledge negative aspects of the self. However, this is difficult to reconcile with findings of low self-esteem in those with AVPD, since low self-esteem implies awareness, if not exaggeration, of one's faults. Examination of discrepancies between self-concept and the perception of how others viewed the individual revealed that for the avoidantly attached, their own perspective was more positive than the perceived standpoint of others. This helps explain why both fearful (in the negative self/negative other quadrant of the four-category model of Bartholomew and Horowitz, 1991), and preoccupied (in the positive self/negative other quadrant), might be observed in AVPD.

Earlier research on risk factors for AVPD identified parental neglect as making a significant independent contribution to the risk of AVPD, although attachment style was not examined (Joyce et al., 2003). Experiences with early caregivers are a critical influence on the attachment style an individual develops. Hence it was important to assess in the current study whether attachment style and history of childhood trauma and abuse made independent contributions: bivariate correlations between these factors were low (ranging from -0.57 to 0.125) and not significant. The CATS asks mainly about recalled experiences after early infancy, so it is possible that the significant findings on this instrument may be indicating that

experiences within the family beyond infancy have a role to play in the development of AVPD.

Behavioural activation has been proposed as a neurobiological factor associated with reward sensitivity. The BAS total score was calculated to add scores on reward-responsiveness, fun-seeking and drive towards reward stimuli. An unanticipated finding was that differences in BAS score were significant only between SP-only and AVPD-only. Previous research suggested that low BAS might be most closely related to interactional rather than performance anxiety (Kimbrel et al., 2010). SP has been described as more closely related to performance-based fears, and AVPD to fears around social interaction. Hence, whilst the possibility of a Type I error must be considered, it may be that the significantly different BAS scores between SP-only and AVPD-only reflect a meaningful difference consistent with the predominantly performance vs. interactional nature of the underlying fears in each case. By contrast, the dual diagnosis group would be expected to have both performance-based and interactional fears. Lower BAS sensitivity is also consistent with research demonstrating a relatively reduced level of positive emotional states in response to potentially rewarding stimuli in AVPD (Johansen et al., 2013), which compounds the problem of negative emotional reactions or cognitions. Contrary to predictions in the literature, an interaction between BIS and BAS was not significant in this sample.

There is some empirical literature to support the possibility that self-esteem has a closer association with AVPD than with SP. Although self-esteem was correlated with AVPD dimensional score, it did not make a significant contribution to the regression model, probably because it was notably lower than average in all groups, and particularly the two AVPD groups. Numerous variables have been identified as influencing the development of

stable long-term levels of dispositional and trait self-esteem, and of affecting reported level of self-esteem more acutely (as state rather than trait), and hence bivariate associations between self-esteem and other variables were examined in the current study.

Emotional abuse in childhood has been linked to low self-esteem (Mullen et al., 1996; Sperry and Widom, 2013); however, in the current study the measure of childhood adversity (CATS total) correlated only -0.174 with self-esteem (RSES), suggesting that childhood adversity made an independent contribution.

Depression may influence both state and trait self-esteem (Lynum et al., 2008). In the current study depression and self-esteem were significantly correlated ($r = 0.646$). However, neither depression nor self-esteem contributed to the regression model.

Associations between self-esteem and Five Factor Model (FFM) personality factors have also been widely reported (Ramsdal, 2008) and in the current study, significant correlations between the RSES as the measure of self-esteem and the FFM factors of neuroticism, extraversion and conscientiousness were observed ($r = -0.528, 0.432$ and 0.517 respectively). However, self-esteem and conscientiousness were not found to be significant predictors of group membership in this study, suggesting that while they may be relevant to the conditions of interest, they do not independently predict diagnostic status with respect to AVPD. Other studies have failed to find a significant association between conscientiousness and AVPD, suggesting that it may not be especially relevant (Saulsman and Page, 2004).

Low self-esteem has also been linked to interpersonal problems associated with higher levels of submissiveness and over-nurturance (Bjorkvik et al., 2009). Submissiveness in interpersonal relationships was reported commonly by those with AVPD in the qualitative

component of this thesis (Chapter Seven, Study 4). Depression itself, however, was not included in the final model.

A finding identified through descriptive statistics was the indication of three distinct patterns of difference between each of the three diagnostic categories: a linear severity pattern in which values for the AVPD-only group were intermediate between those of SP-only and SP+AVPD; a U or inverse-U shaped pattern in which values for the AVPD-only group were more severe than both the SP-only and SP+AVPD groups; and a pattern in which values for the AVPD-only group appeared close to those for the SP+AVPD group and more severe than for the SP-only group. This echoes a pattern seen with demographic and disability data in Study 2. This suggests that the relationship between SP and AVPD may vary according to specific symptoms or risk factors, and argues against routine grouping of AVPD-only with SP+AVPD for analysis. Two other studies have also reported variation in the pattern of associations, but the authors did not explicitly discuss these findings. The very large National Epidemiological Survey of Alcohol and Related Conditions reported more comorbidity with anxiety disorders for AVPD-only and SP-only than for SP+AVPD, a pattern of increasing number of social fears from SP-only to AVPD-only to SP+AVPD, and an increased risk of mood disorders in both AVPD-only and SP+AVPD relative to SP-only (Cox et al., 2009). A clinical sample found that SP-only and AVPD-only were similar on measures of self-esteem, and closer to each other on measures of work and social adjustment than to SP+AVPD; the AVPD-only group reported less social avoidance than either SP-only or SP+AVPD (Eikenaes et al., 2013).

One possible explanatory model to account for the findings in this study could involve a shared vulnerability to anxiety, and perhaps even specific vulnerability to social anxiety, with

environmental experiences influencing the phenotypic presentation as SP, AVPD or both. Epigenetic regulation is now recognised as a potentially significant influence on neurodevelopment and might be a mechanism by which this could happen (Bagot and Meaney, 2010). Longitudinal community studies might offer the ability to study the influence of environment acting on a substrate of high levels of shyness or social anxiety in large enough samples to divide into specific diagnostic groups for study. Elucidation of epigenetic effects are as yet in infancy, but may present a way towards much better understanding of the effects of environmental experience in the future.

6.5.1 Limitations

A limitation of the data in this study is the small sample size. Although epidemiological data suggests that AVPD-only is relatively common in the community, recruiting such anxious and highly avoidant individuals is understandably challenging. Bonferroni corrections were used to minimise the risk of Type I errors, but the risk of a Type II error may have been elevated.

The number of predictors and the choice of measures was a deliberate attempt to maximise information gathering and minimise participant fatigue which might adversely affect the quality of the data, whilst balancing the requirement for good psychometric properties of the measures and the need to maintain a good ratio of cases to variables. A limitation of the measures chosen was the relative lack of detail regarding the measured construct, for example, the absence of facet level detail in the NEO-FFI. A larger sample size may have permitted comparison across each subscale of the BAS.

Finally, the symptom and vulnerability measures used relied on self-report, and in the case of the Childhood Abuse and Trauma Scale, required retrospective self-report. This presents a risk of recall bias. However, the findings with respect to the association of emotional abuse/neglect are consistent with those of longitudinal studies, providing some support for the validity of the findings.

6.6 CONCLUSIONS

Temperamental factors of neuroticism and behavioural activation, demographic factors including relationship history and level of disability, and a history of childhood abuse or neglect have some utility in distinguishing between SP-only, AVPD-only and SP+AVPD. A regression model including these factors was able to accurately predict group membership in 75% of cases. A further finding is a differing pattern of associations between symptom and vulnerability factors across the three diagnostic groups, which does not support the existing severity continuum hypothesis. It rather points to related conditions involving social and interpersonal anxiety which show areas of overlap and distinctiveness. The measured factors are all relevant targets of therapeutic intervention, and hence warrant individualised assessment. The findings support a recommendation that all persons presenting with social or interpersonal anxiety be screened for a range of concerns encapsulated in current criteria for both SP and AVPD. Future research should wherever possible identify three separate groups for comparison, and ideally be conducted in larger samples recruited from a range of settings.

Chapter Seven – Study 4: Using qualitative methods to identify core characteristics of AVPD: the lived experience of Avoidant Personality Disorder

Chapter overview

The premise of this study is that an important step towards differentiating AVPD from other disorders is to better characterise AVPD. Such knowledge can inform changes to diagnostic criteria to improve specificity. A qualitative phenomenological, grounded theory methodology was used to construct themes that depict key characteristics of AVPD and discover motivational factors contributing to observed symptoms and behaviours. Purposive sampling was used to recruit participants from those with an identified diagnosis of AVPD in earlier studies. I conducted an in-depth, semi-structured interview with each participant, following which I coded each transcript and generated themes using an iterative process. Saturation was reached after 8 participants. Six themes were developed to represent and organise the data. These were: Connectedness, Authenticity, Defective Self, Hypersensitivity, Behaviours and Impacts. Themes are discussed and illustrated graphically by means of “word clouds” generated from word frequency analyses using NVivo qualitative analysis software. Participants provided important insights into the meaning of rejection in AVPD, their sense of inferiority, and patterns of social relationships (such as how their anxieties change over time and in regard to the nature of the social relationship). The grounded perspective in the lived experience of individuals with the condition is a novel approach which adds considerably to knowledge of AVPD. As well implications for the definition of AVPD, the information gained is likely to be of significant benefit to clinicians treating affected individuals.

7.1 RATIONALE FOR QUALITATIVE STUDY

The first study of this thesis examined demographic, comorbidity, distress and impairment data from an epidemiological source in relation to social phobia (SP) and avoidant personality disorder (AVPD). In the study that followed, these domains were examined in a recruited sample of persons with SP-only, AVPD-only and SP+AVPD. The next study explored symptom and vulnerability factors that previous literature had suggested may hold the key to differences between SP and AVPD. The methodology for the studies in the recruited sample required a diagnostic interview with the candidate. In analysing the results of the literature review and initial studies of this doctoral research, I reached a number of conclusions:

- The existing criteria for AVPD showed a problematic degree of overlap with SP.
- Interviews with participants as part of the structured personality diagnostic questionnaire highlighted aspects of AVPD that were not being sampled by the quantitative measures used. In particular, they were not able to examine the full depth and breadth of participants' cognitive, emotional and behavioural symptoms and experience. Importantly, the measures were largely unable to provide information about the motivation for avoidant behaviour.
- The current criteria for AVPD (both DSM-IV and DSM-5) did not appear to fully capture key concerns that seemed to occur frequently in participants.

Possible solutions for the problem of criterion overlap might be to remove SP or AVPD as a diagnostic category, or to combine them in current classification systems. However, as outlined in the literature review (Chapter Two) there is evidence that the categories of SP and AVPD are likely describing two populations with meaningful differences (Marques et al.,

2012; Eikenæs et al., 2016), and hence a third option would be to review the criteria to better define each disorder. In order to do this, it is necessary to better characterise the disorders, and capture the key features in the criteria chosen to classify them. Whilst many studies have been undertaken to determine key features of SP, very little research of this nature has been reported in AVPD (Mendlowicz et al., 2006; Wright et al., 2013). It has been argued that there is a need to develop a better conceptual understanding of AVPD (Carmichael et al., 2016). Various methodological approaches might be useful, but qualitative research offers the opportunity to provide a foundation of information upon which further investigation can be built.

Qualitative methods may be especially useful for exploring personal meanings and lived experience, and can give voice to the disadvantaged or marginalised (Pistrang and Barker, 2012). The National Health and Medical Research Council (NHMRC, 2007) notes that qualitative research involves disciplined enquiry and can bring better understanding of the experiences of individuals and groups. It can also help researchers to gain new insights into complex concepts and social processes, and inform the diagnosis, phenomenology, understanding and treatment of psychiatric disorder (Whitley and Crawford, 2005). Pistrang and Barker (2012) note that qualitative methods “...are valuable for inductively generating theory and are therefore often used in underresearched, undertheorized areas in which exploratory work is needed” (p.6). Qualitative methods are uniquely well positioned to seek and describe meaningful differences between SP and AVPD.

It is recognised that the insights of qualitative research can be complementary to those obtained through quantitative methods (Braun and Clarke, 2014) and it has been argued that qualitative methods may be an increasingly relevant methodology for the complex questions

identified in modern psychiatry (Whitley and Crawford, 2005). Thematic analysis, a qualitative technique employed in the current study, is able to yield rich detail and complexity (Braun and Clarke, 2006). Involving the same participants in qualitative and quantitative research on a topic is an established precedent (Pistrang and Barker, 2012).

Several additional aspects of the topic area also supported the value of a qualitative approach. The majority of published research in the field has been quantitative research mostly based on participants with a primary diagnosis of SP. The qualitative experience of individuals has not been explored, other than in some published case reports, the focus of which was response to treatment (Hofmann, 2007; Pos, 2014). The reticence which is at the core of AVPD is likely to limit the power of persons with the disorder to contribute important information which may be highly relevant to understanding the condition and hence developing effective treatments. In this regard it was also noted in Study 2 (Chapter Five) that a number of participants had virtually no social interaction, and hence were not able to endorse criteria that asked about their behaviour in social interactions or intimate relationships. Finally, the current context of mental health respects lived experience, and mental health research has come to recognise the importance of participation (Pistrang and Barker, 2012). A qualitative understanding can inform patient-centred care, which seeks to understand and integrate biological, psychological and social aspects of a patient's life. Such an approach is increasingly advocated (Stewart, 2001), including by peak healthcare bodies such as the Australian Commission on Safety and Quality in Healthcare (2011). Qualitative research offers the opportunity to address each of these issues.

7.1.1 Development of the research questions and hypotheses

The overarching aim of the study was to learn more about the cognitive, emotional and behavioural experience of AVPD, with a view to furthering the aims of the whole thesis to explore differences with SP. In particular, this study sought to determine the motivational factors that underlay the symptoms and behaviours measured in the quantitative studies reported in Chapters Five and Six. The criteria for AVPD cover social and interpersonal fears (rejection, criticism, humiliation), negative self-concept (inept, inferior, unappealing), and avoidance of social activities and interpersonal interaction. Clinical experience supported the importance of these factors in AVPD, but the links between the cognitive and behavioural aspects of AVPD remain theoretical.

The DSM-IV criteria for AVPD are given in Appendix A. Fear of rejection features in two DSM criteria: “Avoids occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection” (Criterion 1) and “Is preoccupied with being criticized or rejected in social situations” (Criterion 4; American Psychiatric Association, 1994). The candidate’s clinical experience suggested that rejection had a different meaning for persons with AVPD from the common usage. Commonly, “rejection” appeared to be a term used in association with situations in which the individual feels that another or others did not agree with their point of view, or desire further social interaction. In contrast to this limited, situational scope of meaning for “rejection” (that is, limited to a context or an aspect of the individual’s personality or behaviour), clinical impression suggested that individuals with AVPD viewed rejection as being a more global rejection of them as a person, a judgement that they were of no worth. This was not captured in the DSM

criteria, nor was it explored in structured diagnostic personality interviews, such as the SCID-II or the IPDE.

Negative self-concept is captured in one AVPD criterion (“Views self as socially inept, personally unappealing, or inferior to others”; Criterion 6). Clinically, a sense of inferiority appeared common and, compared to SP, more all-encompassing of the individual. A negative self-concept is also postulated as being strongly associated with a fearful attachment style (described in the systematic review in Chapter Three), hypothesised to be strongly associated with AVPD. Study 3 (Chapter Five) showed that the most frequent attachment style in those with AVPD was indeed the fearful style, much more so than for those with SP-only. Hence, self-concept was an important target of the qualitative enquiry in this thesis.

Only three of the DSM-IV (and DSM-5) criteria explicitly address motivation for behaviour (“Avoids occupational activities that involve significant interpersonal contact *because of fears of criticism, disapproval, or rejection*”; “Shows restraint within intimate relationships *because of the fear of being shamed or ridiculed*”; “Is unusually reluctant to take personal risks or to engage in any new activities *because they may prove embarrassing*”; italics added; American Psychiatric Association, 1994; American Psychiatric Association, 2013). These criteria all describe patterns of avoidance, both overt and more subtle, such as showing restraint. Avoidance is a commonly employed coping strategy, and may be used both to avoid unpleasant affect as well as feared consequences of a situation or behaviour (Farris et al., 2015; Lampard et al., 2011; Shahar and Herr, 2011; Trew and Alden, 2012). Therefore one question was to better understand the drivers of avoidance in AVPD: what thoughts, beliefs and attitudes led individuals to rely so heavily on avoidance as a behavioural strategy?

In addition to exploring these key aspects of AVPD, the aims of this qualitative study were to explore areas of difference and overlap with SP, and to gain participants' own views about this. Participants' views on the causes of their problems was also a focus, since this had the potential both to inform testable hypotheses for future study, and because causal attributions are generally relevant to psychological treatment approaches (Amir et al., 2010; Hilt, 2004).

A summary of the research hypotheses and questions is presented in the box below.

- *What core personal, cognitive and behavioural attributes are characteristic of AVPD?*
- *How well do the DSM-IV criteria cover the lived experience of AVPD?*
- *What is the nature of social relationships and what variables are important?*
 - Hypothesis: Individuals with AVPD are more comfortable with strangers, and become less comfortable as they spend more time with people due to fears that their essential inadequacies will become apparent.
- *What does "rejection" mean? Why might it occur? What are the perceived consequences?*
 - Hypothesis: Rejection is perceived as a catastrophic and permanent global judgement on the person.
- *How integral are inferiority and negative self-concept to AVPD and how can they be better understood?*
 - Hypothesis: Feeling inferior is an integral aspect of AVPD.
- *What is the relationship of avoidance to the underlying concerns of AVPD? What motivates avoidance and does it have a purpose? What are the consequences?*
 - Hypothesis: avoidance is the pre-eminent strategy employed to avoid rejection; it contributes to the lack of longed-for relationships and associated distress.
- *What differences are apparent between AVPD and SP?*
 - Hypothesis: an important difference is that AVPD is associated with a more globally negative self-concept.

7.2 METHODS

7.2.1 Case Study methodology

Case study methodology was chosen as the most appropriate for this study. Case study methodology enables links to be drawn between reported symptoms and behaviours measurable by quantitative tools, and the drivers and motivations behind those measured factors. It allows understanding of both the process and outcome of a phenomenon.

Additionally, it allows the researcher to examine context, and to compare similarities between cases (Crabb and Chur-Hansen, 2009), a key objective of this thesis. It has been argued that psychiatrists and other mental health professionals have skills acquired through training and clinical practice that make them well equipped to conduct qualitative research, particularly employing case study methodology (Crabb and Chur-Hansen, 2009; Cutcliffe and Goward, 2000).

7.2.1.1 *Evaluative rigour*

Evaluative rigour refers to properly addressing ethical and any political aspects of the qualitative research (Kitto et al., 2008). Ethics approval was obtained from the University of Sydney Human Research Ethics Committee (USyd HREC) to approach individuals who had participated in the quantitative study. The initial consent had been only to the quantitative study, with no specific consent obtained to re-contact participants. The HREC was appropriately concerned about protecting the privacy of individuals and reducing the potential for individuals to feel pressured to participate. These concerns were addressed in a number of ways:

- I am a fully qualified psychiatrist with more than 20 years of clinical experience, including the treatment of many individuals with SP and AVPD. As a researcher I had been able to establish a good rapport with the participants when they attended for the diagnostic interviews in the earlier studies and was confident of having the sensitivity to be aware of any discomfort or excessive fragility of participants.
- Email was chosen as the medium of communication as it provided a means for invitees to passively and indirectly decline participation by simply not responding. This was important for a group of people who become highly anxious about social

interaction, especially if it involves disagreeing with another person or having to decline a request. The vast majority of participants in the earlier studies had been very comfortable with email's "arms length" quality. Email communication allows the recipient time to think about the message, and their response, and thus has the potential to both increase their comfort level and allow free response. As detailed in the submission for ethics approval, I therefore proposed to email selected participants from the first study with information and an invitation to participate in the current study. I proposed to email each person only once. If no reply was received, this would be taken as sign that the individual did not wish to participate. There was to be no further communication with that person.

The USyd HREC approved recontacting former participants with these safeguards in place. The Participant Information Statement and Consent Form are included in Appendices F1 and F2. As approved by the HREC, participants were reimbursed for their travel expenses up to a maximum amount.

7.2.2 Sample and Recruitment

7.2.2.1 *Sampling*

Purposive sampling was employed to achieve depth and richness of data collected about AVPD, by maximising the number of individuals with AVPD-only. Information richness is a key requirement for qualitative research (Fossey et al., 2002), and purposive sampling is often employed as a means of identifying participants able to provide data on the phenomenon of interest (Kisely and Kendall, 2011), as in the current study. Selected individuals who had participated in the quantitative studies reported in Chapters Five and Six

of this thesis were invited to return for the current study. Individuals were selected for possible participation on the basis of meeting criteria for AVPD on the IPDE, with those in the AVPD-only group selected first. As not all of those approached responded, participants with SP+AVPD were invited next.

7.2.2.2 Context

A total of 21 individuals who had completed the earlier, quantitative studies were invited to participate in the current study. Participants in the initial quantitative studies had either discovered the research for themselves through internet searches, or been informed of the research when attending a psychiatric outpatient clinic. The candidate was working at one of these clinics as a psychiatrist, and participants attended the clinic for the qualitative interview. Although qualitative research is often conducted in the participant's home, in this study participants were asked to attend the clinic during business hours for reasons of candidate safety. Although the social reticence inherent to AVPD may have been a barrier to participation for some, it could also be argued that for a group of people who are highly interpersonally sensitive and cautious, having a researcher come to their home could have been experienced as intrusive and anxiety-provoking.

My personal context was also relevant as an experienced psychiatrist but also a researcher. I was used to clinical assessments and providing treatment for persons with many types of psychiatric disorder, including the conditions of interest, in which the provision of health information was an integral part of the role. In this research I needed to maintain an attitude of seeking information, and the role of a researcher, not a provider of treatment. I followed the guidelines in the National Statement on Ethical Conduct in Human Research (2007) of the

NHMRC (updated May 2015) and had a pre-determined strategy, made known to potential participants, of providing advice about treatment and referral if this was requested, but not personally providing treatment. In the earlier (quantitative) studies I had provided a brief summary of the personality interview and diagnostic questionnaire results if participants wished to have this information, for example, to take with them to a mental health specialist.

7.2.3 Data Collection

A semi-structured interview guide was developed based on the research questions, which had been identified through interactions with the participants recruited for the earlier studies. All the interviews were conducted by the candidate, at the candidate's place of work. One of candidate's supervisors observed one of the interviews. Participants gave consent for the interviews to be recorded by means of a digital audio recorder and transcribed by a data transcription service. A strict verbatim (orthographic) transcription was used, then checked for accuracy by the candidate, by listening to the recordings and checking them against the transcription.

An iterative process was used whereby the interview script was reviewed and modified slightly as the interviews proceeded. For example, based on the responses of participants, some questions were reworded from relatively closed to more open, and additional probes were added. Transcription and coding of data was initiated soon after each interview was completed, which informed iterations of the interview schedule.

7.2.3.1 *Development of the interview schedule*

The interview schedule is shown in Appendix G. It was developed to ask questions relevant to the hypotheses outlined in section 7.1.1 above. The schedule went through four iterations,

consistent with the emergent nature of the research process (Fossey et al., 2002). Minor changes were made to question wording: a number of questions had initially been worded in a way that invited “Yes/No” answers, and interviewees were not elaborating further; several persons did not currently have any close friend or confidant, so the question was changed to explore any past such relationships; and asking more specifically how interviewees related to the DSM-IV criteria for AVPD. Early interviewees also raised a number of issues that had not been anticipated by the candidate but which clearly appeared of relevance, so these were added. These included:

- If the person had discovered the study for themselves, what had prompted them to go looking for information.
- Questions about avoidance of conflict/confrontation.

7.2.4 Data analysis: Approach

7.2.4.1 *Philosophical perspective*

The candidate approached the study principally from a realist or essentialist perspective, that is, accepting the experiences, meanings and reality of the participants as the phenomena of interest, without seeking to explore the ways in which these experiences might be the result of societal discourses or the broader social context (Braun and Clarke, 2006).

7.2.4.2 *Analytic approaches: thematic analysis, grounded theory and interpretive phenomenological analysis*

Thematic analysis of the transcripts was conducted, using principally an inductive and phenomenological approach, and including latent level analysis and interpretation. The

definitions of these terms relevant to this study are briefly outlined in the following paragraphs.

Thematic analysis is a flexible and broadly applicable strategy that may be considered atheoretical. It seeks to identify patterns or themes in the data, and to organise them.

Thematic analysis is able to yield rich detail and complexity (Braun and Clarke, 2006).

An inductive approach has been described as a “bottom up” approach in which the investigator treats the subjects as the experts, and seeks to derive a theory from the material presented; this approach is thus strongly linked to the data (Braun and Clarke, 2006; Fossey et al., 2002; Bryant and Charmaz, 2012). The inductive approach most closely matches that of “grounded theory”, an approach that aims to develop a theory to explain the data that arises from, and is thus grounded in, the data. Authors differ as to whether this thematic analysis approach is (Crabb and Chur-Hansen, 2009) or is not (Braun and Clarke, 2006) the same as grounded theory, possibly reflecting divergent views in the field (Pistrang and Barker, 2012). At the latent level, thematic analysis seeks to identify the concepts, assumptions and ideas that are postulated to underlie the observed themes.

Phenomenological approaches aim to explore participants’ lived experience (Smith and Shinebourne, 2012), especially their inner experience, the meanings they attach, and their perceptions of the world. It derives from client-centred and existential movements in clinical psychology (Pistrang and Barker, 2012) and is particularly suited to a psychiatrist researcher seeking to understand participants’ motivations and beliefs. Indeed, interpretive phenomenological analysis was originally developed within a health psychology setting.

Researcher bias and reflexivity

Although the main intention was to use an inductive approach, focussing on the data to identify themes and derive theories, it was natural to be influenced by my own existing theories and ideas coming from extensive clinical experience, prior academic publications (Lampe, 1994; Lampe, 2016; Lampe et al., 2003), findings from the earlier studies of this thesis, and my own socio-cultural context. Authorities in the area of qualitative research in psychology have noted the inevitability of this (Braun and Clarke, 2006). A researcher must remain “permeable”, or open, to new insights from the data. Developing an awareness of the influence of prior conceptions, and taking action to remain permeable to new ideas is referred to as “reflexivity” and seen as essential to good quality (Kitto et al., 2008). Reporting these influences for the reader to consider in evaluating the quality and applicability of the research is referred to as reflexive reporting (Fossey et al., 2002). The question script, developed by the candidate, would certainly have influenced the data elicited, however, the script development itself was an iterative process, most influenced by impressions gained from persons with AVPD, and slightly modified over the course of the study in the light of responses. Methodological rigour was enhanced by having a supervisor observe the performance of the questionnaire during an interview, and contribute to the process of script development.

As an important element of reflexivity, the candidate explicitly identified hypotheses that had been developed prior to the study, perhaps most saliently the view that there are differences between AVPD and SP. Pre-conceived hypotheses have been noted above so that the reader is able to consider the potential for these hypotheses to colour the interpretation of the data.

7.2.4.3 *Interpretative rigour*

Interpretive rigour concerns the “trustworthiness” of the interpretations made of the data.

This includes the authenticity of the reporting such that it accurately reflects the views expressed by the participants (including dissenting views), and coherence of the presentation, including the linkages drawn between the data (Fossey et al., 2002; Kitto et al., 2008).

Authenticity was addressed by the use of verbatim quotes, and inclusion of a range of views, including dissenting views.

Although the candidate coded the data and identified themes, consultation with experts and discussions with colleagues assisted in achieving coherence. I consulted closely with a supervisor in the coding of the first few cases, and benefitted from his guidance and suggestions, but was reassured that we agreed closely on how and what data was coded. As I began to identify themes I was able to discuss them with experienced psychiatry and psychology colleagues, which assisted as a check that the themes made clinical sense to these clinicians experienced in assessing and treating disorders of social anxiety. Confidentiality of participants was not threatened as no participant details were discussed, and only general themes were considered. At two stages during the process of coding and developing themes I was able to meet at length with an experienced qualitative researcher who extensively employed interview methodology and thematic analysis in her work. This person was not a mental health professional, and the process of having to explain the background of the disorders under study, clarify the meaning of codes and themes and articulate my developing theories around them helped enormously in ensuring that the themes were clear and the theories were coherent. Confidentiality of participants was maintained: only pseudonyms

were used without identifying demographic details apart from gender and approximate age; only I and my supervisors had access to transcripts.

7.2.4.4 *Saturation*

Saturation has been defined as the point at which no new material emerges from additional data (Kisely and Kendall, 2011). After multiple repetitions across participants, and within and across questions, a point was reached at which no new patterns appeared to be emerging. In consultation with my supervisors, I considered that the data had reached saturation. This concluded the data gathering and no further interviews were conducted.

7.2.5 Data analysis: strategies

7.2.5.1 *Attention to verbal and non verbal communications*

Vigilance for emerging themes was present at all stages of the study: during the interviews, when checking the transcripts and listening to the recorded interviews, and during the coding process I was alert for patterns and repetition of ideas or experiences.

During the interviews I paid attention to my impressions at the time, and to non verbal communication, and made contemporaneous notes of these observations, for later reference. In reviewing the audio recordings and the transcripts, I paid attention to the nuances of verbal communication, such as word emphasis and tone, and made notes where relevant.

7.2.5.2 *Coding and generation of themes*

The first formal step in data analysis was to code the data in each of the transcripts. Content such as words, sentences and clusters of words in the transcript that represent behaviours, consequences, events, activities, beliefs, meanings, relationships, for example, may be

labelled (coded). Coding is not just a process of reducing or summarising a large amount of data, but should include an analytic aspect, capturing both conceptual and semantic aspects of the data (Clarke and Braun, 2013). I began coding by summarising content and attaching more descriptive labels, as advised by Braun and Clarke (2006; 2012). Reviewing the existing transcripts and analysing new transcripts as interviews were completed facilitated my grouping codes together and moving to more analytic codes.

Identifying themes is an active, deductive process by the researcher (Braun and Clarke, 2012; Kisely and Kendall, 2011). Indeed, Braun and Clarke (2012) argue persuasively against use of the phrase “... themes emerging from the data...”. They note that themes must be actively looked for, but add that neither should the investigator expect that a theme that will emerge fully formed as though uncovered by an archaeological dig (p. 63). Mindful of this, as the early interviews were coded, tentative themes and hypotheses were developed from the data. These were tested with further participants, using a constant comparative method (Kisely and Kendall, 2011). As more information was gathered in subsequent interviews, naming of these themes was refined in an attempt to best reflect what they represented in the participants’ data. Codes were organised into these themes, and discussions with my supervisors assisted in refining and confirming themes.

7.2.5.3 Use of computerised data analysis software

NVivo data analysis software version 11 (QSR International, 2015) was used to assist in the interrogation, analysis and graphic visualisation of data. Coding and generation of themes was first conducted manually, then NVivo was used to assist with completeness of

examination, to facilitate asking more detailed questions of the data, to link quantitative data available for the participants and to generate graphics to assist in presentation of the results.

Word frequency analyses are a type of content analysis that can be helpful for identifying patterns in the data (Braun and Clarke, 2006). NVivo was used for such analyses and also for graphical presentation of the results in “word clouds”. In word frequency analyses, conjunctions, prepositions, fillers, pronouns and words that might obscure a deeper understanding of the data, were excluded from consideration. A list of all excluded words (“stop words”) is given in Appendix H. Specifications regarding minimum word length (3 or 4 letters), most frequently occurring words (500 or 1000) and method of word matching (exact, “stemmed”, e.g., talk/talking/talked; or synonyms) were selected to maximise the clarity of the word cloud and its accuracy of representation of the data. Sources for word frequency analyses included quotes drawn from participant transcripts and coded into “Nodes” on NVivo, as a way of organising themes and subthemes; and also interpretive and summary phrases developed by the author during analysis. Examples are shown in Table 7.1. NVivo software enabled both types of information to be grouped together whilst preserving the ability to link to sources.

7.2.6 Reporting conventions

Direct quotes from participants are reported in “intelligent verbatim” style, that is, with excessive word repetitions, false starts and fillers removed, except in cases where the candidate felt this would adversely impact on conveying important aspects of the communications. This decision was made in order to improve readability of the quotes, and out of respect for the interviewees, to assist in making their message clear.

Table 7.1: Direct quotes and author-generated summarising or interpretive phrases

Theme	Example of quote	Example of author-generated phrase
Avoidance	"And I guess avoiding it - that I haven't really had that much rejection"	Avoidance stops them from getting help
Hypersensitivity	"Yeah, I think I'm always trying to look to see what somebody's thinking of me."	Hypersensitive to possibility of not being liked - won't take the chance

7.3 RESULTS

The results will be presented in three sections. Firstly, characteristics of the interviewees will be presented. Secondly, answers to the specific questions posed by the study will be addressed. Finally, the themes generated from analysis of the participant data will be presented.

7.3.1 Sources of data

A total of 21 participants from the earlier studies were invited to participate. Eleven individuals were interviewed but saturation was reached after 8 participants and coding ceased. These 8 participants included 5 men and 3 women, ranging in age from 21 to 50 years. Five of the participants met criteria for AVPD without SP, and three met criteria for both conditions.

7.3.2 Representativeness of data

Representativeness of the data may be considered by comparing attributes of those invitees who agreed to participate: with those who declined, with the larger group of participants with AVPD in the previously reported studies in this thesis, and with the broader population of persons with AVPD. Relatively little is known about the latter; some large community studies suggest that women are affected more commonly than men and that AVPD is more prevalent in lower socioeconomic tiers, the less well educated and the unpartnered (Grant et al., 2004;

Lampe and Sunderland, 2015). However, other community studies failed to find gender or socioeconomic differences (Coid et al., 2006; Lenzenweger et al., 2007), suggesting that there may be relevant geographical, cultural and measurement factors. Referral setting was considered as a possible source of bias in the sample, but did not appear to differ substantially between those who did and did not agree to participate in the current study. The original recruitment setting and the outcome of the invitation to participate in this study is shown in Table 7.2.

Table 7.2 Outcome of invitation to participate in qualitative study by initial recruitment setting.

Outcome of invitation to participate	Means by which person found out about the research program		
	Own internet search	Psychiatric outpatient clinic visit: with candidate	Psychiatric outpatient clinic visit: other clinic/clinician
No response	N = 2	N = 2	N = 4
Completed study	N = 5	N = 1	N = 5
Responded but circumstances prevented participation	N = 1		N = 1

Compared to the total group of participants in the earlier studies, these participants were similar in age (mean 33.5 years compared to a mean of 34.9 years in the total sample). A somewhat greater proportion of the interview sample was male (62.5%) than in the total sample (45%). The mean dimensional score on AVPD was 9.5, which compares to 10.5 for the AVPD-only sample and 10.1 for the SP+AVPD sample, suggesting that the subsample that participated in the current study was comparable to the larger sample. Only three of the participants had ever partnered; in the larger sample with AVPD, 37-50% of participants had ever partnered.

The level of comorbidity was comparable to the full sample with respect to depression and dysthymia: one participant had comorbid major depression, three had comorbid dysthymia, one had both depression and dysthymia. However, the level of comorbidity for anxiety was

lower than for any of the three sample groups in the earlier studies, with only three of the participants having a comorbid anxiety condition apart from SP. With respect to personality comorbidity, the average dimensional scores appeared a little higher for obsessive-compulsive personality (4.4 compared to 3.2-3.6), schizotypal (2.1 compared to 0.6-1.7) and possibly schizoid (2.9 compared to 1.1-2.6). Scores appeared a little lower for anti-social (0.4 compared to 0.6-1.6; noting that these are all very low scores). None of the scores reached the threshold for diagnosis.

Comparative scores on disability, distress, shyness, self-esteem, temperamental factors and childhood abuse and neglect are shown in Table 7.3 for the qualitative interview sample compared to the total sample. No significant differences were evident for mean/median scores between the group of 8 persons participated in the current study and the larger sample (Mann-Whitney U tests; Bonferroni corrections for multiple testing) suggesting that this group was representative of the larger sample.

Table 7.3: Comparison of median scores and interquartile ranges on symptom and disability measures for qualitative sample compared to whole sample.

Variable	Qualitative sample N=8		Total sample N=67	
	Median	IQR	Median	IQR
BAS drive	8	5	8	3
BAS fun-seeking	8.5	6	10	4
BAS reward	13.5	8	15	3
Behavioural inhibition (BIS)	23.5	5	26	3
Childhood neglect/negative home atmosphere (CATS)	1.93	1.18	1.5	0.93
Childhood punishment (CATS)	0.92	1.54	1.5	1
CATS total	1.16	1.04	1.1	0.84
DASS depression	24	26	20	16
DASS anxiety	8	12	12	12
DASS stress	16	15	18	16
Distress (K6)	20.5	4.3	18	7
Extraversion (NEO E)	16	8	17	10
Neuroticism (NEO N)	35	7	36	9
Shyness (RCBS)	47.5	8.5	49	8
Self-esteem (RSES)	17	2.8	21	8
Disability (WHODAS)	26	23	27	23

Notes to table:

BAS: Behavioural Approach Scale; BIS: Behavioural Inhibition Scale; CATS: Childhood Abuse and Trauma Scale; DASS: Depression, Anxiety and Stress Scale; K6: Kessler 6 item scale; NEO E: NEO-FFI Extraversion score; NEO N: NEO-FFI Neuroticism score; RCBS: Revised Cheek and Buss Shyness scale; RSES: Rosenberg Self Esteem Scale; WHODAS: World Health Organisation Disability Assessment Schedule.

7.3.2.1 *Brief description of participants*

Below is a brief outline of the demographic characteristics of the participants, who have been given pseudonyms. Where their jobs might have provided clues to identification, the description has been changed slightly, but is indicative. The stated age is at the time of the interview.

The interviewees are introduced in the order of their interviews.

Alice was a 31 year old married woman who had recently had her first child and left her clerical job to be a full time homemaker. Alice met criteria for AVPD without SP in the quantitative study.

Ben was a 29 year old single man who lived in share accommodation and had casual employment in retail stock management. Ben met criteria for both AVPD and SP.

Carla was a 50 year old woman who had recently moved in with her partner, and recently ceased employment as an administrator because her social anxieties made it difficult and exhausting to work. Carla met criteria for AVPD but not SP.

David was a 36 year old single man who lived at home with his parents. He was employed as a carer. David met criteria for AVPD but not SP.

Ellie was a 21 year old single university student who lived at home with her parents. Ellie met criteria for both AVPD and SP.

Felix was a 32 year old man who lived with his partner and worked in a technology field. Felix met criteria for AVPD but not SP.

Greg was a 28 year old man living in share accommodation. Formerly in a sales position, he was unemployed at the time of the interview. Greg met criteria for AVPD but not SP.

Hans was a 40 year old single man living in share accommodation and working as a courier. Hans met criteria for both AVPD and SP.

7.3.2.2 Overall impression of participants

Participants impressed by their willingness to be involved and contribute. All appeared quite comfortable with the interview, and some observed that they had found it helpful. Many of the interviewees shared a self-deprecating attitude, often together with a gentle sense of humour directed at themselves. This indicated a generally high level of self-awareness, consistent with what interviewees often reported was excessive introspection.

Discussing their predicament was distressing at times for some participants, and also for me. This was especially the case for those who seemed to have a lonely, isolated existence that was not what they had hoped for in life. It was also very sad to hear the deeply negative views individuals had of themselves, when they appeared to the candidate to have many positive attributes and likeable qualities. For example, a shared sensitivity to the needs and welfare of others appeared as a strong positive quality.

7.3.3 Responses to specific study questions

7.3.3.1 *Identification with AVPD as a concept*

In response to the script question regarding identification with AVPD, six of the eight participants indicated they identified strongly with the description of the syndrome when they first heard or read about it. For example, Carla referred to it as “an epiphany” and Greg said of the clinician who had assessed him when he sought help at an outpatient clinic:

“... when he was mentioning what avoidant personality disorder was I was just thinking, ‘that’s almost bang on the money for me.’”

However, David responded that he hadn’t been sure whether AVPD applied to him when it was first suggested to him by a mental health professional, and Ben didn’t clearly recall being told explicitly that his clinician thought he had this diagnosis.

Few of the participants were aware of the DSM or ICD criteria for AVPD. When shown the list of criteria, most of the participants endorsed them. Each criterion was not explored specifically with participants, but responses made during the course of the interview often provided important information about whether and how criteria were met. This information

was generally richer and more nuanced than that obtained through the diagnostic interview used in Study 3 (Chapter Four).

All participants readily agreed that they avoided “... occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection” as described in the first criterion for AVPD. With respect to the criterion “Is unwilling to get involved with people unless certain of being liked”, only Hans felt that he would not be restricted by uncertainty about whether someone liked him:

“... it might be uncomfortable but you come across people who don’t like you ... [laughs], so, yeah, you’ve just – it doesn’t stop me from getting involved with them.”

Other criteria will be explored as they are relevant under the headings below.

7.3.3.2 Experiences in close or intimate relationships (DSM-IV criterion 3)

“I enjoy watching [TV shows] where people are getting along with each other and talking and having really funny conversations and I just, kind of, pretend that I can be there ...”

Ben

DSM-IV criterion 3 requires that a person shows restraint within intimate relationships because of the fear of being shamed or ridiculed. Although participants did not specifically agree or disagree with this criterion when shown it on a list, it later became evident through their descriptions of positive, trusting intimate relationships that few actually met the

criterion. In this sample, some participants had not experienced intimate romantic relationships, and Hans had probably never had any type of close relationship (although in recent months he felt this might be starting to happen). Seven of the eight had had at least one close friendship in their lives. Only Carla endorsed the occurrence of negative responses such as shaming, criticism or humiliation, in her current romantic relationship; she did not so much fear it as see it as a reality of the situation. She felt she could not completely trust her partner with her innermost thoughts and feelings, and she didn't think there had ever been anyone with whom she could. The other currently partnered participants (Ellie, Alice and Felix) were confident of their partner's support and approval, and comfortable opening up to them.

As Ellie said:

"I guess the people – like my boyfriend and my two closest friends. I guess it's more like they have shown over time that they won't judge me or reject me for just being myself."

Those who had had close relationships in the past, whether platonic or romantic, reported that within these relationships they had not feared criticism or rejection.

7.3.3.3 *Rejection*

“... rejection is a crystallisation of all of the things I suspect about myself ...”

Greg

DSM-IV refers to fear of (criterion 1) and preoccupation with (criterion 4) rejection. Findings confirmed the hypothesis that “rejection” in AVPD can have a particular meaning. In fact, it is seen as a catastrophic outcome. The majority of participants experienced rejection as a global judgement of unacceptability or inferiority. At the same time many participants observed that it had not actually happened to them much if at all. For some it was more a theoretical or potential situation that was associated with anticipatory fear and dread. Some felt that it was their avoidance of social interaction that had protected them from rejection.

David clearly had a sense of rejection as being a global judgement of his worth:

“Rejection to me would be rejection of myself, I suppose. Rejection of me... I guess it would mean cancelling me out.”

Ellie’s views of rejection were complex. On the one hand she saw it as “people rejecting aspects of me”, but since she felt she couldn’t change these aspects, concluded:

“It feels like someone’s saying something – like you are wrong as a person...”

This seemed to indicate a concern about rejection of her as a person.

Greg’s view also indicated that he saw rejection as global. This response from a person who appeared to have so many likeable qualities was very saddening to hear:

“... when [I] meet someone for the first time I tend to go out of my way to, sort of, impress them and if I fail at that it’s ... that rejection is a crystallisation of all the things I suspect about myself, you know. It’s – it’s an even bigger burden knowing that other people see you like that ...”

Greg’s quote suggests that rejection feels like a judgement of him, and that it is made worse if he feels that he has been rejected despite presenting the best possible version of himself. However, there were differing views. Hans related that being “brushed off” by someone might feel like rejection, although he claimed not to be particularly bothered by rejection. Although somewhat difficult for her to articulate, Alice experienced rejection more personally, in line with the “global” hypothesis:

“I think it just means, [pause] I guess just very personally, um, feeling that you’re not - you’re not good enough, for some reason... and I guess that’s something to do with me as a person, and something to avoid ...”

Ben experienced confusion and uncertainty around rejection. He felt it was usually subtle, and open to conjecture, such as, for example, if he discovered through social media that his friends had gotten together without him – was this a rejection of him, he wondered?

Avoidance of rejection might be achieved through avoidance of social situations, or as some respondents seemed to suggest, by trying to present a more acceptable (but inauthentic) version of themselves.

7.3.3.4 *Perceived differences to SP*

Several of the participants had explicitly considered this question. For the most part, they viewed SP as being much more about situational anxiety than was the case in AVPD. Some also focussed on avoidance. Some participants, such as Ben (who also met criteria for SP), described debilitating anxiety in social situations or under scrutiny in the past that had led to a policy of avoidance. However, he felt that anxiety was much less prominent in AVPD compared to SP, because he avoided nearly every type of social situation. David agreed with this view, saying:

“I guess I don’t put myself in situations where I am putting myself out there.”

Carla said:

“... when I read the description of avoidant personality disorder I thought it was absolutely spot on and ... I think it's different from other social disorders and for me it was important to make the difference because ... the impact is actually quite massive on life... for me it's all in the word avoidance...”

And also:

“Particularly the fact that it’s not all social occasions that make me feel anxious, and it is particularly things about not being accepted or liked. I’m not necessarily anxious about all kind of social things. And sometimes if I’m quite confident about something, for example, if I have to do some public speaking, I can actually manage to do that if I really know my topic.”

Ellie said:

“I don’t have that one on one ... simple interaction social anxiety. It’s more like - if people know me or see beyond the surface, that freaks me out.”

Carla noted that her anxieties were more about the “personal”, as in who she was as a person.

But Felix said, “I wouldn’t know the difference between the two” and Greg replied, “I couldn’t say for sure. I was wondering about that a little bit, you know.”

In general, although participants identified with the descriptions for AVPD and thought that their experiences in many cases were not typical of SP, some did in fact describe prominent symptoms of anxiety in social situations, past or present, more consistent with the definition of SP. For example, Alice (AVPD-only) was anxious about being watched while doing something at work, and feared that her hands would start shaking; Ben (SP+AVPD) did not like to eat in front of others; David (AVPD-only) described a discomfort with being the centre of attention (unless he could “control” it, for example, deliberately acting like a clown) and Greg (AVPD-only) described heightened anxiety in social situations. The earliest memories of anxiety for Hans (SP+AVPD) were performance-based, at the age of ten years. Some participants described fears that were consistent with both AVPD and SP, for example, Ellie (SP+AVPD) and Alice closely monitored others’ reactions to try to glean their impressions, and Alice described “over-thinking” social situations, with intense self-focussed attention and attempts to “analyse” how she is coming across to others and what they might be thinking about her.

7.3.3.5 *Pattern of social concerns*

“... in a situation where there is no tomorrow, I don’t have a problem at all...”

Carla

DSM-IV criterion 5 specifies inhibition in new interpersonal situations. Respondents generally had not considered explicitly whether there was any particular pattern to their social concerns, but in discussion, many were able to identify both a temporal and contextual pattern. However, there was little consensus around identified patterns.

Hans was concerned that if he spent more time with people, they would just begin to find faults with him. Greg was concerned that when he did create a good impression, he might struggle to keep this up and be consistent over time:

“I know they’d like me to be around more but I feel like if I do I’ll let them down. You know, I’ll let their impressions of me down ...”

Ellie felt more anxious as she became closer to people, and her response indicates that this had something to do with others beginning to know her at a deeper level:

“But it’s like when I get close to someone is when I start freaking out versus just in general...”

Yet it seemed complex, since Ellie also indicated that it could get easier as she got to know others better:

“... if I’m around someone enough that I can see – and like I kind of am myself and so they don’t judge me or don’t freak out. Then I’m like, oh okay, this person isn’t going to not like me, so I can relax again.”

It is possible that when Ellie feels passively judged, and perhaps unaware of whether these judgements are positive or negative, she fears the worst and is acutely anxious, whereas if she is able to judge the evaluations of others as benign, she is more comfortable.

Alice felt that things generally became easier for her over time:

“I guess as time progresses I get a bit more relaxed. I start to, I guess, be less guarded in things that I say.”

David wasn’t sure, but thought he tended to become more comfortable over time.

Ben, Felix and Hans felt that they could become either more or less comfortable over time.

For Ben, on the one hand, in intimate relationships he tended to feel more confident about having the positive regard of his partner; however, he sometimes struggled to maintain a sense of connection. Typically he was unable to take the initiative and end a relationship, so the longer the relationship went on in the context of him not feeling particularly connected, the worse he might feel. Felix found that with some people he hit it off straight away, but with others he could know them a long time and still feel uncomfortable. He also observed that he tended to feel more comfortable when he shared a context with other people (e.g., voluntary work, playing a board game) or had a defined role (e.g., supervisor, mentor).

Carla felt that her comfort level rarely improved over time; even with people she had known 20 years she might continue to feel uncomfortable.

7.3.3.6 *Inferiority and negative self-concept*

“Lately I’ve been questioning, am I a valid person?”

Hans

DSM-IV criterion 6 requires an individual to view themselves as socially inept, personally unappealing, or inferior to others. When asked about a sense of inferiority, it was evident that participants generally harboured negative views of themselves in many spheres. All endorsed feelings of inferiority. For Greg, who noted a lifelong tendency to try to impress others to try to “make up for what I always felt I lacked in personality”, and Hans, who sometimes felt “less valid” than other people, it was central to their sense of self. Ben and David saw their failure to have achieved developmental milestones such as higher education, partnering and having a family as making them inferior. David described it as follows:

“I’ve got a job that’s quite easy ... I don’t have a house, I don’t have a fancy car ... I don’t really have any responsibility. I don’t really have any commitments. So inferiority is probably like, you know – where are you going, what are you doing?”

Some participants volunteered that they had talents, abilities and positive qualities, even if they sometimes experienced self-doubt. Carla and Felix could acknowledge that they had a high level of professional skill, yet Carla lost all confidence when interacting with others, and Felix felt that he was “inferior at all the things I don’t want to be inferior at”. Interestingly, Felix also saw his unwillingness to take risks as holding him back from “growing” and

becoming more skilled and hence less inferior. Ellie, David and Hans realised that thoughts of personal inferiority were “illogical” or unrealistic, but struggled to shake them off. Ellie was aware of the inherent contradiction in her beliefs:

“I know who I am and I’m pretty comfortable with that. It’s more just being afraid that other people won’t be comfortable with that... Which I wonder if I’m really comfortable with myself if I’m worried about that [laughs].”

Carla, Ellie and Greg said they were comfortable with themselves, but worried that others wouldn’t be. Ben described feeling confident about some personal attributes, such as his intelligence, but inferior in terms of life achievements. He felt that his fears and avoidance “just completely prevents me from being who I know I’m capable of being”. The issue of inferiority intersected with the identified theme of “Defective Self”, discussed in Section 7.3.5.3.

7.3.4 Themes generated from interview data

Six themes were developed to represent and organise the data. These were: Connectedness, Authenticity, Defective Self, Hypersensitivity, Behaviours and Impacts. Themes and subthemes are summarised in Figure 7.1, and will be presented below. Their contribution to developing a model of AVPD will be considered in the Discussion.

THEMES	SUB-THEMES
1. Connectedness	Doubt and distrust Distance from others Longing and loneliness
2. Authenticity	Role playing Hiding the true self Appeasement
3. Defective self	Shame, inferiority Constant negative comparison Lack of importance, validity
4. Hypersensitivity	Social sensitivity; hypervigilance Permanence Easily hurt Catastrophising
5. Behaviour	Avoidance Withdrawal Passivity Lack of initiation
6. Impacts	Impairment Distress

Figure 7.1: Themes and sub-themes generated from interview data

7.3.4.1 Theme 1: Connectedness

This theme was developed from participant descriptions of their past, present and hoped-for future relationships. It emerged that there is an intense and even painful desire for the close relationships that others seem to enjoy. These connections that others seem to have are observed from a distance created by fear. There is an intense “longing to have that life”, and a

sense of isolation and loneliness in feeling excluded from it by too great a fear of rejection, and doubts about the sincerity of others. In these respects the longing becomes at times emotionally painful. Intimacy was an aspect of Connectedness, but participants also referred to their desire for experiences such as companionship, and simply feeling a bond with another human being.

Three subthemes were identified:

- Doubt and distrust: trouble believing that the positive reactions of others could be genuine, leading to a holding back from others
- Distance from others: isolation, feeling different to others, an outsider, like an observer rather than participant
- Longing and loneliness

Doubt and distrust arise jointly from a sense of defectiveness (being defective, how could anyone truly mean any positive feedback) and the widespread use of a false or inauthentic self to present to others (if the individual is using this strategy themselves, then might others not also be doing this, and therefore what they say cannot be assumed to be truthful or genuine). The sense of personal defectiveness and presentation of an inauthentic self were prominent enough to justify their classification as separate themes, which will be discussed in more detail below.

The desire for meaningful relationships is a fundamental human drive, and a key focus of AVPD concerns relationships with other people. A word frequency analysis for connectedness examined the relative frequency with which words occurred in coding, author-generated summary phrases, and participant transcripts contributing to this theme. The

centrality of other people in comparison with and consideration of the self was underscored by the word frequency analysis and is illustrated in a “word cloud” (Figure 7.2).



Figure 7.2: Theme 1: Connectedness word frequency analysis presented graphically as word cloud based on coded transcripts and author-generated phrases (500 most frequent words; stemmed matches; 4 letter minimum length; additional word added to “stop words” for this analysis: feel)

Participants reported that others seemed to feel an interpersonal comfort that is denied them. This was more than feeling socially anxious or self-conscious, and had more to do with longing for a deeper interpersonal connection that they perceived others to enjoy. As Ben said:

“I don't feel very close to people even if I am in a close relationship. I just don't feel that connection that makes me happy or understood or not alone – in fact it becomes more intense, the feeling of loneliness, because I'm with other people and I should feel better but I don't, instead I start asking myself why?”

Fears about being rejected by others adversely affected the chances of connecting by making it difficult to trust others, or believe that positive responses could be genuine. There was also the fear of losing a relationship once established, and the pain that this would cause. Ellie described this:

“It's like being afraid of committing yourself to relationships with other people, because once you've committed yourself, if you get scared or if they don't like you, pulling back is a lot harder than if you just haven't gotten close at all.”

Ben even described pushing others to disengage from him, as possibly less painful than a rejection.

7.3.4.2 Theme 2: Authenticity

A core experience for every participant was a sense of being unable to be their authentic self in some or all situations. This theme had a number of aspects, or subthemes:

- Playing a role and seeking to appear “normal”

- Hiding the true (unacceptable) self
- Appeasing others and avoiding confrontation

Participants referred to playing a part, to being who they thought others wanted them to be or the type of person others expected or would accept. Sometimes this was a defined role, such as an occupational role. It could also be a social role, for example, Felix was very active as a volunteer in a respected community service organisation and had reached a level of supervising others. Most often it involved participants attempting to “read” others and deduce what would be seen as “normal” and acceptable.

Greg noted:

“So I’d serve up whatever I thought was going to get their attention or what they wanted to hear to a certain degree and then while I’m talking to them always looking at the face for the reactions to see how well it’s going down and then adjust if I have to ...”

Social roles often presented well defined boundaries, and enabled a degree of social comfort.

As Ellie said:

“Like, I am very great at service. I can do superficial or surface level relationships. But once I get to know someone, I’m like oh God, oh no...”

Ellie was alert to cues from others as to whether a belief or an opinion of hers, or an impulse to act a certain way would be viewed as acceptable and normal, and this would influence her in deciding whether to express that view or behaviour:

“If someone is acting in the way that I would [be inclined to] act, I’m like oh, it’s okay to be that way around this person, because they are doing it too.”

Greg had had the experience of being able to be his authentic self with a close platonic friend in the past, and his description of this experience was replete with longing:

“When that relationship was working ... all those anxieties and that tendency to worry about a hundred different factors is switched off and it’s just, you know, that natural instinct in reply as it comes through and you’re not pre-processing it through this filter of ‘how is it going to sound when I say it?’, if I imagine this person saying it. It’s just so freeing to just – yeah – be yourself and the reactions I get to that are so strong and so positive and I just always wonder why can’t it be like that 100% of the time”

Thus, even when Greg would get seemingly unequivocal positive responses from others, he could not internalise these responses enough to challenge his inner view of himself as inadequate. Unfortunately, that friendship had ended in complicated circumstances.

Ben described making an effort to appear confident and “cheery” when meeting new people; he did not see this as being authentic, but felt it was socially successful:

“...that’s just the way I’m supposed to behave and I think I manage that fairly well.”

Yet interestingly, he still worried that others might detect this inauthenticity:

“Even if I appear that way or do my best to appear that way it's still an act and they can still tell...”

David put considerable effort into appearing to fit in, principally by not standing out in any way unless he was able to control it, and felt he did a good job of this:

“Oh, yeah, I think I fit in socially – try to fit in socially all the time.”

Greg was explicitly aware of the defensive aspect of the strategy:

“Usually even before I know them and get an impression off them I’m going out of my way to make them like me, you know. It’s almost like a self-defence strategy...”

Greg in fact had had so many “personas” for different groups when he was at school that he had trouble keeping them “all in line”. But at the same time, none of the interviewees felt that they were able to be their authentic self. Greg felt it had reached the extent that he no longer even had a sense of his true self:

“I think I adapt always for different people. Like, I don’t know really who I am ...”

The presentation of a compliant, cheerful self achieved some type of social survival, and was a means of avoiding the distressing consequences of criticism, humiliation or rejection. It likely also functioned to protect the vulnerable real self. Carla explained:

“I would be overkind, overnice, overpolite, over understanding – to make sure they feel okay, because if they don’t they are going to be nasty, to be aggressive, and if they are aggressive I actually cannot answer because there is this big [problem with] defending myself – which is part of my anxiety probably, so – what do I do if they [are critical of me] publicly, ah, I just cannot answer...”

Carla’s response also indicates an expectation of negative responses from others, and the possibility of underlying beliefs about social rules – that if another person feels unhappy in any way about an individual’s response they may lash out. Consistent with this theme of not showing “unpleasant” emotions that might upset or annoy others, Ellie and David both explicitly said they would never allow themselves to show anger, and Ellie wouldn’t even let herself *feel* angry:

“I actually don’t let myself get angry when I get angry.”

Individuals went to great lengths to avoid any interactions that could be seen as confronting. “Confrontation” included responses such as disagreeing with an opinion or course of action. Participants would avoid making such responses, even if the other person’s opinion or course of action was clearly incorrect in the circumstances, for example, in an occupational setting. Individuals also went to great lengths to avoid provoking this type of response from others, generally by being reticent to volunteer opinions or take on leadership roles.

This exquisite attunement to the emotional states and responses of others was recognised as a theme itself, and will be explored below under “Hypersensitivity”.

A word frequency analysis for the theme of Authenticity was conducted using author generated phrases created to summarise key observations around the Authenticity theme.

The results are illustrated in a word cloud (Figure 7.3).



Figure 7.3: Theme 2: Authenticity word frequency analysis presented graphically as word cloud based on author generated phrases (500 most frequent words; synonyms; 4 letter minimum length; additional words added to “stop words” for this analysis: people, want).

7.3.4.3 Theme 3: Defective Self

Low self-esteem was identified in the initial literature review as prominent in AVPD and possibly one of the factors that might differentiate it from SP. This was specifically measured in Study 3 with the Rosenberg Self-Esteem Scale. In the qualitative interview schedule participants were asked whether feelings of inferiority were relevant to them. Yet, even

without specific prompting, negative self-concepts emerged very early in the interviews. In line with the candidate's hypotheses it was clear that most if not all interviewees had profound and globally negative views of themselves, even though many tried to challenge and counter these views. The names initially considered for this theme such as "sense of inferiority", "low self-esteem" or "negative self-concept" failed to capture the depth, breadth and intensity of these negative views. After considerable discussion with the supervisor involved most closely with the current study, it was agreed that "defective self" best seemed to capture the intensity and distress of the lived experience as described by participants. Yet in using this terminology I am mindful of the negative impact it could have on interviewees reading this, and so it is important to stress that the name is an attempt to capture and communicate accurately to others the nature and distress of the participants' experiences, and not to suggest in any way that there is in actuality a defective self. Rather, that is the tragedy of the condition, that it should feel this way to individuals.

This theme is the most disturbing to write about, as will become evident from the following quotes. It is probably the theme that best captures a qualitative difference from SP. Although the language used to describe perceived faults and failings was deceptively mild, other verbal cues such as tone of voice and hesitations, as well as participants' non-verbal cues indicated deeper underlying meanings and beliefs.

Subthemes included:

- Shame, inferiority
- Constant negative comparisons with others
- Sense of lacking importance or validity

Inferiority has been discussed above, so this section will focus on those deeper and more globally negative self-concepts identified. Many participants referred to feeling “not good enough”. Carla talked of “self-hatred”. Although Ben later clarified his statement to indicate that he meant that it would be easier if he hadn’t met people in the first instance, he initially phrased his comment in a way that was suggestive of a more existential pain:

“Um, it – it kind of hurts me to say this, but if people knew that I didn’t exist, you know? Just to – it just would be easier.”

Ben went on to describe a cycle of shame and withdrawal which created a double-bind for him:

“... shame is probably the biggest motivator for anything that I do. So if people criticise[d] me or [attacked me] in the past I would feel enough shame that I was, like, I can avoid feeling that shame if I avoid people [but] slowly the shame of avoiding people built up enough that I’ll actually see people again...”

This then would put him at risk of experiencing further negative reactions, to which he would react with withdrawal, and the burden of shame would grow again, in a repetitive cycle. Carla had a similar experience, finding herself in a phase of “self-hatred” when she had avoided something, especially if it was something she felt she should have engaged in.

Ben went on to explain his thinking:

“... it’s just the general shame of, like, saying something stupid and have to live with that forever...”

Whilst it is common in SP to engage in post-event processing and to focus on perceived social errors and possible negative evaluation, Ben is describing an experience that seems more intense, more related to core of self, and more permanent and irreversible in its effects.

Felix had noted feeling much happier since he had established an intimate partnership in the few years prior to participating in the study. Nevertheless, the burden of negative self-views was evident in some of his comments:

“And just the day to day run of the mill, wears me down in that I’m inferior at all the things I don’t want to be inferior at.”

Alice had also entered a more positive phase of life, partnering and having a child. Yet she said:

“I [sighs] - well I do a lot of comparing of myself to other people, and what I think other people are like compared to me. And I always feel that I’m not as good.”

Several of the participants referred to attempts to compensate for their perceived deficiencies.

In this context, Greg referred to a heightened sensitivity to others’ needs and feelings, although he painted this in a self-critical light:

“... and, that’s a purely selfish thing, I tend to be more sensitive [to people] to compensate for my own lackings, I think. If I can address those unsaid things that I think they might be looking for then, hey, it will make up for who I am...”

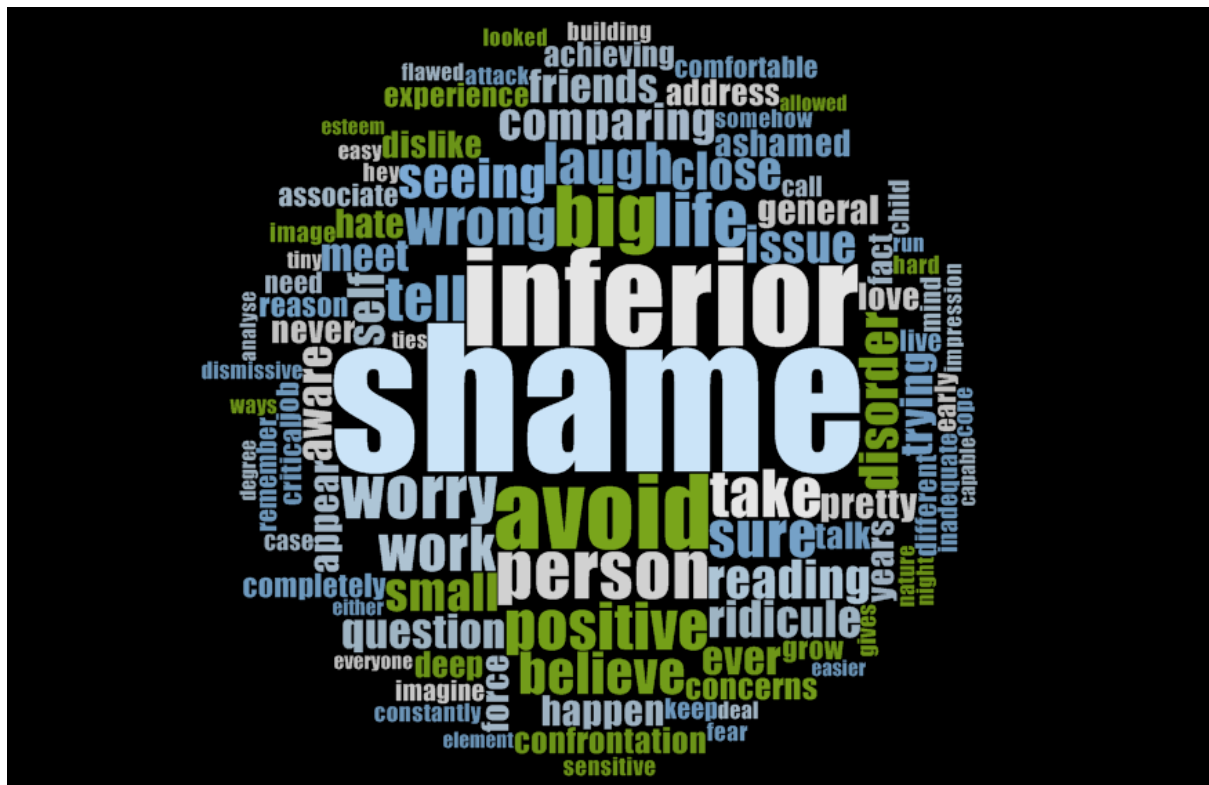
He also said:

“...it’s sometimes hard for me to believe that I’m doing enough to, sort of, have earned my place...”

Ellie’s quotes (section 7.3.4.6) about being comfortable with herself but worrying whether others also would be suggest that her self-concept is at least fragile. Hans worried that he was somehow not as important or valid as others; he noted that through therapy he no longer believed this, but he sometimes worried that others might think it, and it still troubled him quite profoundly at times:

“... sometimes I – I beg them, ‘Can you please tell me ... is there something wrong with me?’ and they don’t tell you. And I don’t know if it’s because there isn’t anything or if they’re just being polite.”

A word frequency cloud for this theme is shown in Fig 7.4. For this analysis, the word “feel” was removed from consideration as it was not specific enough to the theme.



- Permanence; the sense that mistakes, perceptions or concerns could never be undone
- Being easily hurt or discouraged
- Catastrophising

Sensitivity to social cues

Participants in general were highly alert for social feedback, constantly and minutely monitoring their environments. As Greg described it:

“Like every little micro expression on someone’s face I’m coming up with reasons for that, that I’m the cause of it ...”

At the same time, they were aware that this in itself could be problematic, and that they could not always trust their own judgement. Ellie said:

“I would like to [be able to] go outside and not think that every random stranger looking at me is like somehow seeing into my soul and judging me, which doesn’t make any sense but ...”

Unfortunately, this constant monitoring and judgement worked both ways, that is to say, participants realised they couldn’t trust their own judgement that things had gone badly and others thought badly of them, but nor could they trust their judgement when they seemed to get positive feedback from others. The ability to notice social cues and make accurate appraisals of others’ emotional states is a key social skill. However, it was clear from what participants described that an excessive focus could lead to a loss of objectivity, as well as to self-doubt and discomfort. Hans described an acute sensitivity to the reactions of others, and seemed to be making assumptions about what they might be thinking:

“And I think – you know, I ... was making other people feel – they wished I wasn’t there, kind of thing.”

Greg described a hypersensitivity to others which at least in part was used as an active strategy to compensate for perceived deficiencies, as described in the Defective Self theme above (section 7.3.5.3).

Permanence

The sense of permanent consequences was common, and probably a result of the intense aversiveness of being criticised or making social errors. Ben had earlier referred to saying something stupid and “having to live with that forever”. He also said:

“I can remember even the tiniest small thing that I said wrong when I was, like, seven years old.”

Felix referred to being “haunted” by past “scenarios and embarrassments”. When Ben spoke of his fears of confrontation, and how he tended to avoid social situations because of it he also said:

“... somebody is going to say something aggressive and it's going to upset me and I'm never going to forget it, so conflict is, kind of, the worst of the worst.”

In addition to a hypervigilance to social cues, participants also described feeling very deeply injured by criticism, ridicule or poor treatment from others (subtheme of “easily hurt”). As an example, Felix had tried to get psychological help in his twenties, but had such a negative experience with the doctor he saw that he did not return or try again. He was unhappy to be told he “probably had schizophrenia”, but what really hurt was the doctor “using the

dictaphone like I wasn't there". In recalling this event, it was evident that Felix still felt strongly emotional about it as he explained:

"And that – that like, you could call me anything, I don't mind. But the way he wrote me off in – that was, that ... cut – it hurts."

A language of extremes was common, along with cognitive distortions such as catastrophising. Carla described an experience where a friend had hurt her by making fun of one of her social media posts. She was deeply wounded by this, and her response illustrates catastrophising and permanence as well as a more general hypersensitivity:

"... and so I shake inside, I have a very strong physical reaction to that ... I cannot recover, I think at the end that everyone is going to read that and think ha, ha, ha, how dumb she is and, ah, you know, it amplifies and amplifies and amplifies, until I touch rock bottom ..."

Ben's comment above about "the worst of the worst" also illustrates this tendency to catastrophise. Greg talked of imagining "scenarios" that might happen in interactions and getting "carried away to extremes". Felix referred to "my mind wandering down ridiculous paths" when worrying about arguments that others might raise to some suggestion of his at work, or how his boss might respond to a request for time off.

The word frequency cloud for "Hypersensitivity" is shown in Figure 7.5.



Figure 7.5: Theme 4: Hypersensitivity word frequency analysis presented graphically as word cloud based on coded transcripts and author-generated phrases (500 most frequent words; synonyms; 4 letter minimum length; additional words added to “stop words” for this analysis: feel, people, want)

7.3.4.5 Theme 5: Behaviours – strategies for risk mitigation

Avoidance was confirmed as a central behaviour in AVPD. However, the data identified other prominent behaviours to give four subthemes:

- Avoidance
- Withdrawal
- Passivity
- Lack of initiation

Avoidance was confirmed as being a defining aspect of how participants lived, and a major concern for participants. It emerged as a strategy to avoid discomfort and feared negative outcomes but participants clearly articulated that it came with a devastating cost to intimacy and connection, and hence quality of life. Alice clearly believed that her strategy of avoidance had protected her from experiencing rejection, and her laugh seemed to indicate a somewhat rueful recognition that the cost of this strategy might have been lost opportunities:

“And I guess avoiding it - that I haven’t really had that much rejection [laughs]... I think I’m afraid of something that I don’t necessarily have really experienced.”

Having recently partnered and had a baby, Alice appeared somewhat more sanguine than David, who acknowledged the motivation for avoidance:

“Um, I would avoid getting in a situation where I would get rejected, I suppose.”

The social sensitivity described above created another motivation for avoidance, as Greg described:

“... I’ll avoid ... even putting people in situations that might make them feel a bit self-conscious, oh, I should have done this, I should have done that.”

“Yeah and avoid ... being the cause of any, sort of, big emotion. You just want to be forgettable almost, you know.”

Felix also noted that his extensive avoidance meant he rarely experienced criticism or rejection. Continued use of avoidance despite its cost in cruetling the chances of meaningful connections confirms the aversiveness of rejection as a feared consequence. Ben was clearly aware of the costs of avoidance:

“I think it's entirely this compulsion to avoid people that's prevented any progress.”

Carla described a number of strategies to try to protect herself from the pain of missing out on social relationships. She might try to demean the lost opportunity (e.g., “they wouldn’t have been very nice anyway”) or try to avoid thinking about it at all.

Using a traffic analogy, Ben tried to explain how avoidance seemed a natural response to the fears of rejection, and became an enduring strategy:

“... in the same way that somebody crossing a road knows that this is dangerous, don't do it and there's just that thing that, no, I can't do it.”

Ben and David each felt avoidance also explained why persons with AVPD may not report significant social anxiety – extensive avoidance means social anxiety is rarely triggered. Ben also recalled a time when he became very depressed and his avoidance became extreme, not even leaving his room in the family home if there was a chance he would have to interact with someone. At the same time, he tried to avoid others knowing he was in the house, explaining:

“I just don't make any noise and I hope nobody hears me and then it's embarrassing if they know that I was in my room the whole day or whatever.”

Ben also described avoidance as a strategy to prevent the painful post event rumination that he knew was otherwise inevitable after a social encounter:

“... in any situation that I will dwell on endlessly later and it makes it so unpleasant that I tend to avoid just having that opportunity.”

Six of the eight participants were employed in some capacity, and could not avoid all interpersonal interactions. In some cases there was not a drive to do so, such as for Felix, who felt reasonably comfortable in his occupational role. Carla, who had only recently left employment because of her severe social discomfort, described having used a coping strategy of over preparation.

Also notable was that participants described a range of avoidance behaviours. For example, subtle types of avoidance such as remaining passive in relationships, or never initiating social contact or activity. The other subthemes for “behaviours” were created out of the contexts and styles of avoidance: withdrawal, passivity and lack of initiation.

Several participants referred to getting scared and withdrawing, seeing this as self-defeating behaviour. By running away from a budding relationship, they were crueing any chance of deepening intimacy. Withdrawal was another way of managing anxiety and avoiding rejection.

Some participants described passivity akin to a learned helplessness which arose as a consequence of repeated experiences of failure, poor self-esteem and pessimism about being able to make any changes. One particular context triggered anxiety and avoidance for all participants, and often resulted in passive responses: confrontation. Participants described a low threshold for deeming an interaction as “confronting”. Examples of situations that would

be perceived as confronting included correcting someone when they were wrong or had made a mistake, disagreeing with someone's opinion, or declining a request. Any situation that might predictably involve "confrontation" was avoided if possible; if a situation arose unexpectedly, the individual would usually remain passive, or withdraw if possible. As typical examples of passivity, participants described making no response when others expressed a clearly incorrect view or took an inadvisable course of action; this was the case even when the incorrect view or course of action might have adverse consequences, such as in an occupational setting.

David, Alice, Ben and Ellie all noted that they would never initiate social contact. All could appreciate how this contributed to their social isolation, but nevertheless they felt unable to change the behaviour. David described an almost total lack of initiation of activities as being more of a problem than active avoidance. He noted:

"And I don't think I ever really ventured, ever gained."

More recently Carla had engaged in cognitive behaviour therapy (CBT); she found herself better able to rationalise her concerns but still found it difficult to overcome her tendency towards avoidance.

The word frequency cloud for "Behaviours" is shown in Figure 7.6.

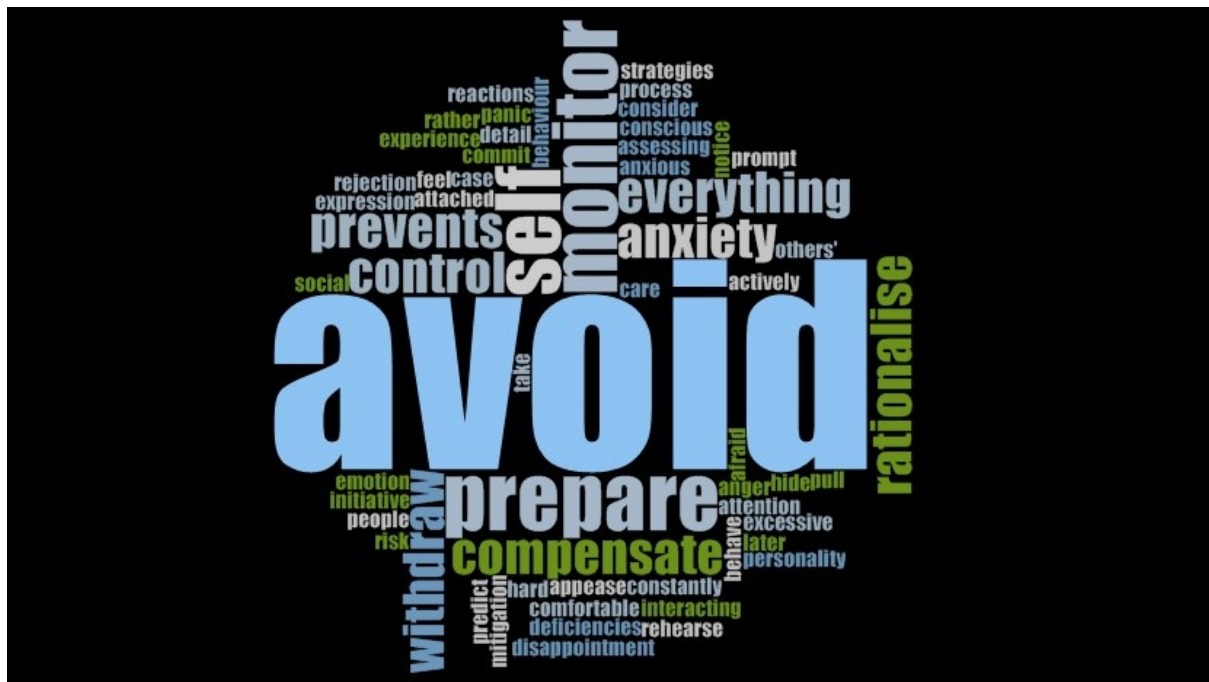


Figure 7.6: Theme 5: Behaviours word frequency analysis presented graphically as word cloud based on coded transcripts and author-generated phrases (500 most frequent words; stems matched; 4 letter minimum length).

7.3.4.6 Theme 6: Impacts

Multiple, severe and enduring impacts of AVPD were effectively communicated by participants and informed the construction of two subthemes:

- Impairment
- Distress

All participants described impairment. Their fears, avoidance and lack of self-belief had held them back in multiple spheres of life. Restrictions, lack of fulfilment and exhaustion were coded frequently. Carla said that AVPD had had a “massive impact” on her life that she felt was caused by more than just social anxiety. Ben noted that his fear of interpersonal

interaction was so great it prevented him from asking for more shifts at work (which he needed financially) and in the past had even stopped him from attending Centrelink to present the doctor's certificate which would have entitled him to sickness benefits.

It was also clear that for some individuals, the self-doubt they experienced was crippling. Several participants noted that they had dropped out of or discontinued educational, occupational and social activities because of their fears of rejection or feelings of inferiority.

Many also noted that their fear of having to talk to someone, or getting a negative response resulted in avoidance that prevented them from seeking help which might have made a difference.

The distress of many participants was evident in their stories of loss and longing, although none displayed overt signs such as crying. As a group they showed a determination to carry on in spite of these challenges and disappointments and impressed the candidate with their emotional resilience. It was not surprising that these participants, in common with the entire sample that took part in the other studies, showed very low levels of dependent personality traits; it is also consistent with attachment styles linked to difficulty trusting others (dismissing and fearful).

Participants reported feeling overwhelmed and exhausted by their fears and the effort of intensive social monitoring. As Ellie said:

"So if I'm feeling tired, it's just like the amount of energy I have to expend on like, people is less ... it's just like I can't, I will die if I have to interact with people more than necessary today."

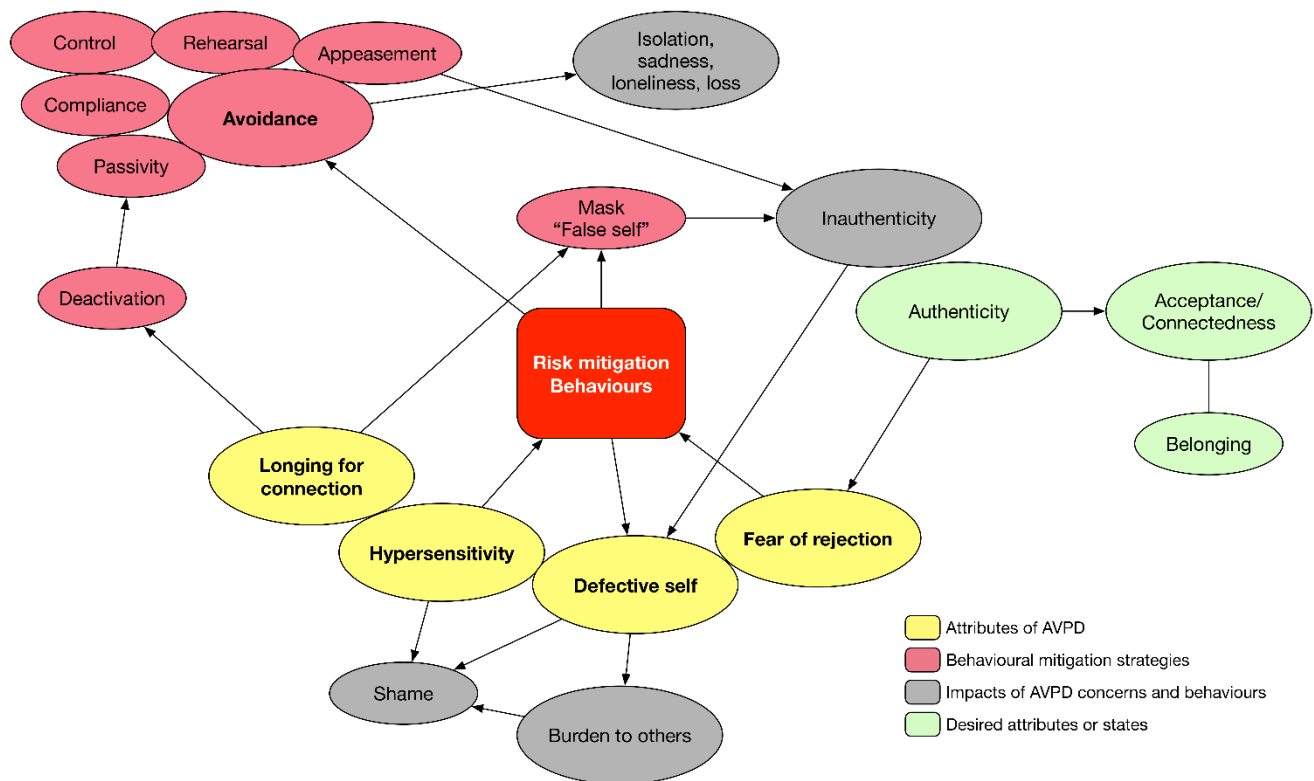


Figure 7.8: Concept map linking themes.

7.3.5 Divergent views/outliers

Although participants described an anticipation of negative and even aggressive reactions from others, most attributed perceived negative reactions from others either to non-malign motivations (e.g., not understanding or being aware of the individual's problems), or believed that negative reactions were the result of their own inadequacies. Hans was an exception to this general attitude, clearly articulating a sense that others had malign motivations and would seek to harm or take advantage of him if they knew what he saw as his weaknesses. This was consistent with his having been assigned a dimensional score of 8 (out of a maximum of 14) for paranoid personality on the IPDE. Hans also felt that SP was characterised by "a strong desire to be popular amongst people" whereas he felt he did not have such a strong desire to have the acceptance of others. So in these regards Hans was something of an outlier. Some

other participants did express some concerns about others taking advantage of their weaknesses, but these concerns were generally less prominent.

7.3.6 Internal inconsistencies

Amongst all the participants there were some internal inconsistencies evident between their responses to specific questions, and things they later said. Across participants, the chief areas of inconsistency concerned the concept of “normal”, intimate/close relationships and experiences in their family of origin. These are briefly discussed below.

7.3.6.1 *Normality*

Participants were asked what they thought of the word “normal” (Interview Script, Appendix G). All except Greg and Hans responded to this question by saying that they felt there was no such thing as normal. Greg and Hans each said that they liked the word, but each felt that it did not apply to them. Yet as discussed under the theme of Authenticity, participants nevertheless spoke of wanting to appear “normal”.

7.3.6.2 *Intimate relationships and ability to be one’s true self*

Most interviewees when asked directly about close relationships said that they did not hold back (“show restraint” in DSM-IV criterion 3) or fear shame or ridicule. Participant data suggests that this criterion may be tapping into two different concepts. Participants generally did not fear shame or ridicule in intimate relationships, but they rarely felt able to completely be their authentic selves, and hence did show restraint. Alice said she did not fear shame or ridicule from any close friends, but it was only with her husband that she felt she could completely be herself. However, some participants referred to never feeling completely free to be themselves, even with family or in close relationships. David said he had had confiding

relationships, but also identified that he had never had the sense others describe of “that’s the only person they can be around [with whom] they can totally be themselves”. This data suggests that restraint in close relationships is not a unitary phenomenon, and this will be considered further in the Discussion.

7.3.6.3 *Family of origin*

Asked about their early home life in general, many participants began by saying that they had had an unexceptional experience. However, there were sometimes striking inconsistencies with this stated view and their later descriptions of home life. For example, David began by nominating his father as someone he felt close to and had an affinity with. However, he later described behaviour by his father that was mocking, undermining, aggressive and violent. Most were highly reluctant to criticise their parents, even where there had apparently been parenting failures, as was the case for several participants, who described their parents as highly critical, but also passive and uninvolved. Peers and even siblings were frequently experienced as abusive.

7.4 DISCUSSION

This study is highly consistent with key aspects of Millon’s description of AVPD, and with observations from clinical studies of AVPD. Millon (1981b; p. 305) described “feelings of loneliness and of being unwanted and isolated”. Renneberg and colleagues (1990) identified three features they felt were key for AVPD: intense fear of criticism, extreme fear of rejection, and a negative self-image. The current study is supportive of these earlier findings, and extends understanding of the nature of the negative self-image. It is more pervasively and intensely negative than is perhaps currently appreciated, although it was captured by Millon

when he observed that, “It is their entire being that has become devalued ...” (Millon, 1981b; pp. 305-6). The intensity of the negative self-concept prompted use of the term “Defective Self” for this theme. Parallels can be drawn with body dysmorphic disorder, or “imagined ugliness syndrome”, where an individual is convinced that some part of their body is repulsive to others, when in fact it is objectively quite normal (Fang et al., 2014). It is as though AVPD is an “imagined ugliness of the self” with individuals fearing that to show their true self will result in being judged as worthless. As several participants indicated, it may be more than anxiety about negative evaluation: it is often a dread that the individual’s own worst fears (that they are defective) will be confirmed. Interestingly, a concept of “malignant self-regard” has been described with respect to depressive, self-defeating and vulnerable narcissistic personality styles (Huprich, 2014).

The “Defective Self” and “Authenticity” themes intersected to exacerbate distress. Participants felt that their “true self” had significant flaws and limitations that might be unacceptable to others, and this was a motivation to hide behind appeasement and a “false self” in any social interaction. By presenting a “false self” they might gain superficial acceptance, but this could never feel like a deep or authentic connection.

Donald Winnicott’s perspective of personality development focussed on dependence and independence, and the management by the individual of the interface between self and other. He referred in this regard to “interdependence” between the individual and environment (Jacobs, 1995). Winnicott talked of a healthy maternal relationship as facilitating the development of the capacity to “be real”. However, he believed that it is normal also to develop a “false-self” which interfaces with the environment, especially in terms of being able to engage in social niceties and be compliant with the demands of others, whilst

protecting the inner, or true, self. In good mental health, when there are issues to be dealt with that are of importance to the individual, the “true self” overrides the polite, compliant “false self” (Jacobs, 1995). But this was not always possible for those with a dominant false self. Winnicott noted that the defence associated with a false self was “massive” and could be very socially successful. This fits precisely with Ben’s experience:

“...that’s just the way I’m supposed to behave and I think I manage that fairly well.”

Participants’ responses resonated with Winnicott’s ideas on the false self’s role in appeasing others in order to survive. For the participants in this study, as adults, it was more about social survival, and avoiding the distressing consequences of criticism, humiliation or rejection. Winnicott also described a number of ways in which the false self could be problematic, including over use of intellectualisation which could lead to a failure to integrate “psyche” and “soma”. Numerous participants referred to overthinking and overanalysing situations.

The function of the false self to ensure the infant’s needs were met (and in doing so protect the true self) was theorised by Winnicott to lead to excessive attunement to the expressed and anticipated needs of others. Whilst this was certainly the case for all the interviewees, the false self appeared to function for them more as a way to ensure that others did not get to see their true self, which they regarded as somehow defective and unacceptable.

The social psychology and cognitive science literature also provides important insights on the possible relevance of authenticity. A series of studies found that inauthenticity was experienced as immoral, leading to significant personal discomfort (Gino et al., 2015). In social anxiety research, it has been hypothesised that trying too hard to manage the social

impression created may result in feelings of inauthenticity, and that encouraging genuine social expression may be important in treatment (Plasencia et al., 2011).

Avoidance was confirmed as a defining aspect of how participants lived. It was a risk mitigation strategy, motivated by the desire to avoid distress and feared negative outcomes, especially rejection. It was often so extensive that relatively little social anxiety was experienced. Participants clearly articulated that avoidance came with a devastating cost to intimacy and connection, and hence quality of life. Continued use of avoidance despite its high cost underscored the aversiveness of rejection as a feared consequence. Knowledge of the phenomenology of avoidance was greatly extended in the current study with the identification of several types of avoidance, including overt avoidance, withdrawal, passivity, and lack of initiation of social interaction.

Rejection has likely been underestimated in AVPD. A popular understanding of rejection would seem to be closer to some sense of social mis-match. In contrast, for participants in the current study rejection was seen as a global judgement about their worth as a person. It was viewed as a potential confirmation of their deficiencies as people: “potential” because participants admitted they had rarely if ever experienced this catastrophic outcome, which they attributed to their avoidance of most social interaction.

The current study sheds light on the relationship between AVPD and SP. There was little support in this group for DSM-IV and DSM-5 criterion 3: “shows restraint in intimate relationships because of the fear of being shamed or ridiculed”. Rather it seemed that if participants were able to overcome their fears and establish a close relationship, they might feel secure within it. However, few participants had been able to establish such close

relationships, and some who had still could not allow their authentic self to be present in the relationship, hence showing some element of restraint. These data suggest it might be preferable to separate concerns about shame and ridicule from showing restraint in intimate relationships in the criteria for AVPD since there may be several motivations for showing restraint.

Whilst it is common in SP to engage in post-event processing and to focus on perceived social errors and possible negative evaluation (Brozovich and Heimberg, 2008), one participant described an experience that was more intense, more related to core of self, and more permanent and irreversible in its effects. This post-event processing was so painful that it motivated the participant to avoid social situations altogether. In addition to a hypervigilance to social cues, participants also described feeling very deeply injured by criticism, ridicule or poor treatment from others – much deeper than the “embarrassment” referred to by DSM-IV criteria for SP.

Similar risk mitigation strategies to those reported in SP (Bogels and Mansell, 2004; McManus et al., 2008) were employed by participants, including attempts to control the environment, rehearsal of planned interactions, and intense monitoring of the social environment. However, participants also reported over compensation for perceived deficiencies, something that has not been described in SP. As another point of difference, the feared outcomes were seen as particularly wounding and permanent for those with AVPD, providing a more compelling motivation to use these strategies.

The themes of “Defective Self” and “Authenticity” present the most profound differences to SP. The intensely negative views of self, all-encompassing and relatively impervious to

positive social experiences (which are distrusted) are not typical of SP. These negative self-views were a significant source of distress in the current study.

A number of double-binds were identified that contributed to distress. Being caught between the Scylla and Charybdis of presenting the true vs. false self was one such double bind.

Another related to shame. Experiences of criticism and rejection caused shame, which motivated social avoidance. But social avoidance itself was perceived as shameful and led to an increasing sense of internal pressure to socialise once again, which increased the likelihood of further experiences of rejection. This was especially likely given participants' hypersensitivity to negative social cues. Fears about being rejected by others adversely affected the chances of connecting by making it difficult to trust others, or believe that positive responses could be genuine. A double-bind around social proximity has been described in AVPD wherein social proximity resulted in increased positive affect and reduced feelings of rejection, but also increased shame and anxiety (Gadassi et al., 2014).

Participant responses demonstrated that there were a number of salient factors that might influence the trajectory of their social discomfort over time. If it was possible for them to feel a strong connection with someone early in the relationship it was more likely that they would become more comfortable with them. A strong connection seemed more likely to occur if the person appeared especially kind or understanding, or had problems of their own. It was easier to connect with someone when playing a role (e.g., teacher, technician, or simply the person they thought others wanted them to be) but a relationship founded on this basis rarely conferred the freedom to be oneself; often, in fact, quite the opposite with a perceived need to maintain the created impression. So in this respect, such relationships carried with them the additional disadvantage of inauthenticity. The fear of losing a relationship once established

was noted by Eikenaes and colleagues (2016) in their recent study of SP with and without AVPD, and referred to as a “fear for abandonment”. These patterns are shown graphically in Figure 7.9.

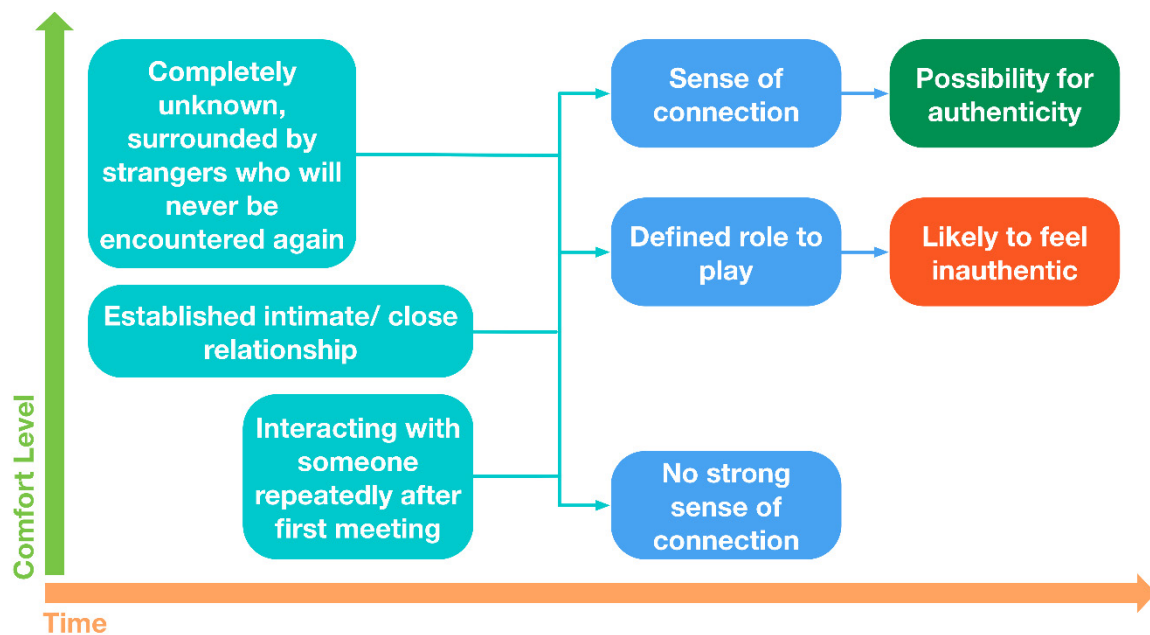


Figure 7.9: Model of relationship comfort over time

Participants were very closely attuned to others’ emotional states and sought to avoid causing distress: similar findings were reported in a study of mixed community and patient participants in which problematic self-other boundaries mediated the relationship of attachment anxiety with AVPD. In that study, items such as “[I am] affected too much by other’s moods”, “[I am] influenced too much by others” and “[I am] affected too much by other’s misery” assessed this attribute (Beeney et al., 2015). Findings in the current study, support the conclusions of Beeney and colleagues that “for AVPD, problems with self-other boundaries may reflect a hypersensitivity to others’ emotions and problems with asserting oneself for fear of rejection.”(p. 6).

The concern about causing discomfort to others is reminiscent of the syndrome of *taijin kyofusho* (TKS). TKS has been most frequently described in east Asian countries and involves fears that the body or its functions, for example, body odours, stilted movements, or line of sight, will either attract negative attention (the “tension” subtype) or cause offense to others (“offensive” subtype; Nagata et al., 2015). TKS itself shows some similarities with body dysmorphic disorder (BDD), referred to colloquially as “imagined ugliness syndrome”, and both are focused on physical appearance (and function, in the case of TKS; Nagata et al., 2015). BDD in particular is associated with fixed, unshakeable beliefs that border on delusional in intensity (Fang et al., 2014). AVPD might be considered as a kind of “imagined ugliness of the self”, sharing with TKS and BDD a conviction of wrongness about an inherent attribute, a belief that it may cause offense or result in rejection, and an intensity of belief that is difficult to shake. In these ways it appears more deep-seated and more immutable than SP. As Ben said:

“It's not going to go away, it's not like a mood, it's like a constant thing.”

A number of findings are especially relevant to treatment. There was an almost universal dislike of any type of social interaction that feels like or could lead to confrontation, including disagreeing with another person. This has relevance for the interaction style of the clinician assessing and treating the individual with AVPD. Questions posed as statements are likely to be responded to with acquiescence, as any disagreement would be seen as confrontation. An open questioning style is thus likely to be important.

An understanding of the nature of the fears of rejection and the intensity of underlying feelings of inadequacy and defectiveness are likely to be of especial importance in therapy.

Inauthenticity was a key aspect of self-worth and self-concept for participants. Many could feel comfortable in certain social and professional roles, but the sense of playing a part made them feel inauthentic and unable to attribute any success to their own efforts or inherent attributes. The patient with AVPD is likely to present their false self, minimising signs of distress and working hard to put the therapist at ease. Understanding the true level of distress and dysfunction is essential if therapy is to be effective.

Finally, numerous observations underscored the important contribution of qualitative methodology. Many participants gave answers to questions which were apparently contradicted by other things they said. This is consistent with the observation that “... qualitative research has traditionally relied on a strong belief in context-dependent, multiple, and complex realities.” (Whitley and Crawford, 2005; p.109). A notable example was that virtually all participants, when asked directly about their view of the word “normal”, dismissed the concept as being a nonsense, that there was no such thing as “normal”. Yet most of them during their interviews, often numerous times, expressed the desire to be “normal” and to be seen as “normal”. Dichotomous thinking of this nature is, of course, not restricted to persons with AVPD. However, it does underscore the limitations of quantitative research methods with restricted, pre-determined response choices. Similarly, the complexities around restraint in intimate relationships and the double-binds around authenticity that emerged from in-depth exploration with participants, and with respect to the cognitive factors behind observed symptoms and behaviors. The qualitative approach of the current study allowed richer data to be collected and by doing so addresses important gaps in the literature.

7.4.1 Limitations

The study focussed on the lived experience of persons with AVPD. Some of the participants also met criteria for SP, and an attempt was made to differentiate thoughts and behaviours that might relate more closely to one or the other of these diagnostic categories. However, as no individuals with SP-only were included in this study, the possibility that some persons with SP-only may have responded to the interview questions similarly cannot be excluded.

Not offering participants the option of being interviewed as home may possibly have influenced some invitees to decline participation. Future studies might ideally offer a range of locations for interview.

7.5 CONCLUSIONS

This qualitative study adds to our knowledge about the nature of AVPD. With respect to the DSM criteria for AVPD, understanding the fear of rejection, sense of inferiority, and motivations for and phenomenology of avoidance in APVD was enhanced. The lived experience of AVPD for most participants was alienating and intensely distressing. A longing for true connection with others was thwarted by avoidance motivated by an intensely negative self-concept driving fears of rejection. The description by some participants of prominent anxiety symptoms in social situations, even as they identified more strongly with the criteria for AVPD, supports the proposal of this being a closely related condition but one that can be differentiated. The differences are meaningful and participants described a powerful adverse effect on their life trajectory and quality of life which argue for greater recognition and research to develop effective treatment. Findings regarding the presentation of a “false self” in everyday life and the extreme avoidance of interactions perceived as

confronting also have a direct relevance for therapists who seek to engage those with AVPD in treatment.

Chapter Eight – Study 5: Development of a screening tool for AVPD

Chapter overview

This study describes the development and preliminary testing of two brief screening questionnaires for AVPD. The aim of the screening tools is to improve detection of AVPD, especially in persons with SP. With a total of 6 items in the Social Concerns Questionnaire, rated on a Likert scale, and a single best option from a choice of 6 options in the Main Problem Questionnaire, the screening questionnaires were brief and easily scored. Preliminary testing in a mixed sample of persons with SP and AVPD indicated a high level of sensitivity with modest specificity. Further development and testing of the screening tools is justified.

8.1 INTRODUCTION

The challenges of differentiating AVPD from SP are associated with difficulty in identifying AVPD clinically. Both SP and AVPD are poorly recognised and under-treated in practice. SP is more common than AVPD, with estimated 12 month prevalence rates between 4% - 7% (Wells et al., 2006; McEvoy et al., 2011), yet surveys have found that only 8-21% of those who met criteria for SP were receiving treatment (Messias et al., 2007; Issakidis et al., 2004; Issakidis and Andrews, 2002). It seems likely that rates of detection and engagement in treatment for AVPD are even lower, although there is no data regarding this. AVPD both alone and in combination with SP is associated with considerable distress and impairment. Additionally, as has been demonstrated in previous chapters and by other authors, AVPD is associated with some features that are distinct from SP. These differences may well be

relevant to treatment and long term outcome. Hence, resources that have the potential to increase detection rates for AVPD may result in more persons receiving targeted treatment.

A personality disorder diagnosis is most reliably assigned on the basis of structured assessment, but also longitudinal observation, expert opinion, and “all source” data, including informants: Spitzer’s “LEAD” standard (Spitzer, 1983). However, in practice it is rare that all these sources of data are available, and the most reliable single data source assessment method is widely regarded as being a validated, structured diagnostic interview. Use of these instruments requires training, and is time consuming – between 1-2 hours per person. A screening tool that is brief and easily scored may be of value in clinical practice in identifying persons who might benefit from a more intensive assessment.

Brief and easily administered screening tools are available for SP. The Social Phobia Inventory (SPIN) is a 17-item self-report questionnaire that is easily scored and has acceptable psychometrics (Connor et al., 2000). A 3-item version of this scale, the mini-SPIN, is also available and has a sensitivity of 88.7%, specificity of 90.0%, positive predictive value of 52.5%, and negative predictive value of 98.5% (Connor et al., 2001).

Although a number of measures have been developed that screen for all the personality disorders described in DSM-IV, the author was unable to identify any available screening tool specifically for AVPD, or which attempted to discriminate between AVPD and SP.

Dreessen and colleagues described an experimental self-report screening tool based on DSM-III-R (Dreessen et al., 1999), but this did not appear to have been published nor updated for subsequent revisions of the DSM.

As noted in the preface to this thesis, rates of detection of AVPD appear extremely low, hence a high level of sensitivity would be desirable in a screening instrument. A screening tool also needs to perform well in the presence of comorbid SP, being sensitive enough to detect AVPD in this group, but specific enough not to simply identify all such persons as likely to have AVPD, when epidemiological data indicate that likely only about a third of persons with SP also meet criteria for AVPD.

Items for initial consideration can be identified in several ways, including descriptions of AVPD in the literature, clinical observation, diagnostic criteria and items in diagnostic interviews. In terms of specificity, it may be especially helpful to focus on differences in how SP and AVPD are defined, particularly as the criteria for SP and AVPD are often described as showing considerable overlap (Marques et al., 2012; Ralevski et al., 2005; Tillfors et al., 2004; van Velzen et al., 2000). Table 8.1 compares DSM-IV criteria for the two disorders. It is clear that SP is focussed closely on “fear” and “anxiety”, and the criteria emphasise the phobic qualities of the disorder. In general, the criteria for AVPD are concerned with intensely negative interpersonal experiences of rejection and shame, whereas SP on the whole describes less intense emotional experiences, such as “embarrassment”. However, this is not consistent, because “embarrassment” is also described within criteria for AVPD, and SP refers to “humiliation”. Another point of difference is the focus of two AVPD criteria on negative self-beliefs (of inadequacy, inferiority and being personally unappealing) that does not occur in SP. The criteria for both disorders highlight the role of social avoidance. In SP a particular triggering role for unfamiliar people is highlighted.

Table 8.1: DSM-IV criteria for AVPD and SP

AVPD	SP
<p>4. Is preoccupied with being criticized or rejected in social situations.</p> <p>6. Views self as socially inept, personally unappealing, or inferior to others.</p> <p>1. Avoids occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection.</p> <p>2. Is unwilling to get involved with people unless certain of being liked.</p> <p>5. Is inhibited in new interpersonal situations because of feelings of inadequacy.</p> <p>3. Shows restraint within intimate relationships because of the fear of being shamed or ridiculed. Is unusually reluctant to take personal risks or to engage in any new activities because they may prove embarrassing.</p>	<p>A. A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing.</p> <p>B. The person recognises that the fear is excessive or unreasonable.</p> <p>C. Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack.</p> <p>2. The feared social or performance situations are avoided or else are endured with intense anxiety or distress.</p> <p>3. The fear or avoidance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition, and is not better accounted for by another mental disorder (e.g., Panic Disorder With or Without Agoraphobia, Separation Anxiety Disorder, Body Dysmorphic Disorder, a Pervasive Developmental Disorder, or Schizoid Personality Disorder).</p> <p>4. If a general medical condition or another mental disorder is present, the fear in Criterion A is unrelated to it, e.g., the fear is not of Stuttering, trembling in Parkinson's Disease, or exhibiting abnormal eating behaviour in Anorexia Nervosa or Bulimia Nervosa.</p> <p>5. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.</p>

Notes to table:

Key differences are bolded;

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Items to include in a screening tool can be informed by the content of existing instruments.

The IPDE and the SCID-II are widely used personality diagnostic questionnaires. The IPDE has been described in detail in Chapter Five. The SCID-II has also been shown to have a high level of inter-rater reliability and good internal consistency; for example, an item corrected correlation of 0.89 was reported for AVPD in a clinical sample (Lobbestael et al., 2011).

It is also instructive to consider the items that appear to be less useful. In one clinical sample using the SCID-II, fewer than 60% of the AVPD items had acceptable convergent validity (corrected item total coefficients ≥ 0.20) and divergent validity (correlating more highly with AVPD total score than with other PDs); the criteria showed a high correlation with the five factor model of personality as measured by NEO-PI-R (Ryder, 2007). Particularly poorly performing criteria were “Do you find it hard to be open even with people you are close to?”, and “Are you usually quiet when you meet new people?” It was reported in Study 2 (Chapter Five) that a similar item in the IPDE, “Shows restraint within intimate relationships because of the fear of being shamed or ridiculed”, was poorly endorsed, with only 25% of participants who met criteria for AVPD endorsing this item. The qualitative study (Chapter Seven) provided further evidence that this criterion may not be widely applicable.

The questions from the IPDE and SCID-II are summarised in Table 8.2. For each question the apparent key focus is suggested in the adjacent column.

Table 8.2: AVPD items from two widely used personality diagnostic questionnaires and apparent underlying construct focus

Question from IPDE or SCID-II	Apparent focus of question
<ul style="list-style-type: none"> Do you usually try to avoid jobs or things you have to do at work (school) that bring you into contact with other people? (IPDE) 	Social avoidance
<ul style="list-style-type: none"> You've said that you have [<i>Have you</i>] avoided jobs or tasks that involved having to deal with a lot of people. What was the reason that you avoided these? <ul style="list-style-type: none"> Have you ever refused a promotion because it would involve dealing with more people than you would be comfortable with? (SCID-II) 	
<ul style="list-style-type: none"> Do you feel awkward or out of place in social situations? <ul style="list-style-type: none"> Do you believe that people find you uninteresting or unappealing? Do you feel inferior to most people? (IPDE) 	Social discomfort; Inferiority/Inadequacy
<ul style="list-style-type: none"> You've said that [<i>Do</i>] you believe that you're not as good, as smart, or as attractive as most other people. Tell me about that. (SCID-II) 	Inferiority/Inadequacy
<ul style="list-style-type: none"> When you meet someone for the first time are you usually quieter or more cautious than usual? <ul style="list-style-type: none"> Is it (also) because you feel unsure of yourself or inferior? (IPDE) 	Reticence with unfamiliar people; Inferiority/Inadequacy
<ul style="list-style-type: none"> You've said that you're [<i>Are you</i>] usually quiet when you meet new people. Why is that? <ul style="list-style-type: none"> Is it because you feel in some way inadequate, or not good enough? (SCID II) 	
<ul style="list-style-type: none"> When you're with people you're very close to, do you hold back your feelings or are you more careful than usual about how you behave? (IPDE) 	Reticence in close relationships
<ul style="list-style-type: none"> Do you avoid getting too close to people because it might be embarrassing if they knew more about you? (IPDE) 	Fear of embarrassment → reticence in close relationships
<ul style="list-style-type: none"> You've said that [<i>Do</i>] you find it hard to be "open" even with people you are close to. Why is this? <ul style="list-style-type: none"> Are you afraid of being made fun of or embarrassed? (SCID-II) 	
<ul style="list-style-type: none"> Are you willing to get involved with people when you're not sure they really like you? (IPDE) 	Reticence
<ul style="list-style-type: none"> You've said that [<i>Do</i>] you avoid getting involved with people unless you are certain they will like you. <ul style="list-style-type: none"> If you don't know whether someone likes you, would you ever make the first move? (SCID-II) 	
<ul style="list-style-type: none"> Do you spend a lot of time worrying about whether people like you? <ul style="list-style-type: none"> Are you afraid they'll criticize or reject you when you're around them? (IPDE) 	Worry about being <i>liked</i> ; Fear of <i>direct</i> criticism/rejection
<ul style="list-style-type: none"> You've said that [<i>Do</i>] you often worry about being criticised or rejected in social situations. Do you spend a lot of time worrying about this? (SCID-II) 	
<ul style="list-style-type: none"> Do you avoid new or unfamiliar activities because you might be embarrassed trying to take part in them? (IPDE) 	Fear of embarrassment → avoidance of novelty
<ul style="list-style-type: none"> You've said that you're [<i>Are you</i>] afraid to try new things. Is that because you're afraid of being embarrassed? (SCID-II) 	

Examination of the questionnaire items suggests the possibility that overlap between SP and AVPD may be exacerbated by the emphasis on fear of embarrassment, and anxiety with unfamiliar persons. In the qualitative study reported in Chapter Seven, most participants reported that, on the contrary, they were more comfortable with strangers than people with whom they had some acquaintance.

8.2 CLINICAL EXPERIENCE

The DSM-IV criteria for AVPD describe an individual whose fear of interpersonal interaction is driven by strongly negative self-beliefs (inferior, unappealing, inadequate) and whose inflated expectancies of intensely distressing social harm (rejection, humiliation) result in extensive avoidance. This is modelled in Figure 8.1. There could be said to be some “noise” in the DSM-IV description, with references to less intensely negative outcomes such as embarrassment, and it is proposed that this dilution of severity and intensity is the region in which most overlap with SP occurs.



Figure 8.1: Model of AVPD derived from DSM-IV definition

By contrast, the DSM-IV criteria for SP describe an individual who is aware they worry too much about what others think, but for whom the intense anxiety triggered by social situations is highly unpleasant, and often results in avoidance. There is no reference to low self-esteem, and the fears are mostly about “embarrassment”. Again, the inclusion of “humiliation” as a possible feared outcome is problematic, and may contribute to some of the overlap with

APVD. It is hypothesised that a screening tool would be most effective if these areas of overlap are avoided, and points of possible difference included.

8.3 AIMS

The aim of this study was to develop self-report questionnaire measures that could be easily used in clinical practice to screen for the presence of AVPD. To meet these aims, the questionnaire would need to be brief and easily scored.

A second aim was to test the extent to which items reflecting certain DSM-IV features discriminate between SP and AVPD.

8.4 METHODS

Two questionnaires were developed and tested in the sample population. The first was a 40 item questionnaire, the Social Concerns Questionnaire (SCQ), and the second instrument, the Main Problem Questionnaire (MPQ), asked participants to choose the one option that they most identified with out of 5 statements describing a range of attitudes towards relationships. Items on both questionnaires were generated from clinical experience, reading of the literature, DSM-IV criteria, and experience of respondents' answers to questions in the SCID-II and IPDE.

8.4.1 Social Concerns Questionnaire

In view of the number of questionnaires participants were being asked to complete, the item pool on the SCQ for this preliminary study was restricted to 40 in number. Items were based on clinical experience, DSM-IV criteria, and the author's experience of responses to existing diagnostic questionnaires. The questionnaire is shown in its administered form in Appendix I.

Items and their derivation are shown in Table 8.3. Participants were asked, “Please indicate the extent to which you feel the following statements apply to you”. Each item was rated on a six point Likert scale (1 = “Not at all like me, or I never feel this way”; 2 = “Only a little like me, or I occasionally feel this way”; 3 = “Somewhat like me, or I often feel this way”; 4 = “Very much like me, or I usually feel this way”; 5 = “Exactly like me, or I always feel this way”). Ten items (identified by (R) in Table 8.3) were asked in such a way that they required to be reverse scored (e.g., “I do not fear rejection”) when computing totals so that higher scores indicated greater symptom burden. Some items were included that were representative of DSM-IV criteria or existing diagnostic questionnaires, but were hypothesised by the author to be poor discriminators between SP and AVPD. These items are noted by (P) in Table 8.3.

Table 8.3: Items included in the Social Concerns Questionnaire

Item number	Items and their source
Items derived from clinical observation	
1	I am much more easily hurt by criticism than most people
7	I believe that being anxious when mixing with others is a sign of inferiority
8 (R)	I can make a mistake without others rejecting me
11 (R)	I do not fear rejection from others
12	I feel I have never really fitted in
13	I feel that I don't quite measure up to other people
15	I do not like myself very much
21	I worry that those I care about will reject me
22	I believe that if I am not skilful in social interactions others will consider me to be worthless as a person
25 (R)	I believe that even if I show anxiety when mixing with others, they will still respect me
28	I will often go along with others even if I don't really agree just to avoid confrontation
30	I will do anything to keep the peace
31 (R)	I believe that it is acceptable to make genuine mistakes
33	I need to excel at something to be accepted
34	If I do not appear comfortable socially I will be rejected by others
35	I am most comfortable with those that do not know me well
37	I worry that once people see what I am really like they will reject me
9 (R)	I enjoy getting to know people
18 (R)	I enjoy mixing with others
14	Others deliberately try to hurt or upset me
17 (R)	I am confident in myself
26 (R)	I express my personal opinions and do not worry that others will disapprove (P)

19	(R)	I talk freely when I am with others (P)
5		Close relationships with others is something I want in my life (P)
Items based on experience using diagnostic questionnaires		
3		I get anxious when there is any change to my routine, even when it does not involve interacting with others (P)
4	(R)	I am not anxious about meeting new people (P)
2		I have no-one in whom I can confide
29		I feel as though others are talking about me in a negative way (P)
Items generated from DSM-IV or ICD-10 criteria for AVPD		
16		The world is a dangerous place (P)
20		I feel as though I am often criticised
23		I am unwilling to get involved with someone unless I know that they like me
32		I fear the disapproval of others (P)
36		I worry about being criticized or rejected in social situations
39		I find it hard to be "open" even with people I'm close to (P)
40		I'm afraid to try new things, even if they don't involve other people (P)
38		I avoid jobs or assignments that involve having to deal with a lot of people (P)
Items generated from DSM-IV criteria for SP		
6		I worry that I will be boring when I talk to others (P)
10		I worry about appearing anxious (P)
24		I do not worry about saying anything foolish (P)
27		I often feel so anxious that I cannot say much at all (P)

Notes to table:

(P) = items hypothesised to be poor discriminators between SP and AVPD; (R) = reverse scored.

8.4.2 Main Problem Questionnaire

The Main Problem Questionnaire (MPQ) was built on the foundation of clinical experience. I wanted both to distil the essence of AVPD and capture the aspects that most differentiated it from SP. Cognitive aspects of a disorder more so than associated behaviours are helpful in differentiating disorders (Boyce et al., 2015; Cramer et al., 2012). Therefore, I focussed on cognitive aspects of AVPD, identifying fear of rejection and beliefs about personal inadequacy as key. In the MPQ, five statements regarding social fears and underlying beliefs about the cause or likelihood of the feared outcomes were described and respondents were asked to nominate the one statement that best applied to them (see Table 8.4). An option of "none of the above" was allowed, to avoid forcing participants into a category that did not apply to them. The options were mutually exclusive, and ordered in hypothetical level of severity. It was hypothesised that participants with AVPD (with or without SP) would be

most likely to endorse option 5, and those with SP-only would be more likely to endorse options 1-3. Option 4 was provided because I had occasionally struck individuals with these more persecutory beliefs, and questioned whether this belief presented a variation of AVPD or SP: examining the frequency of endorsement of this item amongst each of the diagnostic groups might provide some answer to this question.

Table 8.4: Main Problem Questionnaire

<i>Please indicate which one of the following is the closest match to how you usually feel.</i>	
1.	I worry about embarrassing myself, but I don't think it is very likely that I will
2.	I worry about embarrassing myself because I often do
3.	I worry that others might reject me, but I don't think it is really very likely
4.	I worry that others will reject me as a person because people can be cruel and unfair
5.	I worry that others will reject me as a person because I really don't have much to offer
6.	None of the above apply to me

8.4.3 Participants

Participants were from the same sample that completed other sections of the study. Those who completed the diagnostic interviews, the (International Personality Disorder Examination (IPDE) and Composite International Diagnostic Interview (CIDI) were classified according to one of three diagnostic categories: AVPD-only, SP-only or a group who met criteria for both SP and AVPD (SP+AVPD).

8.4.4 Data Collection

The SCQ and MPQ were completed online via personalised email link to the questionnaires, which were hosted on the Survey Monkey platform. The SCQ and MPQ represented two of a total of 11 questionnaires (the others are shown in Appendices E1-E9). Participants were identified only by their study ID number.

8.4.5 Measures

8.4.5.1 *Composite International Diagnostic Interview-Automated*

The CIDI, computerised version (CIDI-Auto) was used together with clinical assessment, to assign Axis I (symptom disorder) DSM-IV diagnoses. It has been described in detail in Chapter Five.

8.4.5.2 *International Personality Disorder Examination*

The IPDE was used to assign personality diagnoses according to DSM-IV to allow testing of classification accuracy of the new measures. It has been described in detail in Chapter Five.

8.5 ANALYSIS

8.5.1 Missing data

One participant completed the SCQ and MPQ but not other symptom measures used to make comparisons. Six participants completed the online questionnaires fully, but did not attend for diagnostic interviews. Their data was included in examining the reliability of the SCQ, but could not be used for analysing the classification accuracy of the scales in development.

Previous evaluation of available results for the participants without diagnostic data did not identify any significant differences from those who completed all segments of the study (see Chapter Five).

8.5.2 Statistical procedures

The IBM Statistical Package for the Social Sciences (SPSS) Version 22 was used for all data analysis.

A series of omnibus comparisons across diagnostic categories for scores on each SCQ item were made using Kruskal-Wallis ANOVAs (k samples). Pairwise post hoc tests incorporated adjusted probabilities calculated by SPSS to correct for multiple comparisons. Items that showed any pairwise significant differences were then selected and subjected to reliability analyses: items with corrected item-total correlations of > 0.3 were retained for further analysis. Items with the lowest item-total correlations were successively eliminated until there was no further improvement in the Cronbach's alpha. The remaining items were included in receiver operating characteristic (ROC) analyses, using DSM-IV diagnoses as the "gold standard" against which to judge the ability of the screener to correctly classify participants, according to the presence (AVPD-only or SP+AVPD) or absence (SP-only) of AVPD.

The ROC originated from signal detection theory and was designed to separate observer variability from the innate detectability of a signal (Hajian-Tilaki, 2013). An advantage of ROC analysis is that it is independent of prevalence estimates required for positive and negative predictive value calculations, and free of bias from arbitrary determinations of cut-off points. The ROC curve represents the plot of sensitivity versus 1-specificity. The area under the curve (AUC) is calculated from nonparametric Mann-Whitney U statistics, and can be interpreted as the probability that a randomly chosen "diseased" subject is rated as more likely to be diseased than a randomly chosen nondiseased subject (Hanley and McNeil, 1982; Hajian-Tilaki, 2013). An AUC of 1 means that the diagnostic test perfectly differentiates diseased from nondiseased; and AUC of 0.5 means that the test is no better than chance. The coordinates of the curve provide information about sensitivity and specificity at each potential cut-off point for a scale, and were used to select cut-off scores to trial. Sensitivity

and specificity analyses were conducted to determine the cut-off score that maximised sensitivity whilst retaining acceptable specificity for the proposed purpose of the measure as a screening tool.

For the MPQ, between group differences were explored using chi-square analyses. Where necessary due to low numbers, item categories were collapsed. Those who indicated that none of the options applied were excluded from further analyses involving the MPQ. All available data for those participants was examined for the participant attributes that might explain the lack of endorsement of any of the options.

The ability of the screening tools to correctly classify participants according to existing diagnostic criteria was examined, and regression analysis was used to compare predictive ability of the new tools with existing measures.

8.6 RESULTS

8.6.1 Social Concerns Questionnaire (SCQ)

Kruskal-Wallis ANOVAs identified a number of items for which there were significant between group differences on omnibus testing. Follow-up pairwise testing of differences at an adjusted probability level calculated within SPSS identified some significant differences; results are reported in Table 8.5. None of the items that had been identified *a priori* as likely to be poor discriminators showed significant differences on omnibus testing.

Table 8.5: Significant results from Kruskal-Wallis ANOVA, and follow-up pairwise testing

Significant omnibus Kruskal-Wallis ANOVA		SP-only	AVPD-only	SP+AVPD
Item No		Mean rank	Mean rank	Mean rank
2	I have no-one in whom I can confide**	20.17	32.69	36.19
9	I enjoy getting to know people*	38.92	22.37	29.39
11	I do not fear rejection from others*	29.34	22.37	38.06
12	I feel I have never really fitted in*	22.37	43.43	32.09
14	Others deliberately try to hurt or upset me*	24.36	23.81	36.06
34	If I do not appear comfortable socially I will be rejected by others*	22.31	34.63	34.64
37	I worry that once people see what I am really like they will reject me*	23.00	38.31	33.44

Notes to table:

Omnibus tests: * $p < 0.05$ ** $p < 0.01$

Colour coding indicates statistically homogeneous groups (after correction for multiple tests).

Three additional items which approached significance with the Kruskal-Wallis test were also subjected to pairwise analysis, but no significant differences were identified. These additional items had face validity with respect to AVPD, and were therefore included in exploratory reliability analyses. These items were:

(8) I can make a mistake without others rejecting me

(13) I feel that I don't quite measure up to other people

(15) I do not like myself very much

Data from 67 participants was available for analysis. The items in Table 8.3 as well as the three additional items (8, 13, 15) were included in a reliability analysis. The initial reliability analysis had a Cronbach's α of 0.764 and is shown in Appendix J1. No items had corrected item-total correlations of > 0.8 , suggesting that each item contributed specific information (Rattray and Jones, 2007). Following the initial reliability analysis, items were sequentially removed, starting with those with the lowest corrected item-total correlations, until the most

parsimonious version and the highest Cronbach's α was achieved, whilst ensuring that items that reflected hypothesised core aspects of AVPD were retained (Rattray and Jones, 2007). An 8 item version consisting of items 2, 9, 12, 13, 14, 15, 34 and 37 had the highest Cronbach's α at 0.789 (Appendix J2).

In the next step, the classification model was plotted with a ROC curve, using DSM-IV diagnoses as the "gold standard" against which to judge the ability of the screener to correctly classify participants, according to the presence (AVPD-only or SP+AVPD) or absence (SP-only) of AVPD. These initial analyses are shown in Appendix J3.

Various cut-points were trialled to obtain sensitivity and specificity data. Using a cut point of 21.0, the 8 item version of the scale was able to achieve an overall accuracy of 79%, with a sensitivity of 91% but a specificity of only 50% (Appendix J3). In order to determine if deleting some items could improve on these psychometrics, the steps above (reliability analyses followed by ROC analysis) were repeated after deletion of item 9, which had the lowest corrected item-total correlation. This resulted in little improvement, so item 14, as the item with the next lowest corrected item-total correlation was deleted. The resulting 6 item version of the scale, comprising items 2, 12, 13, 15, 34 and 37 provided the best balance of reliability (Cronbach's $\alpha = 0.776$), sensitivity and specificity, as demonstrated in a ROC analysis. The item-total statistics are shown in Table 8.6.

Table 8.6 Reliability analysis final 6 item SCQ version

Item number	Item	Item-Total Statistics			
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
2	I have no-one in whom I can confide	19.09	17.42	.41	.77
12	I feel I have never really fitted in	17.97	17.00	.50	.75
13	I feel that I don't quite measure up to other people	18.15	16.40	.51	.74
15	I do not like myself very much	18.48	14.59	.62	.72
34	If I do not appear comfortable socially I will be rejected by others	18.22	17.06	.50	.75
37	I worry that once people see what I am really like they will reject me	18.09	15.30	.61	.72

The ROC analysis was conducted under non-parametric assumptions. The area under the curve was 0.772, with $p = 0.001$ (i.e., the probability for H_0 : AUC=0.5). Results are shown in Figure 8.2. A minimum score of 6 and a maximum score of 30 was possible.

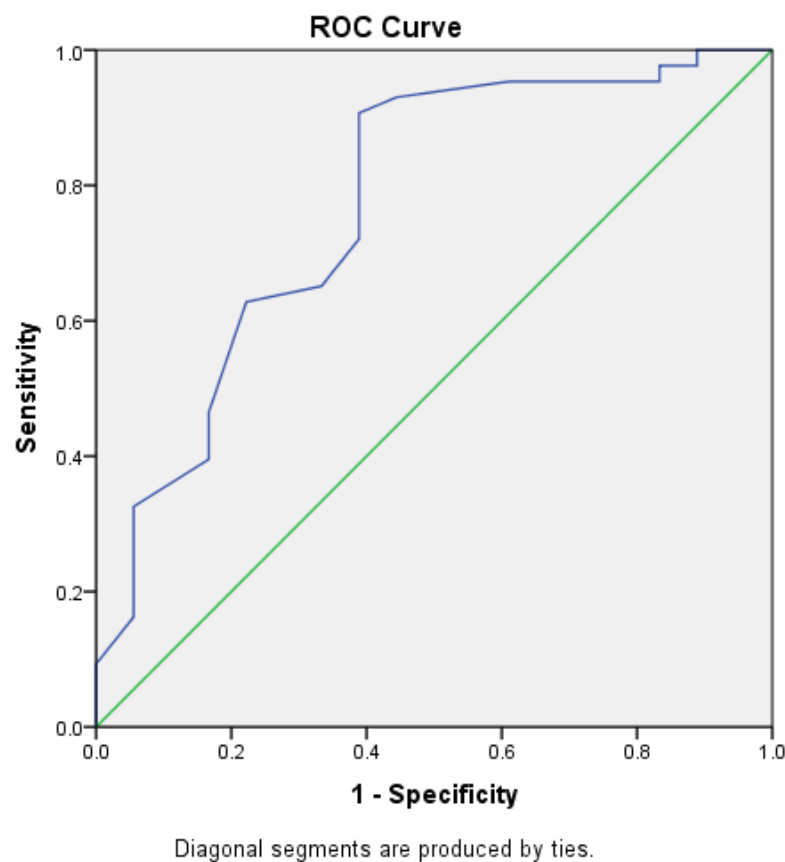


Figure 8.2: ROC curve

The coordinates of the curve are given in Appendix J4.

The performance of a number of cut-off scores was compared with the IPDE diagnosis of AVPD (with or without SP) and is given in Appendix J5. A cut-off score of 20 was chosen as representing the best balance of sensitivity and specificity for the desired aim of screening for an often missed condition (AVPD). This was associated with a sensitivity of 91%, specificity of 61%, positive predictive value (PPV) of 85%, a negative predictive value (NPV) of 73%, and an overall accuracy of 82%.

As at least two of the items (numbers 13 and 15) appeared likely to show some overlap with self-esteem, correlations with other symptom measures were examined. The SCQ score was significantly correlated with the Rosenberg self-esteem score ($r = -0.601, p < 0.01$), DASS depression score ($r = 0.502, p < 0.01$) and to a lesser extent the neuroticism score ($r = 0.432, p < 0.01$). Correlations are shown in Table 8.7). No correlations above 0.7 occurred between any of the predictor variables, suggesting that collinearity was unlikely to be a problem in regression analyses (Tabachnick and Fidell, 2007).

Table 8.7: Correlations between SCQ and other symptom measure predictor variables

	1	2	3	4	5	6	7	8	9	10	11
1 SCQ	--										
2 NEO N	.43**	--									
3 RCBS	.40**	.18	--								
4 RSES	-.60**	-.53**	-.19	--							
5 CATS total	.30*	.26*	.08	-.15	--						
6 DASS depression	.50**	.52**	.17	-.60**	.13	--					
7 DASS anxiety	.40**	.36**	.29*	-.20	.26*	.30*	--				
8 DASS stress	.42**	.40**	.39**	-.27*	.34**	.28*	.64**	--			
9 RQ secure	-.42**	-.14	-.33**	.25*	.07	-.11	-.16	-.11	--		
10 BIS	.19	.33**	.16	-.16	-.12	-.12	-.02	.22	-.29*	--	
11 BAS total	-.15	-.03	-.17	.18	.14	-.25*	.04	.04	.32**	-.04	--

Notes to table:

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

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

Hierarchical logistic regression was conducted to predict AVPD, entering self-esteem, then depression, neuroticism and finally SCQ. Self-esteem alone was a significant predictor of AVPD ($p = 0.02$) and neither depression nor neuroticism added significantly to the model. In the final model, only SCQ was a significant predictor of AVPD status, as shown in Table 8.8.

Table 8.8: Test statistics for regression analysis of self-esteem, depression, NEO N and SCQ

	B	Wald	Sig.	Exp(B)	95% C.I. for EXP(B)	
					Lower	Upper
Self esteem	-.08	.66	.42	.92	.76	1.12
Neuroticism	-.09	1.56	.21	.92	.80	1.05
Depression	.00	.00	.96	1.00	.92	1.09
SCQ	.22	4.89	.03	1.25	1.03	1.52
Constant	1.01	.05	.82	2.75		

Taking the correlational and regression results together, the results suggest that the SCQ is not merely measuring self-esteem or depression, and that the SCQ is a better predictor of AVPD than the Rosenberg Self Esteem Scale when measured against the IPDE as the “gold standard”.

8.6.2 Performance of IPDE items

The seven items assessing DSM-IV criteria in the IPDE had a Cronbach's $\alpha = 0.695$. The weakest items were “Is inhibited in new interpersonal situations because of feelings of inadequacy” (α if item deleted = 0.713) and “Shows restraint within intimate relationships because of the fear of being shamed or ridiculed” (α if item deleted = 0.711). The former was strongly endorsed by persons with AVPD-only (87.5% met criterion fully compared to 22% of those with SP-only and 67% with SP+AVPD), but the latter was relatively poorly endorsed in the group as a whole (37% of the AVPD-only met the criterion fully, compared

to 22% of the SP+AVPD group and none of the SP-only group). These two items were not correlated (Spearman's $\rho = -0.05$, 95% CI -0.33-0.21), and their correlations with other items for AVPD were low (range 0.081- 0.308). Corrected item-total correlations ranged from 0.198-0.660.

8.6.3 Main Problem Questionnaire (MPQ)

Table 8.9 shows the proportion of persons in each diagnostic category (as determined by IPDE) endorsing each social concern, together with results of multiple pairwise chi-square tests. Significance levels were adjusted for multiple testing within the SPSS program. Data was included from 61 participants for whom diagnostic category (determined by IPDE) was known.

Table 8.9: Main social concern by diagnosis

Option Number		Diagnostic group		
		SP-only %	AVPD-only %	SP+AVPD %
1	I worry about embarrassing myself, but I don't think it is very likely that I will	22.2 _a	12.5 _a	11.4 _a
2	I worry about embarrassing myself because I often do	27.8 _a	0 ¹	2.9 _b
3	I worry that others might reject me, but I don't think it is really very likely	11.1 _a	0 ¹	0 ¹
4	I worry that others will reject me as a person because people can be cruel and unfair	5.6 _a	0 ¹	22.9 _a
5	I worry that others will reject me as a person because I really don't have much to offer	27.8 _a	87.5 _b	57.1 _{a,b}
6	None of the above apply to me	5.5 _a	0 ¹	5.7 _a

Notes to table:

_{a,b} Values in the same row not sharing the same subscript are significantly different at $p < .05$ in the two-sided test of equality for column proportions. Tests assume equal variances; tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

¹ This category is not used in comparisons because its column proportion is equal to zero or one.

An omnibus chi-square test for goodness of fit (with $\alpha = 0.05$) was statistically significant: χ^2 (10, N = 61) = 22.49, $p = 0.013$ (Fisher's Exact, 2-sided), indicating that there were some

response patterns evident in the data. On inspection of the data, it was striking that only two categories received responses from participants in the AVPD-only group, with 7 of 8 participants endorsing option 5 as their main concern. It was also notable that no participants with AVPD-only considered that option 2 best described their principal concern, and only a very small proportion of the SP+AVPD group, suggesting that the main concerns of most participants in these two groups involved fears of rejection more so than of embarrassment. The two-sided test of equality for column proportions indicated that between group differences were only significant for options 2 and 5, although differences could not be tested against the AVPD-only group for options 2, 3 and 4 because of zero proportions in these cells. SP-only differed significantly from SP+AVPD on option 2 and option 5, and differed from AVPD-only on option 5.

The initial hypothesis had predicted that option 5 (“I worry that others will reject me as a person because I really don’t have much to offer”) would differentiate SP from AVPD, which was supported by the finding of a significant difference in proportions of those with SP-only endorsing this as the main concern compared to the proportion of those with AVPD-only. There was no significant difference in proportions of those with AVPD-only compared to those with SP+AVPD endorsing this as the principal concern between SP-only and, or between proportions in SP-only and SP+AVPD groups. On visual inspection, option 5 appeared to show a gradient of increasing endorsement from SP-only to SP+AVPD to AVPD-only, suggesting a potential for this item to be able to discriminate between the three diagnostic groups.

Three persons indicated that none of the options regarding social concerns applied to them. Unfortunately, no opportunity was given to allow participants to enter an explanation for

choosing the “none of the above” option. In order to explore whether there were obvious distinguishing features of these participants that might explain this unexpected finding, their data on a range of variables was compared to the mean or median values in their diagnostic group (results are shown in Appendix K). All three were female and two were considerably older (65 and 54 years respectively), compared to the mean age for their diagnostic groups of 28 and 35 years respectively. The oldest woman had a diagnosis of SP-only and also had extensive missing data as she had failed to complete the online questionnaires. None were outliers on any variable for which data was available. The two women from the SP+AVPD group appeared somewhat less disabled (as measured by the WHO Disability Assessment Schedule) than the SP+AVPD group as a whole, somewhat less depressed, and somewhat higher in openness on the NEO-FFI-3. One of the women in the SP+AVPD group rated herself as much more anxious than the group as a whole (score of 24 compared to group median of 12), and one much less anxious (score of 0). The woman with the higher anxiety rating also rated herself as somewhat more extraverted than the group median. The two women from the SP+AVPD group did not appear to differ from the total SP+AVPD group on AVPD dimensional score on the IPDE, level of distress, stress, shyness, self-esteem, neuroticism, childhood trauma, behavioural activation, behavioural inhibition or attachment style. Results are given in Appendix K.

It was concluded that the two respondents for whom data was available (the two women in the SP+AVPD group) showed some differences from the diagnostic group as a whole and from each other but without a clear pattern. Data from these three participants was excluded from further analyses, since the option “none of the above” could not contribute meaningfully to the aims of the study.

To overcome the problem of zero frequencies in some cells and allow further examination of the ability of the MPQ to discriminate between the three diagnostic categories as determined by the IPDE, the MPQ was collapsed into three categories. The categories were informed by clinical observation: a “mild” category formed by combining options 1-3 from Table 8.9; a “negative other-view” category based on option 4; and a “fear of rejection” category based on option 5. The new categories are shown in Table 8.10.

The “mild” category (A) was postulated to be most focussed more on embarrassment, where rejection may be a concern but is seen as not likely to occur: this group was hypothesised to be most closely associated with SP. The “negative other-view” category (B) was generated from clinical observations that some persons with AVPD feared rejection but seemed to attribute it more to punitive others rather than personal inadequacy; this was hypothesised to be associated more with AVPD than with SP but less common than a fear of rejection attributed to personal inadequacy (negative self-view). The “fear of rejection” category (C) was hypothesised to describe a group which fears rejection and sees it as a likely consequence of personal inadequacy (negative self-view; hypothesised as typical of AVPD). An omnibus chi-square test for goodness of fit (with $\alpha = 0.05$) was statistically significant: $\chi^2(2, N = 58) = 14.56, p = 0.001$ (Fisher’s Exact, 2-sided), indicating that there were significant between group differences. Results of multiple pairwise chi-square tests are shown in Table 8.10. Tests were adjusted for all pairwise comparisons within a row using the Bonferroni correction.

Table 8.10 Pairwise chi square tests of MPQ (3 categories) by diagnostic group

Category			Diagnostic group		
			SP-only	AVPD-only	SP+AVPD
A	"Mild"	% within Diagnostic group	64.7% _a	12.5% _b	15.2% _b
	Embarrassment/mild rejection				
B	"Negative other-view"	% within Diagnostic group	5.9% _a	0.0% ¹	24.2% _a
	Rejection because others cruel				
C	"Fear of rejection"	% within Diagnostic group	29.4% _a	87.5% _b	60.6% _{a,b}
	Rejection because not good enough				
Total	Count		17	8	33

Notes to Table:

Each subscript letter denotes a subset of diagnostic group categories whose column proportions do not differ significantly from each other at the .05 level. Tests assume equal variances².

¹This category is not used in comparisons because its column proportion is equal to zero or one.

²Tests are adjusted for all pairwise comparisons within a row of each innermost subtable using the Bonferroni correction.

8.6.4 Predictive ability of SCQ and MPQ together

Multinomial logistic regression was used to examine the ability of the MPQ and the SCQ to predict diagnostic category (SP-only, AVPD-only or SP+AVPD) as determined by IPDE.

Data was excluded from the three respondents who answered that none of the MPQ options applied, leaving 58 cases available for analysis. Small cell numbers for the option of fearing rejection because others were believed to be cruel and unfair resulted in unreliable results.

Therefore, a dichotomous variable of "mild" and "severe" social concerns was created.

"Mild" was characterised as fears of embarrassment or mild concerns about rejection; it was created by using options 1 ("I worry about embarrassing myself, but I don't think it is very likely that I will"), 2 ("I worry about embarrassing myself because I often do") and 3 ("I worry that others might reject me, but I don't think it is really very likely") shown in Table 8.9. "Severe" social concerns were characterised as more severe fears of rejection, based on options 4 ("I worry that others will reject me as a person because people can be cruel and

unfair”) and 5 (“I worry that others will reject me as a person because I really don't have much to offer”).

Ordinal SCQ score (range 6-30) and dichotomous MPQ category were entered into a multinomial regression analysis. The overall model was a good fit according to the Pearson criterion, and significantly improved on the intercept: $\chi^2(4, N = 58) = 17.284, p < 0.01$.

Parameter estimates are shown in Appendix L. Classification accuracy of this model was modest, however: 65% of the SP-only group was classified correctly, 88% of the SP+AVPD group, but none of the AVPD-only group; the overall correct classification rate was 69% (Table 8.11). The sensitivity for SP-only was 73% and for SP+AVPD was 67%. Specificity for SP-only was 27% and for SP+AVPD was 33%. No cases of AVPD-only were correctly classified.

Table 8.11: Classification Table from logistic regression for SCQ total score and MPQ (mild/severe categories)

Classification Table: Logistic regression for SCQ and MPQ (mild/severe categories)				
Observed	Predicted			Percent Correct
	SP only	AVPD only	SP+AVPD	
SP only	11	0	6	64.7%
AVPD only	0	0	8	0.0%
SP+AVPD	4	0	29	87.9%
Overall Percentage	25.9%	0.0%	74.1%	69.0%

Since AVPD is often missed in clinical practice, a screening instrument that could detect AVPD with or without SP would be useful. Therefore, binary logistic regression was used to examine the ability of the MPQ and the SCQ to predict membership of a group with AVPD with or without SP, that is, the combination of AVPD-only and SP+AVPD groups. A test of the model that included both SCQ and MPQ as dichotomous predictors (SCQ $<20/\geq 20$, MPQ mild/severe) was statistically significant: $\chi^2(2, N = 58) = 19.63, p < 0.001$, indicating that the

predictors, as a set, were able to distinguish between SP-only and AVPD. The variance in diagnostic status accounted for was moderate, as estimated by Nagelkerke's $R^2 = 0.409$.

Table 8.12 shows regression coefficients, Wald statistics, odds ratios and 95% confidence intervals for the odds ratio for this analysis.

Table 8.12: Coefficients, Wald statistics and Odds Ratios of the model including SCQ and MPQ

Variables	B	Wald	Odds Ratio	95% CI. for Odds Ratio	
				Lower	Upper
Main social concern (MPQ)	-1.67	4.91	.19	.043	.83
SCQ score (cutoff of ≥ 20)	-1.89	5.61	.15	.032	.72
(Constant)	2.06	17.62	7.87		

The classification table is shown below (Table 8.13). Using a cut-off of 20 on the SCQ and endorsement of options 4 or 5 on the MPQ resulted in a classification accuracy of 84%, with a sensitivity of 83%, specificity of 90%, positive predictive value (PPV) of 83% and negative predictive value (NPV) of 90%.

Table 8.13: Classification table for SCQ with a cut-off of 20 combined with MPQ dichotomized to mild/severe

Classification Table ^a					
Observed			Predicted		Percentage Correct
			SP only vs. AVPD		
			SP only	AVPD (alone or with SP)	
Step 1	SP only vs. AVPD	SP only	9	8	52.9
		AVPD (alone or with SP)	1	40	97.6
	Overall Percentage					84.5

Note to table:

^a. The cut value is .500

8.6.5 Classification accuracy and comparison with models using symptom, demographic and disability measures

In Chapter Six a regression model for predicting two-category diagnostic group membership (SP-only or AVPD with or without SP) indicated that disability level as measured by WHODAS, and childhood trauma and abuse (as measured by CATS) were significant predictors of having AVPD or SP. The model correctly identified 91% of those with AVPD, however, the variance accounted for was small at approximately 31% based on Nagelkerke's R^2 , and 65% of those with SP were misclassified as having AVPD. The overall accuracy of the model was 75%.

By contrast, the measures developed in this study were more accurate. Used alone, the SCQ with a cut-off of ≥ 20 correctly classified 82% of cases. Used alone, the MPQ in a dichotomous version (mild/severe fear of rejection) correctly classified 79% of cases. A regression model that included both predictors correctly classified 84.5% of cases and identified 97% of those who met criteria for AVPD. Sensitivity, specificity and overall accuracy of these various “best model” predictors are shown in Table 8.14.

Table 8.14 Summary of accuracy of different predictors/models

Predictor(s)/Model	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Overall accuracy (%)
Model using disability (WHODAS) and childhood trauma (CATS total)	78	60	78	60	75
MPQ mild/severe	85	65	85	65	79
SCQ using cut-off score of 20	91	61	85	73	82
Model using MPQ (mild/severe) and SCQ (below/above 20)	98	53	83	90	84

Notes to table:

PPV = positive predictive value; NPV = negative predictive value

As well as having greater accuracy, the SCQ and MPQ together are much briefer and more easily scored than the 15 item WHODAS and the 38 item CATS.

8.7 DISCUSSION

AVPD may be reliably diagnosed according to current diagnostic criteria by means of a structured diagnostic instrument administered by a trained interviewer, but this is likely to be available only in very few settings, is very time-consuming, taking 1-2 hours per person, and so is not practical in general clinical practice. A well-validated three item questionnaire (the Mini-SPIN; Connor et al., 2001) is available for screening for SP and the development of a short measure that screens for AVPD has the potential to increase recognition, which might in turn result in more affected individuals finding treatment.

In this sample of persons with SP and AVPD, two brief screening tools showed a high level of sensitivity in identifying AVPD, albeit at the cost of only moderate specificity. However, both the positive and negative predictive values were good. Given that AVPD is often missed, a high level of sensitivity may be considered most important. Whilst some laboratory tests in other medical fields can offer high levels of both sensitivity and specificity, this is often not the case in the field of psychiatry. For example, the GAD-7, a validated screening tool for generalised anxiety disorder, was reported to have a sensitivity of 79% and specificity of 52% in a general psychiatric sample (Beard and Björgvinsson, 2014), and the Hospital Anxiety and Depression Scale has been found to have a poor positive predictive value for specific disorders (anxiety, depression) in a psychiatric population even though it functions well as a screening tool in a general medical population (Herrmann, 1997).

Moderate or low specificity is common with personality screening measures and the positive predictive power is regarded as the more important characteristic (de Reus et al., 2013).

The initial pool of items was informed by several sources including clinical experience and DSM-IV criteria, and the author's experience of patient responses to structured diagnostic questionnaire items. Some items were deliberately included to test the hypothesis that they would not discriminate well between SP and AVPD, and none of these items showed significantly different responses between groups. Information about items that did *not* usefully discriminate any of the groups can contribute significantly towards better understanding where the differences may lie. Perhaps most important in this regard is the failure to find any differences between the groups on:

- Sensitivity to criticism
- Discomfort with unfamiliar people and situations
- Reticence in intimate relationships
- Being unwilling to get involved with people unless certain of being liked
- Being uncomfortable around groups of people

Of the six items in the SCQ that were identified as most reliable, two concern fears around rejection, two relate to social alienation, and two describe a negative self-concept. A test of correlation between this scale and the measure of self-esteem used in the study indicated that the SCQ was not simply measuring low self-esteem. Additionally it is of interest that the measure of self-esteem was not included in the best-fitting regression model for either a three category or two category diagnostic grouping in an earlier study in this thesis (Chapter Six).

By comparison it is interesting to consider how well the items on the IPDE performed in this sample. If the IPDE items were being considered for revision, based on low corrected item-total correlations (CITC), two items: “When you meet someone for the first time, are you usually quieter or more cautious than usual?” (CITC = 0.208) and “When you’re with people you’re very close to, do you hold back your feelings or are you more careful than usual about how you behave?” (CITC = 0.198) would likely be considered candidates for revision or deletion.

Winarick and Bornstein (2015) noted in their sample of psychology undergraduates assigned a diagnosis of AVPD on the basis of the screening version of the IPDE (prone to false positive identification) that factors of “need to belong” and “internalised shame” uniquely predicted avoidant scores in regression analyses. This is consistent with retaining items related to social alienation/belonging and negative self-concept in the SCQ in the current study.

The single best answer questionnaire testing social concerns, the Main Problem Questionnaire, identified some intriguing preliminary findings. Although not statistically significant, the observation that none of the AVPD-only group endorsed the item reflecting a fear of rejection based on a negative other-view is worthy of further testing. Bartholomew and Horowitz (1991) described four relationship attachment patterns (secure, fearful, preoccupied, dismissing) that could also be associated with dichotomised positive/negative views of the self and others, and related to avoidance as a coping mechanism (see Figure 3.2). A fearful attachment style, which several authors have suggested is most typical of AVPD, is said to be associated with negative views of both self and other. In the current study, 52% of those who endorsed a fearful attachment style chose the option “I worry that others will reject

me as a person because I really don't have much to offer” (suggesting a negative self-view) and 18% chose the option “I worry that others will reject me as a person because people can be cruel and unfair” (suggesting primacy for a negative other-view). These findings are worth further exploration.

A similarly notable finding was the selection by seven out of eight persons with AVPD of the option “I worry that others will reject me as a person because I really don't have much to offer”, hypothesised on clinical grounds to most accurately reflect the concerns of those with AVPD. It was of interest that the spread of options selected was broader for those with SP+AVPD, suggesting the possibility that the MPQ screening measure may perform categorically in identifying persons with AVPD without SP. This negative self-view is consistent with lower self-esteem, but given that scores on the measure of self-esteem were not significantly different between groups (as shown in Chapter Six), it is postulated that this option in the MPQ is reflecting more than low self-esteem. With such a small sample this must be regarded as speculative, however, it warrants further testing.

The two scales (SCQ and MPQ together) did not perform quite as well as a regression model that included a 12-item disability measure and a 38-item measure of childhood trauma and abuse, indicating that these longer measures offer information of value in understanding and identifying AVPD. However, at a total of seven items, these two questionnaires, if findings are replicated, would represent practical screening instruments. They are also quick and easy to score, unlike the measure of childhood trauma that was used.

8.7.1 Limitations

The small sample size on which the analyses are based argues for caution in generalising findings until they can be replicated in a larger sample. Additionally, there is a need to test and further refine the screening questionnaires in populations without SP and AVPD.

Three persons chose a “none of the above” option on the MPQ. In retrospect, it would have been useful had this answer prompted a request for a qualitative response to indicate what might have been a better match for their situation. This could be incorporated into future testing.

8.8 CONCLUSIONS

Two quick and simple to administer screening tests showed promise in identifying persons with AVPD from among a mixed sample with SP and AVPD. The scales had a high degree of sensitivity but only moderate specificity. Despite the limitations imposed by a small sample size, this preliminary version of a screening tool provides a foundation for further testing and study. Additionally, it provides useful information about items that may be useful in detecting AVPD, those that may have value in differentiating SP from AVPD, and those that may not be particularly differentiating. Further testing in non-psychiatric samples, and in mixed psychiatric samples is warranted.

Chapter Nine – Discussion

9.1 THESIS OVERVIEW: THE RESEARCH QUESTION AND RESEARCH METHODS

AVPD was introduced to the psychiatric nosology with DSM-III in 1980. Millon originally described AVPD as a subtype of the schizoid character (Millon, 1981a), rather than as part of the social phobia (SP) spectrum. For him, the essence of AVPD was a longing to relate to others, frustrated by essential self-doubt and a mistrust of others leading to active withdrawal from or avoidance of social interaction because of anticipated humiliation or rejection. Overlap with SP began to be problematic in DSM-III-R as a result of changes to the criteria for AVPD, which minimised the role of low self-esteem and hypersensitivity to rejection and added fears of being inappropriate or embarrassed, as well as tendencies to exaggerate dangers and risks (see Chapter Five). The degree of overlap in symptomatology between SP and AVPD has led many to question whether these conditions are meaningfully distinct (Chambless et al., 2008). It was proposed that AVPD occurred only in conjunction with SP and the weight of evidence had for some years supported the “continuum hypothesis” that the two conditions differed only by being placed at different points on a continuum of severity. Since the early decades of research into AVPD a growing number of epidemiological and clinical studies around the world have convincingly demonstrated that it is found at least as frequently without SP as with SP. Yet questions about the meaningfulness of the distinction have remained.

Clinical observation supports a qualitative difference in keeping with the original conceptualisation around profound feelings of inadequacy and intense rejection sensitivity

that goes beyond discomfort or concern about social mismatch. This thesis sought to explore distinctions between AVPD and SP. Quantitative and qualitative methods were employed to examine demographic, distress, disability, symptom, comorbidity, risk and vulnerability correlates, and the lived experience of AVPD. Methodologically, three comparison groups of SP-only, AVPD-only and SP+AVPD were included to avoid the potential bias towards SP of limiting comparisons to SP-only and SP+AVPD groups.

9.2 SUMMARY OF FINDINGS IN THIS THESIS

9.2.1 Literature review

Psychiatric nosology has wrestled with the challenges of defining and classifying disorders for which there are no laboratory tests or unequivocal measures. Although historically understood clinically, the formal introduction of personality disorder diagnoses occurred with DSM-III in 1980. AVPD as a concept was developed out of a tradition of clinical observation (Millon, 1981b). Hence, many of the proposed risk factors and features were somewhat theoretical. However, there was some evidence from the literature for greater impairment, disability and comorbidity than SP-only, high levels of shyness, high scores on temperamental factors of neuroticism and behavioural inhibition and avoidance, low scores on extraversion and self-esteem. These factors were thus included as variables in the studies of this thesis.

9.2.2 Attachment in AVPD

AVPD was conceived of as a longing for relatedness thwarted by fear of rejection, and attachment disturbances were proposed to be key factors in the aetiology of the disorder. A review of the literature on attachment in AVPD highlighted the importance of early caregiver relationships. Emotional neglect and abuse were reported by several research groups to be

risk factors for AVPD. These were examined by means of questionnaires examining relationship styles in adulthood (Chapter Six) and in a qualitative study (Chapter Seven). Several participants in the qualitative study reported experiences of dysfunctional parenting. Parents were often described as highly critical, but also passive and uninvolved. Peers and even siblings were frequently experienced as abusive.

The relationship style questionnaires (Study 3, Chapter Six) confirmed the theoretical predictions and findings from the limited research literature that a fearful attachment style (characterised by a negative views of both self and other) was most common in AVPD, both with and without SP. No participant with APVD endorsed a secure attachment style. However, it was notable that a secure attachment style was less common in the sample as a whole than has been reported to be average in the community.

9.2.3 Prevalence, socio-demographic, comorbidity, distress and disability correlates of AVPD

The first study in this thesis (Chapter Four) used epidemiological data from the first Australian National Survey of Mental Health and Wellbeing (NSMHWB) to estimate the prevalence of AVPD in the community. Contrary to early reports that AVPD almost invariably occurred as a comorbid condition with SP, this study confirmed findings from other recent community-based sources of data that AVPD without SP is the more common situation, found in approximately two thirds of those with AVPD.

Study 1 also examined demographic correlates, comorbidity, disability and distress in the epidemiological sample, comparing SP-only, AVPD-only and SP+AVPD groups. No overall between group differences were seen for gender, employment status, level of education, perceived health status, or for marital status after controlling for age and gender.

On some measures, SP-only and AVPD-only did not differentiate from each other, but were both significantly different to SP+AVPD. This included more social fears reported by those with SP+AVPD, more depression, more suicide attempts and more global distress, even after controlling for depression and substance abuse; also more individuals were in the oldest age category in the SP+AVPD group than either of the other groups.

Study 2 (Chapter Five) compared sociodemographic variables and measures of distress and disability in a sample of persons with AVPD and/or SP. Diagnoses were made using structured diagnostic instruments and clinical assessment. A variable pattern of associations with the three groups of interest was observed. On measures of distress, SP-only and SP+AVPD were most similar; whereas on measures of disability, AVPD-only and SP+AVPD were most similar. The SP+AVPD group was associated with greater personality pathology than either the SP-only or the AVPD-only groups. In the domain of intimate relationships, the SP+AVPD group reported a significantly lower rate of having ever been partnered than both the SP-only and AVPD-only groups. Similarly, the SP+AVPD group was shown to be more impaired.

Significant lifetime partnering differences suggested that comorbidity or additive symptom burden might be more important than whether or not the person met criteria for AVPD, since differences were significant when groups were compared based on the presence of AVPD, but also when a combined group of SP-only and AVPD-only was compared with SP+AVPD. Similarly, AVPD dimensional scores failed to show an association with partnering status, supporting the possibility that AVPD is not specifically related to likelihood of partnering.

9.2.4 Symptom and vulnerability factors in AVPD

Study 3 examined symptom variables including shyness, self-esteem, depression, anxiety and stress, personality and temperamental vulnerability factors, attachment and partnering status, and compared these across diagnostic groups. This study also asked participants about childhood trauma and abuse, considered likely relevant to attachment style, but also potentially an independent vulnerability factor.

As had been seen in earlier studies in this thesis, the pattern of similarities and differences was not consistent across diagnostic groups, with AVPD-only showing more similarities with SP-only on some variables, and with SP+AVPD on other variables. Modest effect sizes were seen for differences on the measure of child abuse and trauma, between SP-only and SP+AVPD groups, and for the proposed neurobiological factor behavioural activation, between SP-only and AVPD-only groups. Anxiety was in the moderate range for SP-only and the extremely severe range for AVPD-only and SP+AVPD, although differences were not statistically significant. Self-esteem was lower than average for all groups, with AVPD-only numerically lowest, but differences did not reach significance when adjusting for multiple comparisons.

On some measures all groups had results in the pathological range, without significant differences between the three diagnostic groups. Each had higher than average levels of behavioural inhibition, shyness, neuroticism, stress and depression, and lower extraversion, conscientiousness and self-esteem.

A regression model that included measures of disability, neuroticism, extraversion, childhood abuse and trauma, lifetime partnering status and presence of a fearful attachment style

explained an estimated 55% of the variance in diagnostic grouping. Higher levels of disability were associated with lower odds of a diagnosis of SP-only relative to AVPD-only and higher odds of SP-only relative to SP+AVPD. Higher levels of neuroticism, never having partnered and having a fearful attachment style decreased the odds of a diagnosis of SP-only relative to SP+AVPD.

9.2.5 Qualitative study of AVPD

The qualitative study (Chapter Seven) represented a novel approach to the study of AVPD. A phenomenological, grounded theory methodology was used to construct themes that depicted key characteristics of AVPD. Purposive sampling was used and saturation was reached after eight participants. Although a lifetime history of social anxiety in at least some situations or at some time in the past was common, most participants felt that the description of SP did not fully capture their experience. Key themes of AVPD were identified as Connectedness, Authenticity, Defective Self, Hypersensitivity, Behaviours and Impacts. The associated burden of the condition was considerable.

In terms of DSM-IV criteria for AVPD, there was little support for the criterion requiring the showing of restraint in intimate relationships due to fear of shame or ridicule: participants who had been able to establish close relationships generally felt more relaxed in such relationships, though still not necessarily able to show their authentic self. Participants longed for the sense of connection they observed in others.

Avoidance was acknowledged as a key problem, and generally identified as a deliberate strategy to provide protection from the discomfort of anxiety or the distress of rejection, which was perceived as the likely response to personal inadequacies. Avoidance could also

be subtle, such as avoidance of confrontation or expressing disagreement. Participants were often aware that they were hypersensitive to both the possibility and to possible signs of rejection. Although the words used to describe perceived personal imperfections were often deceptively mild, the context indicated a depth of intensity of feeling that was better described as being a sense of defectiveness. Participants felt that the significant flaws and limitations of their “true self” would be unacceptable to others, and would trigger rejection. It was clear that “rejection” represented a catastrophic outcome interpreted as a confirmation of the individual’s defectiveness. Many reported trying to appear to be the person they thought others expected or wanted. Hence, many participants reported an uncomfortable sense of inauthenticity that exacerbated feelings of inferiority.

9.2.6 Screening for AVPD

In study 5 (Chapter Eight) a brief, easily scored screening measure for AVPD was developed. The measure encapsulated key concerns of AVPD, derived largely from clinical observations; the findings of the qualitative study supported selection of the included items. Six items that tested beliefs about rejection, self-worth compared to others, existence of confiding relationships and sense of social acceptance accurately identified 91% of those with AVPD. In a separate questionnaire that asked respondents to identify their principal concern from a list of options, seven of eight participants with AVPD-only endorsed the item “I worry that others will reject me as a person because I really don't have much to offer”, compared to only 28% of those with SP-only and 57% of those with SP+AVPD. The resulting screener had a positive predictive value of 83% and a negative predictive value of 90%.

9.3 STRENGTHS AND NOVEL ASPECTS OF THE RESEARCH

Several novel aspects of the current research are worth noting. Firstly, as discussed above, the comparison of three distinct diagnostic groups was designed to overcome gaps in prior research. Recruiting from the community provided the opportunity to extend knowledge about AVPD beyond clinical samples; and the use of mixed methodology increased the depth and breadth of exploration.

Many studies that report associations with the avoidant personality style rely on screening instruments to identify likely AVPD, with the inevitable high rate of false positives associated with such measures. In this thesis, the use of structured diagnostic tools in several of the studies enabled a higher level of confidence that significant findings relate to AVPD as defined by criteria in a major psychiatric classification system.

The qualitative study was the first of its kind to the candidate's knowledge. It extended knowledge around the social fears in AVPD, the meaning of rejection, and the nature of the perceived inferiority. It provided novel additional findings that there is a sense of defective self in AVPD, a double-bind around true self/false self, and that avoidance manifests in a range of behaviours. Importantly it also provided evidence in support of the theorised motivation for avoidance in AVPD as a strategy for avoiding feared rejection.

The results of this thesis also have a number of important implications for classification, clinical practice and future research.

9.4 LIMITATIONS

A potential limitation of this thesis with respect to the definition of SP and AVPD was that only participants who met existing criteria for SP and/or AVPD were included in the studies, and they were grouped accordingly into diagnostic categories for study. Hence, persons with symptoms that might be relevant to understanding disorders of social anxiety more broadly might have been excluded, and of those included, alternative ways of classifying anxieties around interpersonal interactions might have resulted in diagnostic groupings that showed greater distinctness. Further studies with less restrictive exclusion criteria, and which include a qualitative component, might go some way towards addressing this. The development of a questionnaire measure that incorporated elements identified through such research could be valuable towards this aim.

The educational status of the sample was not typical of the population, as a greater proportion had a university education. It is unclear whether this would have affected the results. It probably contributed to the generally high level of articulateness and insightfulness of participants in the qualitative study, and thus may have been an advantage. A higher proportion of male participants (45% for the quantitative study and 62.5% for the qualitative study) than is usual for psychological research was present in this sample, which may limit generalisation of the results. The requirement to attend for personal interviews, which required about 3 hours of a participant's time, may also have biased the study towards those with less than full-time employment, or whose employment involved shift work, thus allowing them to attend during business hours. If lower rates of employment were seen in study participants compared to persons in the community then it may have inflated disability

and severity scores, however, it would be expected that it would have affected all groups equally.

The most limiting aspect of the research was the small number of participants with AVPD-only. This in turn limited the power of statistical analyses. It is possible that true differences failed to reach statistical significance, especially after correcting for multiple testing. Also the use of regression techniques is a relatively conservative approach to analysis. However, with such a limited sample it is also possible that data may not be representative of a larger group.

9.5 IMPLICATIONS OF THE RESULTS

9.5.1 Diagnosis of AVPD and differentiation from SP

The problem of definitional overlap between SP and AVPD was explored in Chapter One. The program of study in this thesis allowed examination of how frequently each criterion in the DSM-IV was met by participants, as determined by the structured personality diagnostic instrument, the IPDE. Chapter Five reported item endorsement rates across diagnostic groups, and Chapter Eight reported reliability measures for the IPDE items for AVPD in the study participants. Two items performed poorly on corrected item-total correlations, as well as being poorly correlated with other IPDE items; these were “Is inhibited in new interpersonal situations because of feelings of inadequacy” and “Shows restraint within intimate relationships because of the fear of being shamed or ridiculed”. The qualitative study found that there was variable pattern of discomfort in social relationships which was more complex than captured in the criteria above. Cognitive factors, such as the perceived level of connection and whether the individual considered themselves to be playing a role, were more relevant in determining how an affected individual felt and behaved in social situations. It was also noted that AVPD Criterion 4 (“Is preoccupied with being criticized or rejected in

social situations”) had to be scored negatively in the IPDE for five participants because they were not socialising at all; this raises issues about the usefulness of this criterion in capturing the interpersonal difficulties that are highly relevant to AVPD.

Unfortunately, changes to the criteria for SP in DSM-5 seem likely to exacerbate the overlap once again, with the inclusion of fears of rejection in the criteria for SP: “The individual fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated (i.e., will be humiliating or embarrassing; **will lead to rejection or offend others**”; Criterion B; full criteria are shown in Appendix A). Skocic and colleagues (2015) have argued that the proposed changes are not completely in line with theory and research.

9.5.2 Symptoms and risk factors in AVPD: differences from SP

Taken together, the results of this thesis support the proposition that AVPD can be distinguished from SP, and provide evidence towards the nature of the differences.

9.5.2.1 *Pattern of quantitative results*

Findings were somewhat consistent with the initial hypothesis that AVPD would differentiate from SP on a range of variables, but the relationship that emerged was more complex and variable than anticipated. In Study 3 (Chapter Six), four distinct patterns of results were observed:

- (1) A linear pattern of increasing severity from SP-only to AVPD-only to SP+AVPD.
- (2) A bimodal pattern with lower levels of symptoms or risk factors for those with SP-only compared to those with AVPD with or without SP.

- (3) A bimodal pattern with lower levels of symptoms or risk factors for those with SP-only and AVPD-only, compared to those with SP+AVPD.
- (4) A “U” or “inverted U” pattern where AVPD-only was associated with higher levels of symptoms or risk factors than SP either alone or comorbid with AVPD.

It can be argued that Pattern 2 is most consistent with the continuum hypothesis, where having a diagnosis of AVPD (with or without SP) is associated with greater severity. Pattern 1 suggests that AVPD is a more severe condition (in keeping with the continuum hypothesis) but suggests that the greatest severity is associated with having both SP and AVPD, which is suggests an additive burden. Patterns 3 and 4 suggest that the relationship between SP, AVPD and various symptom and vulnerability factors is not easily predicted, and presents the strongest evidence that SP and AVPD are distinct conditions, albeit with significant areas of overlap.

The greater symptom and disability burden described in the literature for the comorbid condition of SP and AVPD (Pattern 2) was observed only for some measures in this study, including disability and stress level.

The linear pattern of severity (Pattern 1) was observed for anxiety level, general distress, and self reported shyness. There also appeared to be a “dose dependent” relationship with childhood adversity, with a near linear increase in reported adversity across the three groups. It is argued that this may be partly the result of an additive symptom load rather than being related simply to AVPD as a more severe condition. An alternative to the severity continuum hypothesis more consistent with the findings of this thesis is that SP and AVPD are related but distinct disorders, which share a significant element of social anxiety, and that when both

are present together the burden is often, but not invariably, additive. Greater morbidity and impairment in the SP+AVPD group, when present, may not be solely related to the presence of AVPD. The higher level of personality pathology, relationship impairment, social anxiety, depression, distress, suicidal ideation and suicide attempts in SP+AVPD may be more a function of the additive burden of having two conditions than the presence of AVPD *per se*, since AVPD-only did not differentiate from SP-only on any of these measures apart from suicidal ideation. This might be termed the “additive hypothesis”, however, it is clear that there are exceptions to this hypothesis also, as shown by Pattern 4.

Pattern 4 (U or inverted U) was observed for measures of self-esteem, which was lower in those with AVPD-only than those who had SP, even when they also met criteria for AVPD. Similar findings were observed for temperamental risk factors, where those with AVPD-only appeared to have higher neuroticism scores and higher levels of behavioural inhibition, lower extraversion, openness and lower conscientiousness scores, and lower levels of reward-responsiveness, fun-seeking and drive. Depression level was greater for AVPD-only than either of the other groups. Although results in many cases did not reach statistical significance, these patterns raise the intriguing possibility that for some measures of risk and distress, meeting criteria for SP may actually be a protective factor. There is a precedent for this in the psychiatric literature, where a similar situation has been established for psychotic disorders, in which the presence of affective symptoms in those with psychoses is associated with a more favourable long term outcome (Pinna et al., 2014; Harrow et al., 2000). Further, a U-shaped relationship between trust behaviour and plasma oxytocin levels has also been reported (Zhong et al., 2012). Oxytocin is known to be associated with both social attachment

and trust, and a relationship with resilience has also been suggested (Montag and Reuter, 2014).

With respect to relationship style, although a fearful attachment style was about as common in SP-only as in AVPD-only, much higher rates were seen in the comorbid condition, and a secure attachment style was reported solely in the SP-only group. This suggests elements of both Pattern 2 and Pattern 3.

Results for many measures showed Pattern 3, where persons with AVPD-only scored more similarly to those with SP-only. An example of this is seen in relationship status, where data suggest that those who met criteria for only one social anxiety disorder, whether SP or AVPD, were more likely to have had at least one intimate relationship compared to those with the dual diagnosis.

9.5.2.2 *Qualitative differences*

The qualitative study identified that similar risk mitigation strategies to those reported in SP were employed by participants, including attempts to control the environment, rehearsal of planned interactions, and intense monitoring of the social environment. However, participants also reported over compensation for perceived deficiencies, something that has not been described in SP. As another point of difference, the feared outcomes were seen as particularly wounding and permanent for those with AVPD, providing a more compelling motivation to use these risk mitigation strategies. The Defective Self theme best captured differences from SP.

9.5.3 The nature of AVPD

In exploring differences between SP and AVPD more light was shed on the nature of AVPD. Fears of rejection and humiliation feature in the definition of both AVPD and SP. The participants in the qualitative study were able to add considerably to understanding of the nature of these fears for persons with AVPD, in particular the meaning of rejection as a global judgement of the person as being of no worth. When this is the feared consequence it is no wonder that individuals try all means at their disposal to avoid it. Study 4 confirmed this as an important motivating factor behind the coping strategy of avoidance. Personal estimates of the probability of rejection are likely to be inflated by the intense feelings of inferiority and low self-worth experienced by those with AVPD. Also relevant is the sensitive disposition reflected in high Neuroticism scores which several authors propose as a driver of withdrawal and avoidance as strategies to “regulate” interpersonal pain (Beeney et al., 2015; Eggum et al., 2009). As the study further illuminated, these strategies include extensive avoidance of social interaction, but also actively trying to appear to be the person they feel that others would like or approve, and excessive avoidance of situations that might even remotely be regarded as conflictual, including disagreeing with another’s opinion or declining a request. This is consistent with the notion of “choosing to subjugate to others and/or inhibit their feelings” referred to by Carr and Francis (2010). Suppression of emotional expression and inhibited self-assertion as a defensive strategy to avoid negative social evaluation is described in the social cognition literature (Antonsen et al., 2016; Srivastava et al., 2009). A number of personal and social costs of excessive or inappropriate emotional suppression have been described, including reinforcement of low self-esteem, barriers to initiating or establishing interpersonal relationships, and adverse social judgements about the individual (Srivastava et

al., 2009; Tackman and Srivastava, 2016). In this way the feared rejection may actually occur because of behaviours designed to prevent it.

That concerns about rejection and feelings of inadequacy are not typical of SP is suggested by the higher self-esteem evident in the SP group, and the much greater endorsement by those with AVPD of the item “I worry that others will reject me as a person because I really don't have much to offer” on the MPQ screener developed in Study 5. This item captures both the global interpretation of rejection and the perceived inferiority as the likely reason for rejection. The DSM-IV descriptions of viewing the self as “inferior” or having a sense of personal “inadequacy” appear in the light of the findings from the qualitative study in this thesis not to fully capture the intensity that was identified in the qualitative study as a sense of “Defective Self”. The existence of a small literature on “malignant self-regard” (MSR) in other personality disorders is of significant interest. Characteristics of MSR are said to include depression, shame, beliefs of personal inadequacy, hypersensitive self-focus, perfectionism, difficulty expressing anger, pessimism, masochism and fantasies of approval (Lengu et al., 2015). Not all these elements occur in AVPD, but this presents the possibility of an interesting avenue of exploration.

High levels of neuroticism and low levels of extroversion were consistent with the existing literature. However, it is noteworthy that all groups in Study 3 showed average levels of agreeableness. This temperamental factor encompasses an individual's capacity for cooperativeness, empathy and connectedness. Clearly neither AVPD nor SP represent deficits in this domain; this was also evident from the qualitative study and supports a distinction from Schizoid PD in which there the person neither desires nor enjoys intimacy.

9.5.3.1 *Attachment and relational capacity in AVPD*

The systematic review of attachment in AVPD highlighted the relative paucity of studies focussed on AVPD, and also the challenges for research in the field arising from two different traditions of understanding and evaluating attachment. The personality psychology approach represents a more accessible strategy, but it is likely that the psychodynamic conceptualisation is more readily translatable to a therapeutic application. The most commonly reported finding in the literature was of an anxious/avoidant attachment style; relatively few studies reported on the four category model of Bartholomew and Horowitz (1991) and of those, both fearful and preoccupied styles were reported. It is proposed that a fearful style is associated with negative views of both self and other, and a preoccupied style with negative views of self but a positive other-view (Bartholomew and Horowitz, 1991).

The same developmental factors of parental abuse, neglect, criticism or emotional negativity which may have given rise to a fearful attachment style are also likely to be highly influential in the aetiology of the devastatingly negative self-concept inherent in AVPD. Notably, several qualitative study participants reported highly punitive parents, and later critical or abusive peers. Clark (2005) notes that a bidirectional influence between psychopathology and personality may operate, whereby, for example, anxiety and depression may have lasting effects on personality, and personality may predispose to anxiety and depression. Similarly, others have argued for a bidirectional flow of influence between personality and environment. The expectations of rejection that lead to avoidance also result in lost opportunities to build social and relational skills and establish the close relationships that are so longed for. The absence of intimate relationships contributes to loneliness and reinforces

ideas of unlovability (Beck, 2015), that further reinforce fears of rejection, and hence avoidance.

In common with the three studies in the literature that employed the four category model of attachment (Brennan and Shaver, 1998; Nakash-Eisikovits et al., 2002; Riggs et al., 2007), amongst those with AVPD a fearful attachment style was the most common, followed by a preoccupied style. Pos (2014) discussed the possibility that if there was a good initial attachment experience the individual might develop a positive other-view, as well as the desire for close connections, and possibly idealisation of close others. If the individual subsequently experienced harsh or negative treatment from caregivers or others, then they might internalise this negative view of themselves, as well as developing a view of others as critical and rejecting. This would be consistent with a fearful style, but does not explain a more preoccupied style. Perhaps if individuals retained an idealised view of at least some others, then a preoccupied rather than dismissing style might result. The preoccupied state of mind is also said to be associated with an excessive focus on the individual's own feelings (Dozier et al., 2008, p. 738), which is consistent with the hypersensitivity of AVPD confirmed in the qualitative study in this thesis. Bowlby (1977) proposed that concern about the availability of the caregiver underlies most anxiety disorders, and in this context it is of interest that Eikenaes and colleagues (2016) described a heightened fear of abandonment in a clinical sample with AVPD which contributed to severity and differentiated the group from those with SP-only.

The language and communication style that individuals use to describe their families of origin is relevant when considering attachment style. Several participants in the qualitative study began with an idealised view of their parents or early home life, yet later described

details consistent with emotional neglect, harsh and persistent criticism and even physical abuse by parents. As reported in the systematic review of attachment in AVPD (Chapter Three), the developmental model of attachment proposes that individuals have attachment states of mind that may be largely unconscious, but can be inferred from the ways in which they talk about their early experiences (Steele and Steele, 2008). Dozier and colleagues contend that anxiety disorders in which avoidance is a prominent symptom are most closely associated with dismissing attachment states of mind (Dozier et al., 2008). In the Adult Attachment Interview (AAI), a semi-structured interview that employs discourse analysis to infer respondents' childhood attachment experiences and current attachment states of mind (Steele and Steele, 2008), a dismissing attachment style is coded when a respondent describes childhood relationships with parents in an idealising manner, but appears unable or unwilling to provide specific examples, or, if such examples are provided, their impact or significance is minimised (Bretherton and Munholland, 2008). There are indications that at least some participants in the current study may have been classified as having a dismissing attachment state of mind according to the developmental model which gave rise to the AAI. For example, one participant demeaned the value of lost social/relational opportunities in an attempt to manage uncomfortable affect. This would be consistent with a mature (adulthood) articulation of a dismissing attachment style, whereby the desired attachment object is denigrated to reduce the distress caused by its being unattainable.

A link has also been demonstrated between parents with a dismissing attachment style and infants classified as avoidant in the "Strange Situation" test (Bretherton and Munholland, 2008). Notably, several participants in the current study described parents who seemed emotionally passive and detached, unable or unwilling to respond when their children were

emotionally distressed. Attachment style may also be linked to emotional suppression, with one study showing greater use of emotional suppression strategies by those with an avoidant attachment style (Gawda et al., 2016).

The suggestion of a dismissive attachment style seems at first glance inconsistent with findings in Study 3 (Chapter Six) in which vignettes describing different beliefs about comfort in relationships were presented to participants and they were asked to rate the degree to which each applied to them (see RQ, Appendix E8); the vignette consistent with a fearful attachment style was endorsed most strongly by all diagnostic groups, followed by the vignette which portrayed a preoccupied attachment style. These seeming inconsistencies may be more apparent than real, and due to the use of two different classification systems.

Bartholomew (1990), who first proposed the model that underlies the measures used in Study 3, regarded both dismissing and fearful styles as types of avoidant attachment, which differed mainly in terms of whether the model of self was positive or negative. The fearful style was characterised by a desire for intimacy and social relationships, in the context of “pervasive interpersonal distrust and fear of rejection” and Bartholomew noted that if “taken to an extreme” it corresponded with AVPD. Secondly, the attachment states of mind model explicitly acknowledges that different attachment related behaviours may be manifest in different interpersonal contexts, so does not preclude an individual identifying more than one attachment style. Indeed, the same participant in the qualitative study who demeaned the value of the unobtainable (social participation) also reported use of avoidant strategies, trying not to think about lost opportunities. This study did not employ the AAI, and so an impression of a dismissing style might not have been borne out by a full interview. Whatever

the subtype may be, it is clear that participants had an insecure attachment style, weighted strongly towards an avoidant style.

9.5.4 Implications for definition and classification

“Thoughtful clinicians are aware that diagnostic categories are simply concepts, justified only by whether or not they provide a useful framework for organising and explaining the complexity of clinical experience in order to derive predictions about outcome and to guide decisions about treatment.” (Jablensky, 2005).

“To capture the empirical reality of psychopathology, therefore, explanatory models must account for both broad shared factors and extensive heterogeneity within both broad diagnostic categories and single diagnoses.” (Clark, 2005)

As noted in the introduction to this thesis, current categorical classification systems are unable to accommodate the real-life complexities of psychiatric conditions. Current criteria for SP and AVPD define groups with many similarities but also some differences, which would fit well within a more dimensional model of personality. It has been argued that the Five Factor Model (FFM) of personality synthesises both dimensional and categorical models of personality, as reliable and meaningful FFM profiles can be identified for each DSM-IV PD (Saulsman and Page, 2004). Several studies have confirmed an association for AVPD with high neuroticism and low extraversion, including expert consensus studies and a meta-analysis (Lynam, 2001; Alden et al., 2002; Saulsman and Page, 2004). In the current thesis, the median neuroticism score for all groups was in the very high range, and the median extraversion score in the very low range, so these factors did not differentiate “illness” from disorder.

In proposed changes for ICD-11 a set of “domain traits” has been defined to reflect key domains of personality dysfunction (Tyrer et al., 2015). At the time of writing these proposed domains were defined as: Negative Emotional (consistent with Neuroticism), Detached, Anankastic, Antisocial and Borderline (Mulder et al., 2016). These domains are very similar to a number of the FFM domains and, importantly, the domain traits are not regarded as inherently pathological: all individuals will have a profile across these domains.

A hierarchical dimensional model of personality has been proposed, with what has been called the “Big Three” of neuroticism/emotionality, extraversion/sociability and impulsivity/disinhibition as the highest order personality traits in a “tripartite” model (Cale, 2005; Clark, 2005; Tyrer et al., 2015). These higher order traits can each be divided into a number of more descriptively fine-grained traits; this is accomplished in the NEO by means of facets, for example, anxiousness, self-consciousness and vulnerability as facets of neuroticism. This model does not distinguish symptom disorder from personality disorder, but describes disorder on the basis of functional disturbance related to the level of trait expression in one or more of these domains.

The developers of DSM-5 elected not to adopt this somewhat radical departure from existing classification systems, arguing that this domain-based model has yet to be validated (Oldham, 2015). DSM-5 is based on disorder categories, with disorders grouped together as far as possible based on empirical findings. Some changes were made to group disorders with broad similarities together whilst acknowledging distinctiveness by retaining separate diagnoses. For example, obsessive compulsive disorder (OCD) was moved from anxiety disorders to a new category of Obsessive-Compulsive and Related Disorders, and post-traumatic stress disorder (PTSD) to Trauma- and Stressor-Related Disorders. Using such a classificatory

framework, a category of “Social and Interpersonal Anxiety” may have utility. Within this proposed category a number of disorders that share excessive social anxiety yet have clinically meaningful distinctions might be grouped. Following the DSM style of grouping of criteria, domains that research suggests might be useful would include those related to social cognition, social behaviour, relational capacity and self-concept. Skocic and colleagues (2015) have proposed a similar model for SP, which they refer to as a hybrid dimensional/categorical model. For AVPD, specific criteria might refer to the desire for social relationships (to distinguish AVPD from schizoid personality disorder), self-view (negative/positive and extent, for example, globally negative vs. self-critical about limited aspects of the self), other-view (negative/positive views and expectations of others), and feared social outcomes (for example, embarrassment vs. fears of global rejection). Much more research would be needed to test the validity and utility of such a change.

9.5.4.1 *An alternative conceptualisation of the relationship between SP and AVPD*

A hybrid model including both categorical and dimensional elements has been proposed by some authors; it is appealing as Livesley (2011) has noted but it is unclear how it might be organised. It seems likely from the current thesis and other research that SP and AVPD are not merely severity points on a continuum. They are similar yet different, but their similarities suggest that they may belong together in a classification system. Some characteristics of SP are more typical of the traditional notion of personality disorder, especially its chronicity, and it has been reported that some of the criteria for AVPD appear more reactive and behavioural, showing less stability over time and therefore having more of the character of a symptom disorder (McGlashan et al., 2005; Torvik et al., 2016). A number of authors have described quite significant remission rates for AVPD but also other PDs over

time (Grilo et al., 2004; Skodol, 2015), and Torgersen (2009) also notes that PD symptoms fluctuate much more than is supposed to be the case. In fact, the spontaneous remission rates for SP and AVPD look quite similar. Any model must be able to account for both shared (e.g., temperament) and distinct factors (Clark, 2005). Both shared and specific genetic factors (Ask et al., 2014; Kendler et al., 2008; Borkenau et al., 2001) and shared and unique environmental factors have been demonstrated across a range of disorders (Ask et al., 2014; Shonkoff et al., 2011; Clark, 2005). The weight of opinion favours re-integration of personality with “illness” (“symptom disorders” or psychopathology), acknowledging considerable overlap in vulnerability factors, symptoms and even course.

Regarding SP and AVPD more specifically, whilst they may share some symptoms and vulnerability factors, it has been discussed that this does not imply that it is invalid to define two separate, albeit related, disorders (Kendler et al., 2007; Smoller, 2007). For example, separating the disorders may have relevance to risk and treatment planning (Brown and Barlow, 2005). Also along these lines, it has been argued that eliminating a separate category of AVPD would present a risk that clinicians might attribute deficits in interpersonal functioning as merely the expression of social anxiety, potentially missing more severe personality problems (Bögels et al., 2010). Bogels and colleagues (2010) also argue that any merging or elimination of AVPD is premature given the incomplete state of knowledge about the spectrum of social anxiety, and further, that preserving the diagnostic category of AVPD might facilitate such research.

Overall it seems that a hybrid model including both categorical and dimensional elements is likely to be most useful. At the individual level, a dimensional model based on domains of

social function and self-concept may have most utility in capturing an accurate and detailed enough clinical picture to inform treatment approaches.

9.5.5 Implications for recognition and treatment

The findings in this thesis have a number of implications for recognition and treatment of AVPD. Increased recognition of AVPD, especially in patients with SP or depression is important in this often over-looked and misunderstood condition. The epidemiological survey reported in Chapter Four identified an increased risk of suicidal ideation in persons with AVPD, with a history of increased suicide attempts in those with SP+AVPD. This suggests that a failure to recognise AVPD and provide effective treatment may not only be attended by significant distress and impairment, but also by the risk of suicide.

The nature and severity of the deficits in the sense of self, in the presence of a strong drive towards appeasement and creating the appearance of meeting perceived interpersonal expectations mean that the individual with AVPD is likely to present as much less distressed and impaired than may actually be the case. Indeed, several participants reported having been told by a previous mental health clinician that their problems seemed relatively minor. More than 50% of those with AVPD were employed at least part-time (compared to 39% in the SP-only group), and thus superficially may have appeared to be functioning well: however, clinical history indicated that many were likely working in jobs which were below their intellectual and educational capacity, and most had a history of having many job changes as they sought to accommodate their difficulties. In their desire to be accepted and avoid making others uncomfortable, patients may minimise their symptoms and distress. Hence, therapists should expect that a high degree of distress and dysfunction is generally associated with AVPD even if not readily apparent from the patient's demeanour or superficial history. The

transcripts from the qualitative study told an often heart-wrenching story of loneliness, isolation, absence of life satisfaction and intensely negative self-concept. The quick and simply scored screening questionnaires developed as part of this thesis may assist busy clinicians and those with relatively little experience of AVPD to identify patients who might benefit from expert assessment. These questionnaires warrant further empirical study and refinement as appropriate.

For those in whom AVPD is recognised, a better understanding of the impairments in the sense of self and in attachment style may enable a better quality therapeutic relationship to be established, increase retention of the individual in treatment, and guide the nature of the therapy provided. The findings in this thesis are in accordance with a literature that suggests that attachment, self-concept, emotional regulation and relational/interpersonal functioning are linked: each of these represents an important target of therapy, but clearly needs to be addressed in an integrated way. In this regard dynamic psychotherapy may be an important therapeutic strategy.

Cognitive behavioural strategies likely also have a place, to reduce avoidance, challenge maladaptive beliefs and interrupt reinforcement cycles. Self-esteem and self-concept appear highly relevant to AVPD beyond just inclusion in the criteria for APVD as “sense of inferiority”. Self-esteem influences appraisals of self and others in social situations, as well as influencing social behaviour in ways that might attract negative evaluation: this represents a possible reinforcement cycle. The implication is that both self-esteem and cognitive appraisals may need to be targeted in therapy. There is also research which suggests that therapy that results in reduced shame, guilt and avoidance predicts higher levels of self-compassion post treatment (Schanche, 2013).

Retaining patients with AVPD in therapy is challenging. By being aware that the individual with AVPD is likely to have a fearful, preoccupied or dismissing attachment style, the therapist may be able to assess this and then anticipate the types of challenges that are likely to arise in the therapy (Barber et al., 1997). It is clear that individuals are likely to be highly vigilant for any sign of rejection on the part of the therapist, yet strongly desire a close (therapeutic) relationship. Their hypersensitivity may lead to a misinterpretation of ambiguous cues, as many of the participants in the qualitative study were able to acknowledge. Such patients may also be reticent to express negative affect, and may suppress emotional responses. Establishing an early treatment alliance is an important predictor of outcome of psychological therapy (Strauss et al., 2006) and may also increase the likelihood of repairing ruptures in the treatment alliance; rupture-repair experiences have also been linked to outcome. It is particularly important to anticipate that individuals with AVPD who feel that the therapist does not like or respect them (however unrealistic this may be) are likely to simply drop out of treatment without voicing any concerns. More active follow-up may be warranted than might usually be the case, as it may possibly reassure the patient of positive regard. It also became evident from the qualitative study that patients with AVPD are unlikely to express any disagreement with the therapist. This may lead to misunderstandings if, for example, the therapist offers a formulation or interpretation that is inaccurate. To overcome this challenge the therapist may need to check at intervals whether they are on the right track, ask open questions, and search for less anxiety-provoking ways for patients to express their opinions.

9.5.6 Implications for future research

The discovery that AVPD-only shows more similarity to SP-only than to SP+AVPD on some measures suggests that the practice of combining persons with AVPD-only and SP+AVPD in one group for study should not be routine. It is possible that doing so may obscure differences from SP that may be relevant to understanding and treating AVPD. In view of the relatively small sample size of the AVPD-only group in the current research, these findings must be regarded as preliminary and requiring replication, but they are of significant interest.

Recruiting an AVPD-only group from the community was difficult, but might be easier in clinical settings, and especially in settings offering psychotherapy or units specialising in the treatment of personality disorder. When numbers are small, it may sometimes be better to compare a single diagnosis group with a dual diagnosis group, rather than differentiating on the presence or absence of AVPD.

Further testing of the screening questionnaire is warranted to establish its validity and reliability in larger samples, and in settings where it is likely to be used, such as primary care and specialist mental health practices.

The findings from the qualitative study on negative self-concept and emotional suppression appear highly relevant to research being conducted in the area of social cognition, and suggest that this field of research may hold promise both for further investigation into the nature of AVPD and its relationship to SP.

Chapter Ten – Conclusions

Conclusions

Taken together, the results of the several studies of this thesis support the proposition that AVPD can be distinguished from SP. The results further suggest that the relationship between AVPD and SP is more complex than can be accounted for by a model limited to symptom severity. The epidemiological study firstly demonstrated that the prevalence of AVPD in the community is about 1.5%, and that two thirds of those with AVPD do not have an additional diagnosis of SP. Consistent with other literature, in both the epidemiological and recruited samples there were relatively few socio-demographic differences between groups with SP-only, AVPD-only and SP+AVPD (Chapter Three). However, the SP+AVPD group tended to be slightly older, more distressed and disabled, and to have more depression and suicide attempts than either SP-only or AVPD-only. The disability, distress, impairment and comorbidity patterns for SP and AVPD reflected an additive pattern, with SP+AVPD appearing more severe than both SP-only and AVPD-only. However, a more variable pattern of associations with symptoms and vulnerability factors was identified. Hence, the first hypothesis of this thesis, that AVPD would differentiate from SP on socio-demographic variables and specific symptom and vulnerability variables including self-esteem, shyness, depression, heritable temperamental/personality factors, biobehavioural personality factors, and negative family environment in childhood, received inconsistent support.

The second hypothesis, that inclusion of a group with AVPD without SP to compare with SP-only and SP+AVPD groups would identify differences that might be missed if using SP-only compared to SP+AVPD groups (that is, where all participants have SP) was supported by

these findings, since AVPD-only did not show a consistent pattern of relationships with either SP-only or SP+AVPD.

The hypothesis that insecure attachment is a significant problem in AVPD and that it represents an area of differentiation from SP was supported both by the broader literature (reviewed in Chapter Three) and the findings of more fearful attachment and a lower rate of secure attachment in AVPD compared to SP (Chapter Six).

The final hypothesis, that key personal beliefs and attitudes in AVPD around self-concept and rejection differentiate it from SP and provide a basis for rapid screening for the condition received partial support. Self-esteem did not differentiate groups when assessed using an existing self-report measure (Chapter Six); however, qualitative findings around intensely negative self-regard, and an item on the screening measure that tapped into feelings of inferiority did differentiate the groups (Chapters Seven and Eight).

This thesis also reported a number of novel findings. Empirical support was found for the clinical impression that “rejection” to the individual with AVPD has a catastrophic meaning not seen in SP: it is viewed as a global judgement by others of the individual as a worthless, unworthy person. This view only seems to confirm the individual’s own internalised intensely negative self-view (the “defective self”). Another novel finding was the double-bind around “inauthenticity” where the authentic self, being viewed as defective, is outwardly replaced by the inauthentic self – the persona that the individual with AVPD believes will be acceptable to others. This “false self” is excessively appeasing and accommodating; avoidance of being authentic lest it provoke rejection only reinforces feelings of inferiority. This thesis also identified that avoidance has a number of behavioural manifestations, and

social reticence is a complex and dynamic phenomenon, changing according to the social context, the duration and the nature of the social relationship. These findings add considerably to understanding of the nature of AVPD and differentiate it from the concerns of SP, which relate more to fears of embarrassment because of social performance but with a much less impaired sense of self and capacity for intimate relationships.

10.1 CONCLUSIONS REGARDING THE NATURE OF AVPD AND ITS RELATIONSHIP TO SP

The studies in this thesis suggest that while persons with AVPD, with or without SP, are often more distressed and impaired than those with SP, it is not simply due to more severe social anxiety. Rather, there are broader problems that adversely affect wellbeing and function, including attachment difficulties and a pervasive and intensely negative self-concept not generally found in SP-only.

The possibility that there are common vulnerabilities that underlie both SP and AVPD is supported by the data. These vulnerabilities include temperamental factors with significant heritability such as neuroticism, extraversion, behavioural inhibition and behavioural activation. These factors have previously been demonstrated to be risk factors for SP but the current research is novel in demonstrating that they are also relevant for AVPD. On this substrate of biological vulnerability, environmental factors such as child abuse and trauma may influence the development and nature of pathological social anxieties in later life, and, perhaps particularly for AVPD, relational attachment styles that reinforce social fears, avoidance and feelings of inadequacy.

Finally, the personal strengths of those with AVPD were also revealed in the research in this thesis. That so many participants had educational attainments beyond high school level and

were financially self-sufficient was a testament to their determination and resilience. This was a group of individuals who were warm and engaging, insightful, thoughtful and caring, and who had much to offer others if only they could overcome their own fears and deep insecurities.

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Appendix A: Criteria for SP and AVPD through versions of the Diagnostic and Statistical Manual of Mental Disorders

Criteria for AVPD through versions of the Diagnostic and Statistical Manual of Mental Disorders

DSM-III (1980)	DSM-III-R (1987)	DSM-IV (1994) & DSM-5 (2013)
Social withdrawal, e.g., distances self from close personal attachments, engages in peripheral social and vocational roles.	Avoids social or occupational activities that involve significant interpersonal contact.	Avoids occupational activities that involve significant interpersonal contact because of fears of criticism, disapproval, or rejection.
Unwillingness to enter into relationships unless given unusually strong guarantees of uncritical acceptance.	Is unwilling to get involved with people unless certain of being liked.	Is unwilling to get involved with people unless certain of being liked.
		Shows restraint within intimate relationships because of the fear of being shamed or ridiculed.
Hypersensitivity to rejection, e.g., apprehensively alert to signs of social derogation, interprets innocuous events as ridicule.	Is easily hurt by criticism or disapproval.	Is preoccupied with being criticized or rejected in social situations.
		Is inhibited in new interpersonal situations because of feelings of inadequacy.
	Is reticent in social situations because of fear of saying something inappropriate or foolish, or of being unable to answer a question.	
Low self-esteem, e.g., devalues self-achievements and is overly dismayed by personal shortcomings.		Views self as socially inept, personally unappealing, or inferior to others.
	Exaggerates potential difficulties, physical dangers, or risks involved in doing something ordinary but outside his or her usual routine.	Is unusually reluctant to take personal risks or to engage in any new activities because they may prove embarrassing.
	Has no close friends or confidants (or only one) other than first degree relatives	
Desire for affection and acceptance.		
	Fears being embarrassed by blushing, crying or showing signs of anxiety in front of other people.	

Key criteria for SP through versions of the Diagnostic and Statistical Manual of Mental Disorders

DSM-III (Social Phobia)	DSM-III-R (Social Phobia)	DSM-IV (Social Phobia)	DSM-5 (Social Anxiety Disorder)
A persistent, irrational fear of, and compelling desire to avoid, a situation in which the individual is exposed to possible scrutiny by others and fears that he or she may act in a way that will be humiliating or embarrassing.	A persistent fear of one of more situations (the social phobic situations) in which the person is exposed to possible scrutiny by others and fears that he or she may do something or act in a way that will be humiliating or embarrassing. (Criterion A)	A marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. (Criterion A)	Marked fear or anxiety about one or more social situations in which the individual is exposed to possible scrutiny by others. Examples include social interactions (e.g., having a conversation, meeting unfamiliar people), being observed (e.g., eating or drinking), and performing in front of others (e.g., giving a speech). The fear or anxiety is persistent, typically lasting for six months or more.
			The individual fears that he or she will act in a way or show anxiety symptoms that will be negatively evaluated (i.e., will be humiliating or embarrassing; will lead to rejection or will offend others).
Significant distress because of the disturbance and recognition by the individual that his or her fear is excessive or unreasonable.	The phobic situation(s) is avoided, or is endured with intense anxiety. The person recognizes that his or her fear is excessive or unreasonable.	The feared social or performance situations are avoided or else are endured with intense anxiety or distress. The person recognizes that the fear is excessive or unreasonable.	The social situations are avoided or endured with intense fear or anxiety. The fear or anxiety is out of proportion to the actual threat posed by the social situation and to the sociocultural context.
	During some phase of the disturbance, exposure to the specific phobic stimulus (or stimuli) almost invariably provokes an immediate anxiety response.	Exposure to the feared social situation almost invariably provokes anxiety, which may take the form of a situationally bound or situationally predisposed Panic Attack.	The social situations almost always provoke fear or anxiety.
	The avoidant behaviour interferes with occupational functioning or with usual social activities or relationships with others, or there is marked distress about having the fear.	The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.	The fear, anxiety or avoidance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Notes to Appendix A:

1. DSM-III criteria reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Third Edition, (Copyright 1980). American Psychiatric Association.
2. DSM-III-R criteria reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Third Edition – Revised, (Copyright 1987). American Psychiatric Association.
3. DSM-IV criteria reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, (Copyright 1994). American Psychiatric Association.
4. DSM-5 criteria reprinted with permission from the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, (Copyright 2013). American Psychiatric Association.
5. All versions required that symptoms were not better explained by another mental disorder (in DSM-III this included AVPD).
6. DSM-III-R onwards specified that if a medical condition was present, the social fears were unrelated.
7. DSM-IV and DSM-5 also require that symptoms not be due to the direct physiological effects of a substance or a medical condition.

Appendix B: Quality Assessment Tool for Observational Cohort and Cross-Sectional Studies

This tool was obtained from:

<http://www.nhlbi.nih.gov/health-pro/guidelines/in-develop/cardiovascular-risk-reduction/tools/cohort>

(Accessed on 26 August 2016)

The tool was adapted by subdividing item 4 into 4a (population that the sample was drawn from) and 4b (inclusion and exclusion criteria, and time frame). Other notes regarding its use are given below.

Criteria	Yes	No	Other (CD, NR, NA)*
1. Was the research question or objective in this paper clearly stated?			
2. Was the study population clearly specified and defined?			
3. Was the participation rate of eligible persons at least 50%?			
4a. Were all the subjects selected or recruited from the same or similar populations (including the same time period)?			
4b. Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?			
5. Was a sample size justification, power description, or variance and effect estimates provided?			
6. For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured?			
7. Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?			
8. For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?			
9. Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?			
10. Was the exposure(s) assessed more than once over time?			

11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?			
12. Were the outcome assessors blinded to the exposure status of participants?			
13. Was loss to follow-up after baseline 20% or less?			
14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?			
Quality Rating (Good, Fair, or Poor) (see guidance)			
Rater #1 initials:			
Rater #2 initials:			
Additional Comments (If POOR, please state why):			

*CD, cannot determine; NA, not applicable; NR, not reported

Notes regarding use of this tool by authors:

Item 4: The original category 4 was subdivided into 4a and 4b to separate out sample factors and inclusion/exclusion criteria.

Item 6: Attachment is a risk factor rather than an “exposure” (the exposure being factors in the relationship with early caregivers). Hence, this item was not applicable to the studies in this review.

Item 7: Although not strictly an exposure, as noted above, this question was treated as referring to whether attachment style was likely to be well enough developed in participants such that it was meaningful to study its association with personality later in life. In all studies this was clearly the case.

Item 8: This item was scored on the basis of whether attachment styles had been rated dimensionally rather than categorically.

Item 11: The outcome measures for the purpose of this review were the measures used to determine personality diagnoses.

Guidance for Assessing the Quality of Observational Cohort and Cross-Sectional Studies (as provided by original source)

The guidance document below is organized by question number from the tool for quality assessment of observational cohort and cross-sectional studies.

Question 1. Research question

Did the authors describe their goal in conducting this research? Is it easy to understand what they were looking to find? This issue is important for any scientific paper of any type. Higher quality scientific research explicitly defines a research question.

Questions 2 and 3. Study population

Did the authors describe the group of people from which the study participants were selected or recruited, using demographics, location, and time period? If you were to conduct this study again, would you know who to recruit, from where, and from what time period? Is the cohort population free of the outcomes of interest at the time they were recruited?

An example would be men over 40 years old with type 2 diabetes who began seeking medical care at Phoenix Good Samaritan Hospital between January 1, 1990 and December 31, 1994.

In this example, the population is clearly described as: (1) who (men over 40 years old with type 2 diabetes); (2) where (Phoenix Good Samaritan Hospital); and (3) when (between January 1, 1990 and December 31, 1994). Another example is women ages 34 to 59 years of age in 1980 who were in the nursing profession and had no known coronary disease, stroke,

cancer, hypercholesterolemia, or diabetes, and were recruited from the 11 most populous States, with contact information obtained from State nursing boards.

In cohort studies, it is crucial that the population at baseline is free of the outcome of interest. For example, the nurses' population above would be an appropriate group in which to study incident coronary disease. This information is usually found either in descriptions of population recruitment, definitions of variables, or inclusion/exclusion criteria.

You may need to look at prior papers on methods in order to make the assessment for this question. Those papers are usually in the reference list.

If fewer than 50% of eligible persons participated in the study, then there is concern that the study population does not adequately represent the target population. This increases the risk of bias.

Question 4. Groups recruited from the same population and uniform eligibility criteria

Were the inclusion and exclusion criteria developed prior to recruitment or selection of the study population? Were the same underlying criteria used for all of the subjects involved?

This issue is related to the description of the study population, above, and you may find the information for both of these questions in the same section of the paper.

Most cohort studies begin with the selection of the cohort; participants in this cohort are then measured or evaluated to determine their exposure status. However, some cohort studies may recruit or select exposed participants in a different time or place than unexposed participants, especially retrospective cohort studies—which is when data are obtained from the past (retrospectively), but the analysis examines exposures prior to outcomes. For example, one

research question could be whether diabetic men with clinical depression are at higher risk for cardiovascular disease than those without clinical depression. So, diabetic men with depression might be selected from a mental health clinic, while diabetic men without depression might be selected from an internal medicine or endocrinology clinic. This study recruits groups from different clinic populations, so this example would get a "no."

However, the women nurses described in the question above were selected based on the same inclusion/exclusion criteria, so that example would get a "yes."

Question 5. Sample size justification

Did the authors present their reasons for selecting or recruiting the number of people included or analyzed? Do they note or discuss the statistical power of the study? This question is about whether or not the study had enough participants to detect an association if one truly existed.

A paragraph in the methods section of the article may explain the sample size needed to detect a hypothesised difference in outcomes. You may also find a discussion of power in the discussion section (such as the study had 85 percent power to detect a 20 percent increase in the rate of an outcome of interest, with a 2-sided alpha of 0.05). Sometimes estimates of variance and/or estimates of effect size are given, instead of sample size calculations. In any of these cases, the answer would be "yes."

However, observational cohort studies often do not report anything about power or sample sizes because the analyses are exploratory in nature. In this case, the answer would be "no." This is not a "fatal flaw." It just may indicate that attention was not paid to whether the study was sufficiently sized to answer a prespecified question—i.e., it may have been an exploratory, hypothesis-generating study.

Question 6. Exposure assessed prior to outcome measurement

This question is important because, in order to determine whether an exposure causes an outcome, the exposure must come before the outcome.

For some prospective cohort studies, the investigator enrolls the cohort and then determines the exposure status of various members of the cohort (large epidemiological studies like Framingham used this approach). However, for other cohort studies, the cohort is selected based on its exposure status, as in the example above of depressed diabetic men (the exposure being depression). Other examples include a cohort identified by its exposure to fluoridated drinking water and then compared to a cohort living in an area without fluoridated water, or a cohort of military personnel exposed to combat in the Gulf War compared to a cohort of military personnel not deployed in a combat zone.

With either of these types of cohort studies, the cohort is followed forward in time (i.e., prospectively) to assess the outcomes that occurred in the exposed members compared to nonexposed members of the cohort. Therefore, you begin the study in the present by looking at groups that were exposed (or not) to some biological or behavioral factor, intervention, etc., and then you follow them forward in time to examine outcomes. If a cohort study is conducted properly, the answer to this question should be "yes," since the exposure status of members of the cohort was determined at the beginning of the study before the outcomes occurred.

For retrospective cohort studies, the same principal applies. The difference is that, rather than identifying a cohort in the present and following them forward in time, the investigators go back in time (i.e., retrospectively) and select a cohort based on their exposure status in the

past and then follow them forward to assess the outcomes that occurred in the exposed and nonexposed cohort members. Because in retrospective cohort studies the exposure and outcomes may have already occurred (it depends on how long they follow the cohort), it is important to make sure that the exposure preceded the outcome.

Sometimes cross-sectional studies are conducted (or cross-sectional analyses of cohort-study data), where the exposures and outcomes are measured during the same timeframe. As a result, cross-sectional analyses provide weaker evidence than regular cohort studies regarding a potential causal relationship between exposures and outcomes. For cross-sectional analyses, the answer to Question 6 should be "no."

Question 7. Sufficient timeframe to see an effect

Did the study allow enough time for a sufficient number of outcomes to occur or be observed, or enough time for an exposure to have a biological effect on an outcome? In the examples given above, if clinical depression has a biological effect on increasing risk for CVD, such an effect may take years. In the other example, if higher dietary sodium increases BP, a short timeframe may be sufficient to assess its association with BP, but a longer timeframe would be needed to examine its association with heart attacks.

The issue of timeframe is important to enable meaningful analysis of the relationships between exposures and outcomes to be conducted. This often requires at least several years, especially when looking at health outcomes, but it depends on the research question and outcomes being examined.

Cross-sectional analyses allow no time to see an effect, since the exposures and outcomes are assessed at the same time, so those would get a "no" response.

Question 8. Different levels of the exposure of interest

If the exposure can be defined as a range (examples: drug dosage, amount of physical activity, amount of sodium consumed), were multiple categories of that exposure assessed? (for example, for drugs: not on the medication, on a low dose, medium dose, high dose; for dietary sodium, higher than average U.S. consumption, lower than recommended consumption, between the two). Sometimes discrete categories of exposure are not used, but instead exposures are measured as continuous variables (for example, mg/day of dietary sodium or BP values).

In any case, studying different levels of exposure (where possible) enables investigators to assess trends or dose-response relationships between exposures and outcomes—e.g., the higher the exposure, the greater the rate of the health outcome. The presence of trends or dose-response relationships lends credibility to the hypothesis of causality between exposure and outcome.

For some exposures, however, this question may not be applicable (e.g., the exposure may be a dichotomous variable like living in a rural setting versus an urban setting, or vaccinated/not vaccinated with a one-time vaccine). If there are only two possible exposures (yes/no), then this question should be given an "NA," and it should not count negatively towards the quality rating.

Question 9. Exposure measures and assessment

Were the exposure measures defined in detail? Were the tools or methods used to measure exposure accurate and reliable—for example, have they been validated or are they objective? This issue is important as it influences confidence in the reported exposures. When exposures

are measured with less accuracy or validity, it is harder to see an association between exposure and outcome even if one exists. Also as important is whether the exposures were assessed in the same manner within groups and between groups; if not, bias may result.

For example, retrospective self-report of dietary salt intake is not as valid and reliable as prospectively using a standardized dietary log plus testing participants' urine for sodium content. Another example is measurement of BP, where there may be quite a difference between usual care, where clinicians measure BP however it is done in their practice setting (which can vary considerably), and use of trained BP assessors using standardized equipment (e.g., the same BP device which has been tested and calibrated) and a standardized protocol (e.g., patient is seated for 5 minutes with feet flat on the floor, BP is taken twice in each arm, and all four measurements are averaged). In each of these cases, the former would get a "no" and the latter a "yes."

Here is a final example that illustrates the point about why it is important to assess exposures consistently across all groups: If people with higher BP (exposed cohort) are seen by their providers more frequently than those without elevated BP (nonexposed group), it also increases the chances of detecting and documenting changes in health outcomes, including CVD-related events. Therefore, it may lead to the conclusion that higher BP leads to more CVD events. This may be true, but it could also be due to the fact that the subjects with higher BP were seen more often; thus, more CVD-related events were detected and documented simply because they had more encounters with the health care system. Thus, it could bias the results and lead to an erroneous conclusion.

Question 10. Repeated exposure assessment

Was the exposure for each person measured more than once during the course of the study period? Multiple measurements with the same result increase our confidence that the exposure status was correctly classified. Also, multiple measurements enable investigators to look at changes in exposure over time, for example, people who ate high dietary sodium throughout the followup period, compared to those who started out high then reduced their intake, compared to those who ate low sodium throughout. Once again, this may not be applicable in all cases. In many older studies, exposure was measured only at baseline. However, multiple exposure measurements do result in a stronger study design.

Question 11. Outcome measures

Were the outcomes defined in detail? Were the tools or methods for measuring outcomes accurate and reliable—for example, have they been validated or are they objective? This issue is important because it influences confidence in the validity of study results. Also important is whether the outcomes were assessed in the same manner within groups and between groups.

An example of an outcome measure that is objective, accurate, and reliable is death—the outcome measured with more accuracy than any other. But even with a measure as objective as death, there can be differences in the accuracy and reliability of how death was assessed by the investigators. Did they base it on an autopsy report, death certificate, death registry, or report from a family member? Another example is a study of whether dietary fat intake is related to blood cholesterol level (cholesterol level being the outcome), and the cholesterol level is measured from fasting blood samples that are all sent to the same laboratory. These

examples would get a "yes." An example of a "no" would be self-report by subjects that they had a heart attack, or self-report of how much they weigh (if body weight is the outcome of interest).

Similar to the example in Question 9, results may be biased if one group (e.g., people with high BP) is seen more frequently than another group (people with normal BP) because more frequent encounters with the health care system increases the chances of outcomes being detected and documented.

Question 12. Blinding of outcome assessors

Blinding means that outcome assessors did not know whether the participant was exposed or unexposed. It is also sometimes called "masking." The objective is to look for evidence in the article that the person(s) assessing the outcome(s) for the study (for example, examining medical records to determine the outcomes that occurred in the exposed and comparison groups) is masked to the exposure status of the participant. Sometimes the person measuring the exposure is the same person conducting the outcome assessment. In this case, the outcome assessor would most likely not be blinded to exposure status because they also took measurements of exposures. If so, make a note of that in the comments section.

As you assess this criterion, think about whether it is likely that the person(s) doing the outcome assessment would know (or be able to figure out) the exposure status of the study participants. If the answer is no, then blinding is adequate. An example of adequate blinding of the outcome assessors is to create a separate committee, whose members were not involved in the care of the patient and had no information about the study participants' exposure status. The committee would then be provided with copies of participants' medical

records, which had been stripped of any potential exposure information or personally identifiable information. The committee would then review the records for prespecified outcomes according to the study protocol. If blinding was not possible, which is sometimes the case, mark "NA" and explain the potential for bias.

Question 13. Followup rate

Higher overall followup rates are always better than lower followup rates, even though higher rates are expected in shorter studies, whereas lower overall followup rates are often seen in studies of longer duration. Usually, an acceptable overall followup rate is considered 80 percent or more of participants whose exposures were measured at baseline. However, this is just a general guideline. For example, a 6-month cohort study examining the relationship between dietary sodium intake and BP level may have over 90 percent followup, but a 20-year cohort study examining effects of sodium intake on stroke may have only a 65 percent followup rate.

Question 14. Statistical analyses

Were key potential confounding variables measured and adjusted for, such as by statistical adjustment for baseline differences? Logistic regression or other regression methods are often used to account for the influence of variables not of interest.

This is a key issue in cohort studies, because statistical analyses need to control for potential confounders, in contrast to an RCT, where the randomization process controls for potential confounders. All key factors that may be associated both with the exposure of interest and the outcome—that are not of interest to the research question—should be controlled for in the analyses.

For example, in a study of the relationship between cardiorespiratory fitness and CVD events (heart attacks and strokes), the study should control for age, BP, blood cholesterol, and body weight, because all of these factors are associated both with low fitness and with CVD events. Well-done cohort studies control for multiple potential confounders.

Some general guidance for determining the overall quality rating of observational cohort and cross-sectional studies

The questions on the form are designed to help you focus on the key concepts for evaluating the internal validity of a study. They are not intended to create a list that you simply tally up to arrive at a summary judgment of quality.

Internal validity for cohort studies is the extent to which the results reported in the study can truly be attributed to the exposure being evaluated and not to flaws in the design or conduct of the study—in other words, the ability of the study to draw associative conclusions about the effects of the exposures being studied on outcomes. Any such flaws can increase the risk of bias.

Critical appraisal involves considering the risk of potential for selection bias, information bias, measurement bias, or confounding (the mixture of exposures that one cannot tease out from each other). Examples of confounding include co-interventions, differences at baseline in patient characteristics, and other issues throughout the questions above. High risk of bias translates to a rating of poor quality. Low risk of bias translates to a rating of good quality. (Thus, the greater the risk of bias, the lower the quality rating of the study.)

In addition, the more attention in the study design to issues that can help determine whether there is a causal relationship between the exposure and outcome, the higher quality the study.

These include exposures occurring prior to outcomes, evaluation of a dose-response gradient, accuracy of measurement of both exposure and outcome, sufficient timeframe to see an effect, and appropriate control for confounding—all concepts reflected in the tool.

Generally, when you evaluate a study, you will not see a "fatal flaw," but you will find some risk of bias. By focusing on the concepts underlying the questions in the quality assessment tool, you should ask yourself about the potential for bias in the study you are critically appraising. For any box where you check "no" you should ask, "What is the potential risk of bias resulting from this flaw in study design or execution?" That is, does this factor cause you to doubt the results that are reported in the study or doubt the ability of the study to accurately assess an association between exposure and outcome?

The best approach is to think about the questions in the tool and how each one tells you something about the potential for bias in a study. The more you familiarize yourself with the key concepts, the more comfortable you will be with critical appraisal. Examples of studies rated good, fair, and poor are useful, but each study must be assessed on its own based on the details that are reported and consideration of the concepts for minimizing bias.

Last Updated March 2014

Appendix C: Lampe & Sunderland, 2015

The publication below appears on the following pages.

Lampe, L., & Sunderland, M. (2015). Social phobia and avoidant personality disorder: Similar but different? *Journal of Personality Disorders*, 29(1), 115-130. Republished with permission of Guilford Press; permission conveyed through Copyright Clearance Center, Inc.

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SOCIAL PHOBIA AND AVOIDANT PERSONALITY DISORDER: SIMILAR BUT DIFFERENT?

Lisa Lampe, MB, BS FRANZCP, and
Matthew Sunderland, BPsych (Hons), PhD

Avoidant personality disorder (AvPD) is regarded as a severe variant of social phobia (SP), consistent with a dimensional model. However, these conclusions are largely drawn from studies based on individuals with SP, with or without comorbid AvPD. The present study hypothesized that there are qualitative differences between AvPD and SP that are undermined by limiting research to participants with SP. The authors sought to test this hypothesis by comparing three groups—SP only, AvPD only, and SP+AvPD—using data extracted from an epidemiological sample of 10,641 adults aged 18 years and over. Screening questions were used in the epidemiological survey to identify *ICD-10* personality disorders; from this the author developed a proxy measure for *DSM-IV* AvPD. Axis I diagnoses, including *DSM-IV* SP, were identified using the Composite International Diagnostic Interview (CIDI). In this sample, the majority of those with AvPD did not also have SP: The authors found 116 persons with AvPD only, 196 with SP only, and 69 with SP+AvPD. There was little difference between any of the groups on sex, marital status, employment, education, or impairment variables. The SP+AvPD group reported more distress and comorbidity than the SP only and AvPD only groups, which did not differentiate from each other. More feared social situations were endorsed in the SP only group compared to the AvPD only group. Although the finding of few differences between SP only and AvPD only groups among the variables measured in this epidemiological survey fails to provide support for the hypothesis of qualitative differences, the finding that the AvPD only group appears more similar to the SP only group than to the SP+AvPD group also fails to provide support for the alternative continuity hypothesis. The greater distress and additional comorbidity with depression associated with SP+AvPD may be due to the additional symptom load of a second disorder rather than simply representing a more severe variant of social phobia. The use of a proxy for AvPD is a limitation of the study. Future studies should focus on broader clinical variables that have been proposed as qualitatively different between these disorders, and on the possible genetic and environmental factors that might help explain such differences.

This article was accepted under the editorship of Paul S. Links.

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Both social phobia (SP) and avoidant personality disorder (AvPD) were introduced into psychiatric nosology in 1980 with *DSM-III*. Theodore Millon (1981, p. 298) was the first to use the term *avoidant personality*, and his conceptualization of this disorder was as a subtype of the traditional schizoid character rather than as part of the social phobia spectrum. However, areas of overlap are evident in the criteria for these disorders, and a spectrum of symptom severity and functional impairment beginning with non-generalized social phobia (non-GSP) and increasing through generalized social phobia (GSP) to comorbid GSP and AvPD (GSP+AvPD) has been confirmed repeatedly in samples diagnosed with SP. Currently AvPD is most commonly viewed as a more severe form of SP (Boone et al., 1999; Chambless, Fydrich, & Rodebaugh, 2008; Lecrubier et al., 2000; Reich, 2000, 2009).

The overlap between SP and AvPD has been estimated at 0%–63% for non-GSP and 25%–89% for GSP (Alden, Laposa, Taylor, & Ryder, 2002). This apparent overlap may have been exaggerated by drawing conclusions largely from studies in which all persons had SP, and several authors have argued for the importance of including a group with AvPD only for comparison (Hummelen, Wilberg, Pedersen, & Karterud, 2007; Johnson & Lydiard, 1995). Additionally, many of the studies were based on the *DSM-III-R* criteria for AvPD, in which three criteria showed considerable overlap with those for SP, and only four were required to make the diagnosis.

Despite the problems with criterion overlap and studies based only on those with SP, there is support for viewing AvPD as a distinct category of disorder. After controlling for depression, differences in treatment outcome between SP only and SP+AvPD were seen more for self-esteem and trait anxiety than for social anxiety and avoidance (Feske, Perry, Chambless, Renneberg, & Goldstein, 1996) and lower self-esteem independent of the severity of comorbid SP was also reported in another study (Chambless et al., 2008). In an outpatient study, depressed patients with AvPD but not SP had lower scores on social adjustment and assertiveness than did those with SP but not AvPD (Alpert et al., 1997). In the large Harvard/Brown Anxiety Research Project (HARP), rates of comorbid AvPD did not differ significantly between GSP and non-GSP groups (Dyck et al., 2001). Structural equation modeling in a sample with GSP found that a two-factor model excluding two AvPD items showing most overlap with SP criteria was the best fit when examining the relationship between GSP and AvPD (Huppert, Strunk, Ledley, Davidson, & Foa, 2008). It has been proposed that AvPD represents social difficulties that include, but are not limited to, those seen in GSP (Rettew, 2000), including an epigenetic model proposing that both disorders represent different expressions, mediated by environmental influences, of similar underlying vulnerability factors, such as temperament (van Velzen, Emmelkamp, & Scholing, 2000). This issue is topical in the context of the development of *DSM-5*.

It has been argued both that SP fulfills many of the criteria for a personality disorder (Dahl, 1996) and that AvPD behaves like an illness with a 50% remission rate over 24 months (Grilo et al., 2004) and remission following CBT (Brown, Heimberg, & Juster, 1995). Data from the Collaborative Longitudinal Personality Disorders Study (CLPS) have led to the conclusion that

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criteria for personality disorders in *DSM-IV* include both trait and symptom items (McGlashan et al., 2005; Sanislow et al., 2009).

While a large number of epidemiological surveys have now reported on the prevalence of SP, there is limited information from such surveys regarding AvPD. Although AvPD without comorbid SP is often regarded as rare (Reich, 2000), a small number of studies suggest that it may in fact be quite common in the community. In the National Epidemiological Survey of Alcohol and Related Conditions (NESARC), the lifetime prevalence of AvPD was reported as 2.4%, and criteria for GSP were not met by 61.5% of individuals with AvPD (Cox, Pagura, Stein, & Sareen, 2009). In two Norwegian studies, 68.5% of female twins recruited from a population register (Reichborn-Kjennerud et al., 2007), and 52% ($n = 462$) of those diagnosed with AvPD among patients attending day hospitals for the treatment of personality disorder (Hummelen et al., 2007) did not meet criteria for SP. These studies confirm that AvPD without SP is not rare, and that there are three important and distinct groups for comparison: SP only, AvPD only, and SP+AvPD.

We hypothesized that there are qualitative differences between AvPD and SP that are obscured or undermined by studies that are based only on individuals meeting criteria for SP. Therefore, the current study used a large epidemiological database and identified SP only, AvPD only, and SP+AvPD groups in order to determine similarities and differences between the groups on a number of variables. We expected that the AvPD only group would be more likely to be divorced, separated, or never married; less likely to be employed; less likely to have completed higher education; more distressed, more disabled; to endorse more social anxiety symptoms and have more comorbidity than the SP only group; and to be no different from the SP+AvPD group on these measures. The use of an epidemiological sample provided the advantages of a large nonclinical sample. A limited amount of data pertaining to AvPD has been reported previously from this survey (Lampe, Slade, Issakidis, & Andrews, 2003), but AvPD was examined only in those with SP.

METHOD

POPULATION AND SAMPLE

The first National Survey of Mental Health and Wellbeing (NSMHWB) is a nationwide household survey of adults conducted in Australia in 1997 (Andrews, Henderson, & Hall, 2001). The methodology of the NSMHWB has been described in detail (Andrews et al., 2001). Interviews were conducted by trained interviewers in a weighted probability sample of the adult Australian population. A total of 10,641 people participated in the survey (response rate 78%). A variety of sociodemographic variables were collected for each respondent, including age, sex, marital status, level of education, and employment status. Participants were asked about suicidal ideation and attempts, and mental health consultations. The study employed a structured diagnostic instrument for *DSM-IV* Axis I and *ICD-10* disorders, the Composite International Diagnostic Interview (CIDI) version 2.1 (Andrews & Pe-

ters, 1998; World Health Organization, 1997), which allowed comorbid disorders such as depression and substance abuse/dependence to be identified. Disability and functional impairment were measured using the Short Form Health Survey (SF-12; Ware, Kosinski, & Keller, 1996), and distress was measured using the K10 psychological distress scale (Kessler et al., 2002).

The screening version of the International Personality Disorders Examination (Loranger, Janca, & Sartorius, 1997) was used to generate *ICD-10* personality disorder diagnoses. The data were weighted to approximate the age and sex distribution of the Australian population and to account for the probability of selection.

ANALYSIS

Diagnostic criteria were applied without operationalizing the hierarchical exclusion criteria. Participants were asked about six specific social situations (eating/drinking in public, talking to strangers, writing while being watched, taking part or speaking in a meeting or class, going to a party or other social gathering, giving a speech or speaking in public), and additionally were asked whether they had experienced “an unusually strong fear of any other situation where you could be the centre of attention.” In this article, GSP was assigned as a diagnosis when respondents endorsed three or more of the fears listed above and also met the other criteria for SP.

In Lampe et al. (2003), the screening questions for *ICD-10* anxious personality disorder were treated as a reasonable proxy for *DSM-IV* avoidant personality disorder. However, on reviewing the screening questions for the current article, we felt that two of the statements (“I usually feel tense or nervous” and “A lot of things seem dangerous to me that don’t bother most people”) appeared to lack a specific relationship to interpersonal anxiety, and these statements were excluded from the analysis. For the diagnosis of AvPD to be assigned, respondents were required to meet any three out of the remaining four criteria (“I feel awkward or out of place in social situations,” “I won’t get involved with people until I’m certain they like me,” “I worry a lot that people may not like me,” “I keep to myself even when there are other people around”) as well as a persistent course and significant interference with life activities.

Both the K10 and SF-12 have nonnormal distributions, and so to permit regression analyses the K10 was dichotomized into those who were distressed and those who were not based on a commonly accepted cut point of 20, and the SF-12 mental health component score was dichotomized into those who were impaired and those who were not based on a cut point of 40.

The SUDAAN software package was used for all analyses to account for the complex sampling design when estimating standard errors and confidence intervals (CI) (Shah, Barnwell, & Biegler, 1997). The prevalence and 95% CI for the total population and for males and females separately were calculated to identify our subpopulations of interest (i.e., SP only, AvPD only, comorbid SP and AvPD). Restricting the analyses to respondents with a diagnosis of either SP or AvPD, separate multinomial logistic regression models were used to provide odds ratios (OR) comparing respondents with SP only, AvPD

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TABLE 1. Proportions and Multinomial Logistic Regression Analyses, Restricted to Respondents with Either Social Phobia (SP) or Avoidant Personality Disorder (AvPD) (N = 381): Sociodemographics

Sociodemographics	AvPD only (n = 116)			SP only (n = 196)			AvPD+SP (n = 69)			AvPD only vs. AvPD+SP (reference)			SP only vs. AvPD+SP (reference)			AvPD only vs. SP only (reference)		
	n	% (95% CI)		n	% (95% CI)		n	% (95% CI)		Odds	95% CI		Odds	95% CI		Odds	95% CI	
Age																		
18–34 years (reference)	31	29 (17–44)		43	31 (23–39)		15	17 (10–29)		—			—			—		
35–64 years	56	48 (35–62)		101	45 (37–53)		45	69 (57–78)		0.43	0.1–1.3		0.37	0.2–0.8		1.15	0.5–2.8	
Over 65 years	29	23 (15–34)		52	25 (19–31)		9	14 (7–25)		0.98	0.3–3.6		0.98	0.4–2.7		1.00	0.5–2.2	
Gender																		
Male	49	42 (33–52)		80	46 (39–54)		23	40 (25–57)		—			—			—		
Female	68	58 (48–67)		116	54 (46–61)		46	60 (43–75)		0.91	0.4–2.2		0.77	0.4–1.6		1.18	0.7–2.0	
Employment																		
Employed (reference)	64	52 (38–66)		113	59 (52–66)		36	57 (41–71)		—			—			—		
Not in labor force	52	48 (34–62)		83	41 (34–48)		33	43 (29–59)		1.19	0.5–3.1		0.91	0.5–1.7		1.31	0.7–2.6	
Education																		
Higher Qualification (reference)	47	36 (26–47)		87	47 (40–55)		30	46 (32–60)		—			—			—		
No Higher Qualification	69	64 (53–74)		109	53 (45–61)		39	54 (40–68)		1.51	0.7–3.3		0.96	0.6–1.7		1.58	0.9–3.0	
Marital Status ^a																		
Married/Defacto (reference)	41	44 (34–55)		95	53 (46–59)		25	48 (35–61)		—			—			—		
Separated/Widowed/Divorced	39	27 (18–38)		51	18 (12–26)		26	30 (18–45)		0.95	0.4–2.3		0.54	0.2–1.3		1.77	0.9–3.4	
Never Married	36	29 (20–41)		50	29 (22–39)		18	23 (14–34)		1.50	0.6–4.1		1.26	0.6–2.9		1.19	0.7–2.2	

^a Controlling for age and gender. Bold indicates significant at the .05 level.

only, and comorbid SP and AvPD (SP+AvPD) on a variety of sociodemographic and impairment measures. These are presented as either unadjusted OR where the bivariate association between the predictor and the outcome is assessed, or as adjusted OR where the multivariate association between the predictor and the outcome is assessed controlling for other variables, such as comorbid depression and substance abuse. Chi-square analysis was used to compare the prevalence of GSP and non-GSP between respondents with SP only and SP+AvPD. Finally, the percentages and odds ratios of specific social fears endorsed by respondents with SP only, AvPD only, and SP+AvPD were calculated.

RESULTS

A total of 381 respondents from the total number of survey respondents of 10,641 were included in the current study. Fifty-six percent were female and 44% were male. Forty-nine percent were currently married and 29% had never married. Twenty-eight percent of the sample was aged 18–34 years, 50% was aged 35–64 years, and 22% was aged over 64 years.

A total of 265 respondents met criteria for SP consistent with an estimated 12-month population prevalence of 2.3% (F:M ratio 1.5:1). A total of 185 respondents met criteria for AvPD, with the 12-month population prevalence estimated at 1.5% (F:M ratio 1.6:1). Of the respondents with a diagnosis of SP, a total of 196 (66.4%) did not meet criteria for AvPD, while of the respondents with a diagnosis of AvPD, a total of 116 (62.7%) did not meet criteria for SP. This left a total of 69 respondents (26.0% of those with SP, and 37.3% of those with AvPD) who received comorbid diagnoses of SP and AvPD (F:M ratio 2:1).

The percentages, 95% CI, and OR for each diagnosis group with respect to the sociodemographic variables are presented in Table 1. Respondents who met criteria for SP only were less likely than those with SP+AvPD to be aged between 35 and 54 (OR 0.37, CI 0.2–0.8), and 69% of those with SP+AvPD were in this age group (compared to 45% of those with SP only and 48% of those with AvPD only). No significant age differences were seen between SP only and AvPD only. There were no differences between the groups with respect to gender, or to marital status after controlling for age and gender. Likewise, no differences were observed between the groups with respect to employment status or level of education.

When examined with respect to comorbidity (Table 2), respondents with SP only and AvPD only reported less 12-month depression than those with SP+AvPD (35% vs. 58%, $p < .05$, 38% vs 58%, $p < .05$). After controlling for depression, those with SP only reported significantly less suicidal ideation over their lifetime than respondents with SP+AvPD (OR 0.4); however, there was no difference in suicidal ideation between AvPD only and SP+AvPD, or between AvPD only and SP only. A history of suicide attempts over the lifetime was significantly more likely only in the comorbid group. It was reported by 9% of those with SP only, by 12% of those with AvPD only, and

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TABLE 2. Proportions and Multinomial Logistic Regression Analyses, Restricted to Respondents with Either Social Phobia (SP) or Avoidant Personality Disorder (AvPD) (N = 381): Comorbidity, Impairment, and Distress

	AvPD only (n = 116)		SP only (n = 196)		AvPD+SP (n = 69)		AvPD only vs AvPD+SP (reference)		SP only vs AvPD+SP (reference)		AvPD only vs. SP only (reference)	
	N	% (95% CI)	N	% (95% CI)	N	% (95% CI)	Odds	95% CI	Odds	95% CI	Odds	95% CI
Comorbidity												
Comorbid Depression	No (reference)	73	62 (50–73)	121	65 (57–73)	27	42 (31–54)	—	—	—	—	—
	Yes	43	38 (27–50)	75	35 (27–43)	42	58 (46–69)	0.43	0.2–1.0	0.39	0.2–0.7	1.13	0.6–2.1
Comorbid Substance use	No (reference)	97	85 (74–92)	155	78 (69–85)	51	77 (62–88)	—	—	—	—	—
	Yes	19	15 (8–26)	41	22 (15–31)	18	23 (12–38)	0.60	0.2–1.7	0.97	0.4–2.5	0.62	0.3–1.6
Suicide Attempt ^a	No (reference)	100	88 (83–92)	176	91 (86–95)	45	75 (63–84)	—	—	—	—	—
	Yes	16	12 (8–17)	20	9 (5–14)	24	25 (16–37)	0.50	0.3–1.0	0.36	0.2–0.8	1.40	0.7–2.8
Suicide Ideation ^a	No (reference)	52	47 (37–57)	105	58 (47–69)	18	31 (20–44)	—	—	—	—	—
	Yes	64	53 (43–63)	91	42 (31–53)	51	69 (56–80)	0.61	0.3–1.4	0.38	0.2–0.8	1.59	0.8–3.1
Impairment and Distress												
SF-12 ^b	Not impaired (reference)	65	55 (46–63)	94	51 (42–59)	27	46 (35–58)	—	—	—	—	—
	Impaired	51	45 (37–54)	102	49 (41–58)	41	54 (42–65)	0.96	0.5–2.0	1.12	0.6–2.1	0.86
K10 ^b	Not distressed (reference)	56	47 (37–58)	81	45 (38–53)	11	19 (9–35)	—	—	—	—	—
	Distressed	60	53 (42–63)	115	55 (47–62)	58	81 (65–91)	0.32	0.1–0.9	0.35	0.1–0.9	0.90	0.5–1.7
Mental Health Consultations ^b	None (reference)	65	60 (47–71)	95	52 (43–61)	22	34 (22–48)	—	—	—	—	—
	One or more	51	40 (29–53)	101	48 (39–57)	47	66 (52–78)	0.43	0.2–1.2	0.64	0.3–1.5	0.67	0.3–1.6

^aControlling for comorbid depression. ^bControlling for comorbid depression and substance use. Bold indicates significant at the 0.05 level.

TABLE 3. Prevalence of Nongeneralized and Generalized Social Phobia Among Social Phobia Only and Social Phobia with AvPD Groups

	Nongeneralized social phobia (< 3 social fears)		Generalized social phobia (≥ 3 social fears)	
	<i>n</i>	% (95% CI)	<i>n</i>	% (95% CI)
Social phobia only (<i>n</i> = 196)	111	57 (49–65)	85	43 (35–51)
Social phobia and AvPD (<i>n</i> = 69)	23	37 (26–49)	46	63 (51–73)
		$\chi^2 = 8.55$ (<i>df</i> = 1)		<i>p</i> = .01

by 25% of those with SP+AvPD; there was no significant difference between AvPD only and SP only.

On a measure of perceived health status (SF-12), there was no difference between any of the groups, with the majority of the variance accounted for by simply having a mental disorder (Table 2). On a measure of global distress (K10), those with SP only and AvPD only reported significantly lower levels of distress than those with SP+AvPD, and the difference in levels of distress persisted when controlling for the effect of meeting criteria for depression (OR 0.35) or substance abuse (OR 0.32). There was no difference between any of the groups in number of consultations with a health professional because of their mental illness when controlling for comorbid depression and substance abuse/dependence.

The proportion of individuals whose SP was generalized was significantly higher among those with a comorbid diagnosis of AvPD (63% vs. 43%, $p = .01$) (Table 3). There were differences in the pattern of fears endorsed (Table 4), with generally higher proportions of those in the SP+AvPD group endorsing each social fear than in either the SP only or AvPD only groups. The addition of SP to a diagnosis of AvPD increased the odds of endorsing each social fear, but the addition of AvPD to a diagnosis of SP increased the odds of endorsement for only some fears. Those with SP only were significantly more likely to endorse four of the six specific fears asked about than the AvPD only group. The mean number of social situations feared was significantly higher in the SP+AvPD group than the SP only group (3.7 vs. 2.5, $t = 5.06$, $p < .001$) and the AvPD only group (3.7 vs. 1.3, $t = 9.36$, $p < .001$).

DISCUSSION

The present epidemiological study compared groups with SP only, AvPD only, and SP+AvPD on a range of demographic, symptom, and comorbidity factors. Suicidal ideation and attempts were compared after controlling for comorbid depression; distress and impairment were compared after controlling for comorbid depression and substance abuse. The current findings extend knowledge about a group of individuals formerly thought to be rare or nonexistent, namely, those who meet criteria for AvPD but not SP, and contribute some new information regarding the relationship between SP and

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TABLE 4. Percentage Endorsing Each Social Fear Among Social Phobia Only, AvPD Only, and Social Phobia with AvPD Groups

Social Fear	Social phobia only (<i>n</i> = 196)		AvPD only (<i>n</i> = 116)		Social phobia + AvPD (<i>n</i> = 69)		AvPD+SP vs AvPD only (reference)		AvPD+SP vs Social phobia only (reference)	
	<i>n</i>	% (95% CI)	<i>n</i>	% (95% CI)	<i>n</i>	% (95% CI)	Odds ratio (95% CI)	Odds ratio (95% CI)	Odds ratio (95% CI)	Odds ratio (95% CI)
Eating/drinking in public	33	16 (10–25)	11	10 (5–20)	24	31 (20–45)	4.2 (1.5–11.6)	2.3 (0.9–5.5)	1.8	
Fear of talking to others	91	43 (36–51)	35	29 (20–41)	49	74 (63–82)	6.8 (3.2–14.5)	3.7 (2.1–6.5)	1.9 (1.1–3.2)	
Writing while someone watches	32	18 (12–26)	5	4 (2–11)	18	26 (15–42)	7.9 (2.0–32.0)	1.6 (0.6–4.2)	4.9 (1.7–13.9)	
Taking part/speaking in a meeting or class	93	47	25	22	46	62	6.2	1.9	3.3	
Going to a party/social outing	74	33 (27–41)	32	28 (18–39)	45	66 (53–76)	5.0 (2.5–10.1)	3.8 (2.3–6.4)	1.3 (0.8–2.3)	
Giving a speech/speaking in public	117	65 (54–75)	26	22 (15–32)	50	70 (53–82)	8.0 (3.1–20.4)	1.2 (0.6–2.4)	6.5 (3.0–13.7)	
Other situation where could be the center of attention	57	27 (19–37)	22	17 (11–26)	31	40 (30–51)	3.2 (1.5–6.8)	1.8 (0.9–3.4)	1.8 (0.9–3.6)	
Mean number of fears endorsed	Mean = 2.5 (<i>SE</i> = 0.11)		Mean = 1.3 (<i>SE</i> = 0.14)		Mean = 3.7 (<i>SE</i> = 0.21)					

Note. Bold figures are significant at the .05 level. Odds ratios calculated by separate univariate logistic regressions.

AvPD. Many of the findings in this study are not compatible with a model that views AvPD as a disorder at the severe end of a social phobia continuum.

The current study estimated the prevalence of AvPD and the extent of comorbidity with SP. The 12-month prevalence of AvPD was estimated to be 1.5%, comparable to a point prevalence of 2.0% in community controls in the UCLA family study (Asarnow et al., 2001), lifetime rates of 2.7% reported in a population sample of female twins in Norway (Reichborn-Kjennerud et al., 2007), and 2.4% in a U.S. epidemiological sample (Cox et al., 2009), but lower than the 6.6% reported in a small Swedish epidemiological study using only self-report measures (Tillfors, Furmark, Ekselius, & Fredrikson, 2004).

The 12-month prevalence estimate for SP of 2.3% is near the medians of 2.0% (Fehm, Pelissolo, Furmark, & Wittchen, 2005) and 2.3% (Wittchen & Jacobi, 2005) described for European studies, but lower than the 5.1% reported from New Zealand (Wells et al., 2006) and 7.1% reported in the National Comorbidity Survey Replication (NCS-R) (Ruscio et al., 2008). Notably, the more recent studies used a later version of the CIDI, asked about more possible feared situations, and used different methodology to determine diagnoses (Lampe et al., 2003; Ruscio et al., 2008; Wells et al., 2006), likely accounting for some of the observed differences. However, the 2007 NSMHWB, also using a later version of the CIDI, estimated the 12-month prevalence of SP to be 4.7%, suggesting that cultural factors may also be relevant (Slade et al., 2009). Unfortunately, this later survey did not screen for personality disorder.

It is generally assumed that all persons with AvPD will also meet criteria for SP, probably because most research has been done using clinical samples of persons diagnosed with SP. From this perspective, it is understandable that these disorders would be conceptualized as being on a continuum, because those with SP+AvPD will on average score more highly on symptom and disability measures than those with SP alone, as was the case in the current study. However, the data reported in this article, where only 37.3% of respondents with AvPD additionally met criteria for SP, are consistent with findings in the National Epidemiological Survey of Alcohol and Related Conditions (NESARC), where 39.5% of individuals with AvPD also met criteria for GSP (Cox et al., 2009), a female twin study where 32.5% of those with AvPD also satisfied criteria for SP (30.6% for GSP) (Reichborn-Kjennerud et al., 2007), and a large ($N = 2,274$) Norwegian outpatient study in which 48% ($n = 429$) of those diagnosed with AvPD also met criteria for SP (Hummelen et al., 2007). The latter study was notable in that rates of comorbidity with SP for all personality disorders (PDs) were examined, and a comparable rate to that seen with AvPD was found for schizoid PD (50%), with comorbidity rates of 25%–30% reported for schizotypal, paranoid, borderline, and dependent PDs.

Secondly, the present study found that SP only and AvPD only showed more similarities on demographic, comorbidity, distress, and impairment data with each other than each did with the SP+AvPD group. No significant demographic differences were found between AvPD only and SP only; this is consistent with findings in the CLPS, which found no demographic

differences between AvPD with and without SP (Ralevski et al., 2005) and compares to the Norwegian outpatient sample that reported no age or sex differences between SP and AvPD, but did find that a significantly lower proportion of those with AvPD were married or cohabiting (Hummelen et al., 2007). If AvPD were a more severe variant of SP, then greater impact would be expected on social and occupational functioning as indicated by educational attainment, employment, and marital status whenever AvPD was present. The findings for a lifetime history of suicidal ideation and attempt are consistent in suggesting that it is the comorbid condition, not the presence of AvPD, that has the most impact on suicidal thinking and behavior.

Thirdly, regarding the nature of the relationship between SP and AvPD, results suggest that the addition of AvPD to SP increased the odds of endorsing social fears that are more related to interpersonal interaction and less performance based (Table 3), more consistent with a unique contribution than a continuity model. In particular, the odds of fearing giving a speech or speaking in public are much greater in both the SP only and the AvPD+SP groups than in the AvPD only group, providing support for the conceptualization of AvPD as having a focus that is more about intimacy, sociability, and interpersonal interaction, and suggesting that the criteria applied in the current study did identify two distinct groups. Although not statistically significant, there was a trend for the comorbid group to be somewhat underrepresented in the youngest age group, and most heavily weighted to middle age, with all three showing smaller numbers in the oldest age group. The relatively greater appearance of the comorbid group later in life would be consistent with the possibility that SP and AvPD each may act as a risk factor for the other.

Numerous research findings have confirmed that groups with SP+AvPD have a higher symptom burden and more distress, impairment, and comorbidity than those with SP only. However, most of this research was carried out in outpatient populations presenting for treatment of SP or recruited for the presence of social anxiety. Most studies relied on small numbers. The current findings, based on an epidemiological sample in which most persons with AvPD did not have a comorbid SP, confirm that SP+AvPD carries a high symptom and distress burden, but overall suggest that AvPD does not differentiate from SP in symptom burden. Rather, it can be argued that it is comorbidity that appears to be of greatest consequence. This is supported by a study where patients with SP+AvPD together with one or more additional PDs were more symptomatic on measures of social anxiety and more dysfunctional than those with SP+AvPD, who in turn scored more highly than those with SP only (van Velzen et al., 2000). Previous research comparing groups with SP only and SP+AvPD can be reinterpreted to support this finding. For example, apparent differences between SP only and SP+AvPD were no longer significant when the severity of SP was statistically controlled (Chambless et al., 2008). An epidemiological sample that restricted comparisons to those with SP found that the presence of AvPD made no difference to ratings of distress or number of feared situations, but the comorbid condition was associated with greater functional impairment (Tillfors et al., 2004). A study of AvPD comorbid with either SP or panic disorder with agoraphobia found

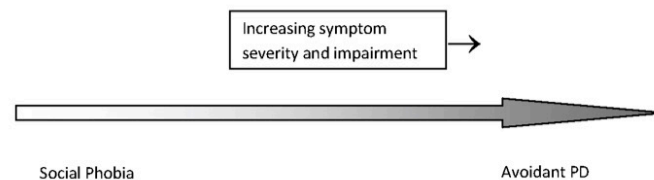


FIGURE 1. The dimensional or continuity model of social phobia and avoidant personality disorder, in which avoidant personality disorder is seen as a more severe variant.

that the clinical picture was strongly influenced by the comorbid condition (Perugi et al., 1999). These findings are consistent with the current study in which AvPD does not appear to make an independent contribution to most measures of distress and impairment.

In contrast to the current findings, the Norwegian outpatient sample found that AvPD only patients had more severe scores on general measures of functioning and severity, and higher rates of suicidal ideation, attempts, and hospitalization (Hummelen et al., 2007), and the CLPS found no difference on global assessment of functioning between AvPD only and SP+AvPD groups (Ralevski et al., 2005). It should be noted that the CLPS used a clinical population, did not measure many of the other factors included in the current study, and failed to compare a SP only group with AvPD only, factors that may account for some of the differences observed.

The current findings are most supportive of a model in which SP and AvPD each represent a type of social anxiety and where each may predispose to the other. In this model, age represents a risk factor for the comorbid state, with older individuals being at more risk of acquiring both conditions. A similar pattern can be seen in generalized anxiety disorder and major depressive disorder, where comorbidity becomes increasingly likely over time (Moffitt et al., 2007) and where considerable overlap in genetic vulnerability (Kendler, Gardner, Gatz, & Pedersen, 2007) has led to arguments as to whether they may represent different phenotypes. In common with other comorbidity models, it is proposed that it is the comorbidity of SP and AVPD, rather than one or the other condition, that is associated with greater distress and impairment. The dimensional model is represented graphically in Figure 1 and the categorical model as proposed in this article is shown in Figure 2.

LIMITATIONS

This study has a number of significant limitations related to the identification of AvPD. First, the use of a screening tool administered by lay interviewers

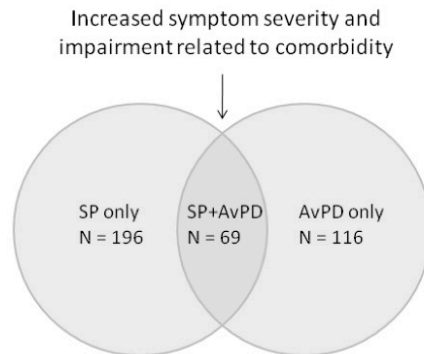


FIGURE 2. A categorical/overlap model of social phobia and avoidant personality disorder, in which severity is most closely related to comorbidity.

to identify personality disorder is less reliable than a structured interview administered by a mental health professional.

Second, the use of *ICD-10* anxious personality disorder as a proxy for AvPD has limitations. We attempted to enhance the similarity with *DSM-IV* AvPD by limiting the criteria to those that appeared the closest match to *DSM-IV* criteria, but this may have had a disadvantageous rather than useful effect, for example, by limiting aspects of the construct that represent true points of difference with SP. *ICD-10* anxious personality disorder criteria show overlap with the criteria for social anxiety (“I feel awkward or out of place in social situations,” “I worry a lot that people may not like me”) and define a personality style characterized by general anxiety and tension (“I usually feel tense or nervous”) and fears beyond the purely social (“A lot of things seem dangerous to me that don’t bother most people”). Only one criterion shows a close agreement with *DSM-IV* criteria for AvPD (“I won’t get involved with people until I’m certain they like me”). Estimates of comorbidity with AvPD vary from 0% to 89% (Alden et al., 2002; Lampe, 1995) depending on the sample, diagnostic instruments, and version of the *DSM*. However, the proportion of those with SP who also met criteria for AvPD is similar to studies that utilized structured diagnostic instruments for *DSM*, including clinical (14.5% and 28% using *DSM-III-R*; Baillie & Lampe, 1998; Dyck et al., 2001) and epidemiological (36%; Cox et al., 2009) samples, although lower than the 65%–90% reported in some other outpatient samples (Alnaes & Torgersen, 1988; Chambless et al., 2008). Some differences emerged between our two groups in the pattern and likelihood of social fears endorsed, suggesting that we were able to define distinct groups.

Only approximately one third of those with AvPD also met criteria for SP. Since *DSM-IV* only requires that one or more social situations are feared, it is possible that those with AvPD failed to meet the SP criterion requiring that exposure to the feared situation almost always provokes anxiety

because their avoidance is so comprehensive that such situations are never confronted.

It is now clear that the more situations that respondents are explicitly asked about, the greater the average number of social situations that are endorsed as feared. This survey asked only about 6 situations, compared to 14 in the NCS replication survey. Therefore, the survey may have underestimated the prevalence of SP. Possibly, some of those classified as AvPD only may have met criteria for SP had more situations been surveyed.

DSM-IV specifies GSP if the individual “fears most social situations” (American Psychiatric Association, 1994, p. 417) but does not operationalize the definition. In this study, “most” was defined as three or more of the six fears inquired about. However, other studies have varied in the definition of this construct. Too few situations endorsed could result in a relatively “mild” GSP; requiring too many might reduce distinctions between GSP and non-GSP.

In conclusion, the results of this study, while not providing support for qualitative differences between SP and AvPD on factors related to age, gender, education, employment, marital status, distress, impairment and comorbidity, also do not support the current view of AvPD as simply a more severe variant of SP. This study makes an important contribution by having included a large, nonclinical sample of persons with AvPD without SP. It is important that future research also utilizes study populations not limited to those in whom SP has been identified. Research has suggested negative childhood environments (Stravynski, Elie, & Franche, 1989) and temperament and personality factors such as introversion, social anhedonia, self-esteem, passivity, and fear of novelty (Fogelson et al., 2007; Rettew, 2000) as possible differentiators, and further exploration of these factors could be useful. It may be that SP and AvPD are better differentiated by the response to anxiety (more or less avoidance) or by the core concerns (fear of showing anxiety vs. fear of being rejected/low self-esteem). Furthermore, the possibility that SP and AvPD share neurobiological vulnerability factors that are modified by different environmental experiences (Reichborn-Kjennerud et al., 2007; Rettew et al., 2003) remains a possibility meriting further study. The current findings would support retaining AvPD and SP as distinct disorders in DSM-5, but some revision to criteria to reflect the distinctions identified may be of value.

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Appendix D1: Participant Consent Form, Studies 2 and 3

The Participant Consent Form appears on the following pages.



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THE RELATIONSHIP BETWEEN AVOIDANT PERSONALITY DISORDER AND SOCIAL PHOBIA

PARTICIPANT CONSENT FORM

I,[PRINT NAME], give consent to
my participation in the research project

TITLE: The relationship between avoidant personality disorder and social phobia

In giving my consent I acknowledge that:

1. The procedures required for the project and the time involved have been explained to me, and any questions I have about the project have been answered to my satisfaction.
2. I have read the Participant Information Statement and have been given the opportunity to discuss the information and my involvement in the project with the researcher/s.
3. I understand that being in this study is completely voluntary – I am not under any obligation to consent.
4. I understand that my involvement is strictly confidential. I understand that any research data gathered from the results of the study may be published however no information about me will be used in any way that is identifiable.
5. I understand that I can withdraw from the study at any time, without affecting my relationship with the researcher(s), the University of Sydney or the CADE Clinic now or in the future.

6. I understand that I can stop the personality interview at any time if I do not wish to continue.

7. I consent to:

- | | | | | |
|---|-----|--------------------------|----|--------------------------|
| <input type="checkbox"/> Self-report questionnaires | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
| <input type="checkbox"/> Personality interview with clinician | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
| <input type="checkbox"/> Computerised tests | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
| <input type="checkbox"/> Re-contact within 12 months re further participation | YES | <input type="checkbox"/> | NO | <input type="checkbox"/> |
| ➤ Preferred method: Phone <input type="checkbox"/> Email <input type="checkbox"/> Post <input type="checkbox"/> | | | | |

8. I would like to receive feedback YES ☐ NO ☐

If you answered YES to “Re-contact within 12 months re further participation” or the “Receiving Feedback” question, please provide your contact details i.e. mailing address or email address.

Email: _____

OR

Address: _____

Signature

Please PRINT name

Date

Appendix D2: Participant Information Statement, Studies 2 and 3

The Participant Information Statement appears on the following pages.



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THE RELATIONSHIP BETWEEN AVOIDANT PERSONALITY DISORDER AND SOCIAL PHOBIA PARTICIPANT INFORMATION STATEMENT

You are invited to take part in a research study exploring the nature of avoidant personality disorder (AvPD) and its relationship to social phobia (SP).

What is the study about?

The objective is to learn more about how avoidant personality disorder and social phobia relate to each other, investigate whether there are identifiable risk factors for one condition or the other, and in the process gather evidence that will contribute to understanding about whether these are two distinct conditions, or variations of social phobia.

Social phobia (also known as social anxiety disorder) is characterised by a fear of saying or doing something embarrassing, or being negatively evaluated by others. The avoidant personality style is characterised by intense fear around rejection or humiliation, a sense of not fitting in, and often a sense of inferiority to others. Social phobia is usually associated with fairly healthy self-esteem, but people with AvPD often have low self-esteem and frequently become depressed.

Currently it is most commonly thought that AvPD represents a more severe form of social phobia. As a result, there are no specific treatment programs for it. There is some research that suggests that while there may some overlap between SP and AvPD, they may be distinct conditions. If this were the case, then specific treatment approaches might improve the outcome from treatment. Research so far suggests that there may be genetic factors in common (such as temperamental traits), but that environmental influences, such as the style of parenting the person experienced, may result in different symptoms occurring in adulthood. It has also been proposed that there may differences in genes involved in neurotransmitter systems for emotional and social experience, such as oxytocin and dopamine.

Who is carrying out the study?

The study is being carried out by Dr Lisa Lampe, who is a psychiatrist and a senior lecturer in the Discipline of Psychiatry in the Sydney Medical School. Dr Lampe has many years of experience in working with people with social phobia and avoidant personality. This study will form the basis for the degree of Doctor of Philosophy

undertaken at The University of Sydney under the supervision of Professor Gin Malhi, Head of the Department of Psychiatry at Royal North Shore Hospital, Professor Gavin Andrews, Director of the Clinical Research Unit for Anxiety and Depression at St Vincent's Hospital and the University of New South Wales, and Associate Professor Frankie Merritt, Head of Aboriginal and Torres Strait Islander Health Programs, the University of Notre Dame Australia.

What does the study involve?

If you agree to participate in this study:

- ☐ **You will be asked to provide a contact number so that Dr Lampe can speak to you about the study and confirm your eligibility to participate.**
- ☐ **You will be asked to complete several questionnaires asking for information about yourself: you will be identified on these questionnaires only by a number. These may be completed online at SurveyMonkey via an individual password sent to you by email (however, you may complete a paper version of the questionnaires if you prefer). These questionnaires include:**
 - a demographic questionnaire, that will ask you details about yourself such as your age, gender, occupation and relationship status;
 - measures of temperament and personality;
 - a questionnaire about experiences you may have had in childhood, such as separations from your parents, or parents who were critical of you;
 - a measure of self-esteem;
 - a measure of general distress;
 - questionnaires asking about different types of psychological symptoms and their severity;
 - a questionnaire that looks at your relationships from an attachment perspective – that is, how comfortable you are in long term or intimate relationships.
- ☐ **You will be asked to come to the CADE Clinic at Royal North Shore Hospital in person to:**
 - meet with Dr Lampe or another clinician for an interview that is aimed gaining an understanding of your personality style
 - complete a computerised questionnaire (the Composite International Diagnostic Interview) that asks questions about various types of symptoms people can experience and determines whether criteria for a specific diagnosis are met (e.g. social phobia, depression)
 - However, if you prefer, this interview can be conducted with you over the telephone before or after you attend for the personality interview

You are not obliged to answer individual items on the questionnaires if you do not feel comfortable doing so. You will only be identified on the questionnaires by a number.

- ☐ **You may be re-contacted within 12 months following completion of the above questionnaires and invited to participate in a further interview, which may be by phone, video technology (such as Skype) or in person.**
 - The purpose of this interview would be to explore your experiences and thoughts about your social anxiety in more detail.

How much time will the study take?

- ☐ At home: It is estimated that it will take you about 1 hour to complete the questionnaires prior to attending in person.
- ☐ In person attendance: The computerised interview will take between 30-60 minutes; the personality assessment with a clinician will usually take between 60-90 minutes.
- ☐ If you return for a further interview it is estimated that this will take 1-2 hours

Who is eligible for the study?

You are eligible to participate in the study if you:

- ☐ are over 18 years of age
- ☐ can read and speak English sufficiently well to complete written questionnaires and an interview
- ☐ meet criteria for either AvPD or Social Phobia
- ☐ have been stable on any medication for at least 4 weeks
- ☐ do not have current alcohol or drug dependence
- ☐ are able to come in to the CADE Clinic at Royal North Shore Hospital in St Leonards, NSW for the clinical interview and to complete a computerised questionnaire.

Can I withdraw from the study?

Being in this study is completely voluntary - you are not under any obligation to consent and if you do consent, you can withdraw at any time without affecting any current or future relationship with The University of Sydney, the Royal North Shore Hospital or the CADE Clinic.

Will anyone else know the results?

All aspects of the study, including results, will be strictly confidential and only the investigators will have access to information on participants, except as required by law. A report of the study will be submitted for publication, but individual participants will not be identifiable in such a report.

Will the study benefit me?

The mental health professional whom you see will provide feedback regarding the results of your personality assessment. It may also be possible with your written consent to provide information regarding your scores on measures of psychological symptoms and distress to a doctor or psychologist you nominate. We will also provide information of a general nature regarding avenues for treatment. However, we cannot and do not guarantee or promise that you will receive any benefits from the study.

Will the study harm me?

The questionnaires and clinical interview will ask you questions about experiences in your past, such as problems with your parents, abuse or traumas. It may be distressing to you to recall these events. You will also be asked about current problems and concerns that you have, and thinking about these questions and your answers could be distressing. Help for psychological problems is available through your GP, or your local community mental health centre. In NSW you may also contact the 24-hour Mental Health Line on 1800 011 511. It is highly unlikely that the questionnaires or interview process of themselves should cause you to feel a severe level of distress, but should this occur, or should you experience suicidal thoughts for any reason, you are advised to contact your nearest hospital emergency department or phone 000. If you become significantly distressed during the interview with the mental health professional, he or she will assist in making an appropriate referral for further assessment.

Will I be paid for participating?

You will not be paid for your participation in this study. However, you can be reimbursed for travelling expenses (e.g. costs of parking, bus or train tickets) that you incur as a result of participating in this study. This will be up to a total value of \$20. Funding for reimbursement has been made available through a research grant from the Discipline of Psychiatry, University of Sydney. You will need to outline your expenses, following which you will receive a cash reimbursement at the conclusion of your interview with Dr Lampe.

Will I get treatment as part of the study?

No, this study cannot provide treatment.

Can I tell other people about the study?

You are most welcome to tell anyone about the study.

What if I require further information about the study or my involvement in it?

When you have read this information, Dr Lisa Lampe would be happy to discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact Dr Lampe on 02 9462 9905 (Telephone) or lisa.lampe@sydney.edu.au (Email).

Any person with concerns or complaints about the conduct of a research study can contact the Deputy Manager, Human Ethics Administration, University of Sydney on +61 2 8627 8176 (Telephone); +61 2 8627 8177 (Facsimile) or ro.humanethics@sydney.edu.au (Email).

This information sheet is for you to keep.

Appendix E1: K6

K6+ Self Report Measure

The following questions ask about how you have been feeling during the past 30 days.

For each question, please circle the number that best describes how often you had this feeling.

		All of the time	Some of the time	Most of the time	A little of the time	None of the time
Q1	During the past 30 days, about how often did you feel ...					
a	... nervous?	1	2	3	4	5
b	... hopeless?	1	2	3	4	5
c	... restless or fidgety?	1	2	3	4	5
d	... so depressed that nothing could cheer you up?	1	2	3	4	5
e	... that everything was an effort?	1	2	3	4	5
f	... worthless?	1	2	3	4	5

Q2 The last six questions ask about feelings that might have occurred during the past 30 days. Taking them altogether, did these feelings occur more often in the past 30 days than is usual for you, about the same as usual, or less often than usual?
(If you never have any of these feelings, circle response option “4”)

More often	Same as usual	Less often	Never experienced
1	2	3	4

Appendix E2: WHODAS 2.0

WHODAS 2.0

WORLD HEALTH ORGANIZATION DISABILITY ASSESSMENT SCHEDULE 2.0

This questionnaire asks about difficulties due to health conditions. Health conditions include diseases or illnesses, other health problems that may be short or long lasting, injuries, mental or emotional problems, and problems with alcohol or drugs.

Think back over the past 30 days and answer these questions, thinking about how much difficulty you had doing the following activities. For each question, please circle only one response.

In the past 30 days, how much difficulty did you have in:		None	Mild	Moderate	Severe	Extreme or cannot do
S1	<u>Standing for long periods</u> such as <u>30 minutes</u> ?					
S2	Taking care of your <u>household responsibilities</u> ?					
S3	<u>Learning a new task</u> , for example, learning how to get to a new place?					
S4	How much of a problem did you have <u>joining in community activities</u> (for example, festivities, religious or other activities) in the same way as anyone else can?					
S5	How much have <u>you</u> been <u>emotionally affected</u> by your health problems?					
S6	<u>Concentrating</u> on doing something for <u>ten minutes</u> ?					
S7	<u>Walking a long distance</u> such as a <u>kilometre</u> [or equivalent]?					
S8	<u>Washing your whole body</u> ?					
S9	Getting <u>dressed</u> ?					
S10	<u>Dealing</u> with people <u>you do not know</u> ?					
S11	<u>Maintaining a friendship</u> ?					
S12	Your day-to-day <u>work</u> ?					

H1 Overall, in the past 30 days, how many days were these difficulties present?

Record number of days ____

H2 In the past 30 days, for how many days were you totally unable to carry out your usual activities or work because of any health condition?

Record number of days ____

H3 In the past 30 days, not counting the days that you were totally unable, for how many days did you cut back or reduce your usual activities or work because of any health condition?

Record number of days ____

This completes the questionnaire. Thank you.

Appendix E3: Mini-SPIN

Mini-SPIN

(Connor et al., 2001)

Please indicate the extent to which you feel the following statements apply to you:

		Not at all	A little bit	Somewhat	Very much	Extremely
1	Fear of embarrassment causes me to avoid doing things or speaking to people.					
2	I avoid activities in which I am the centre of attention					
3	Being embarrassed or looking stupid are among my worst fears					

Appendix E4: BIS/BAS

BIS/BAS

Carver and White (1994)

Each item of this questionnaire is a statement that a person may either agree with or disagree with. Please respond to all the items; do not leave any blank. Choose only one response to each statement. Please be as accurate and honest as you can be. Respond to each item as if it were the only item. That is, don't worry about being "consistent" in your responses.

Choose from the following four response options:

		Very true for me	Somewhat true for me	Somewhat false for me	Very false for me
1	A person's family is the most important thing in life.				
2	Even if something bad is about to happen to me, I rarely experience fear or nervousness.				
3	I go out of my way to get things I want.				
4	When I'm doing well at something I love to keep at it.				
5	I'm always willing to try something new if I think it will be fun.				
6	How I dress is important to me.				
7	When I get something I want, I feel excited and energized.				
8	Criticism or scolding hurts me quite a bit.				
9	When I want something I usually go all-out to get it.				
10	I will often do things for no other reason than that they might be fun.				
11	It's hard for me to find the time to do things such as get a haircut.				
12	If I see a chance to get something I want I move on it right away.				
13	I feel pretty worried or upset when I think or know somebody is angry at me.				
14	When I see an opportunity for something I like I get excited right away.				
15	I often act on the spur of the moment.				
16	If I think something unpleasant is going to happen I usually get pretty "worked up."				
17	I often wonder why people act the way they do.				
18	When good things happen to me, it affects me strongly.				
19	I feel worried when I think I have done poorly at something important.				
20	I crave excitement and new sensations.				
21	When I go after something I use a "no holds barred" approach.				
22	I have very few fears compared to my friends.				
23	It would excite me to win a contest.				
24	I worry about making mistakes.				

Appendix E5: RCBS

THE REVISED CHEEK AND BUSS SHYNESS SCALE

Cheek, J.M. (1983)

INSTRUCTIONS: Please read each item carefully and decide to what extent it is characteristic of your feelings and behaviour.

		Very uncharacteristic or untrue, strongly disagree	Uncharacteristic	Neutral	Characteristic	Very characteristic or true, strongly agree
1	I feel tense when I'm with people I don't know well					
2	I am socially somewhat awkward					
3	I do not find it difficult to ask other people for information					
4	I am often uncomfortable at parties and other social functions					
5	When in a group of people, I have trouble thinking of the right things to talk about					
6	It does not take me long to overcome my shyness in new situations					
7	It is hard for me to act natural when I am meeting new people					
8	I feel nervous when speaking to someone in authority					
9	I have no doubts about my social competence					
10	I have trouble looking someone right in the eye					
11	I feel inhibited in social situations					
12	I do not find it hard to talk to strangers					
13	I am more shy with members of the sex I'm attracted to					

Appendix E6: CATS

CHILD ABUSE AND TRAUMA SCALE

Sanders & Becker-Lausen (1995)

This questionnaire seeks to determine the general atmosphere of your home when you were a child or teenager and how you felt you were treated by your parents or principal caretaker. (If you were not raised by one or both of your biological parents, please respond to the questions below in terms of the person or persons who had the primary responsibility for your upbringing as a child.) Where a question inquires about the behavior of both of your parents and your parents differed in their behavior, please respond in terms of the parent whose behavior was the more severe or worse.

		Never	Rarely	Sometimes	Very often	Always
1	Did your parents ridicule you?					
2	Did you ever seek outside help or guidance because of problems in your home?					
3	Did your parents verbally abuse each other?					
4	Were you expected to follow a strict code of behaviour in your home?					
5	When you were punished as a child or teenager, did you understand the reason you were punished?					
6	When you didn't follow the rules of the house, how often were you severely punished?					
7	As a child, did you feel unwanted or emotionally neglected?					
8	Did your parents insult you or call you names?					
9	Before you were 14, did you engage in any sexual activity with an adult?					
10	Were your parents unhappy with each other?					
11	Were your parents willing to attend any of your school-related activities?					
12	As a child, were you punished in unusual ways (e.g., being locked in a closet for a long time or tied up)?					
13	Were there traumatic or upsetting sexual experiences when you were a child or teenager than you couldn't speak to adults about?					
14	Did you ever think you wanted to leave your family and live with another family?					
15	Did you ever witness the sexual mistreatment of another family member?					
16	Did you ever think seriously about running away from home?					
17	Did you witness the physical mistreatment of another family member?					
18	When you were punished as a child or teenager, did you feel the punishment was deserved?					
19	As a child or teenager, did you feel disliked by either of your parents?					
20	How often did your parents get really angry with you?					

		Never	Rarely	Sometimes	Very often	Always
21	As a child, did you feel that your home was charged with the possibility of unpredictable physical violence?					
22	Did you feel comfortable bringing friends home to visit?					
23	Did you feel safe living at home?					
24	When you were punished as a child or teenager, did you feel "the punishment fit the crime"?					
25	Did your parents ever verbally lash out at you when you did not expect it?					
26	Did you have traumatic sexual experiences as a child or teenager?					
27	Were you lonely as a child?					
28	Did your parents yell at you?					
29	When either of your parents was intoxicated, were you ever afraid of being sexually mistreated?					
30	Did you ever wish for a friend to share your life?					
31	How often were you left at home alone as a child?					
32	Did your parents blame you for things you didn't do?					
33	To what extent did either of your parents drink heavily or abuse drugs?					
34	Did your parents ever hit or beat you when you did not expect it?					
35	Did your relationship with your parents ever involve a sexual relationship?					
36	As a child, did you have to take care of yourself before you were old enough?					
37	Were you physically mistreated as a child or teenager?					
38	Was your childhood stressful?					

Appendix E7: DASS

DEPRESSION ANXIETY AND STRESS SCALE

Lovibond & Lovibond (1995)

Instructions: Please read each statement and choose the number which indicates how much the statement applied to you over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

		Did not apply to me at all - NEVER	Applied to me to some degree, or some of the time - SOMETIMES	Applied to me to a considerable degree, or a good part of time - OFTEN	Applied to me very much, or most of the time - MOST ALWAYS
1	I found it hard to wind down				
2	I was aware of dryness of my mouth				
3	I couldn't seem to experience any positive feeling at all				
4	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)				
5	I found it difficult to work up the initiative to do things				
6	I tended to over-react to situations				
7	I experienced trembling (e.g., in the hands)				
8	I felt that I was using a lot of nervous energy				
9	I was worried about situations in which I might panic and make a fool of myself				
10	I felt I had nothing to look forward to				
11	I found myself getting agitated				
12	I found it difficult to relax				
13	I felt down-hearted and blue				
14	I was intolerant of anything that kept me from getting on with what I was doing				
15	I felt I was close to panic				
16	I was unable to become enthusiastic about anything				
17	I felt I wasn't worth much as a person				
18	I felt that I was rather touchy				
19	I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)				
20	I felt scared without any good reason				
21	I felt that life was meaningless				

Appendix E8: RQ

Relationship Styles

Below are descriptions of relationship styles that people often report.

After each statement, please rate the extent to which you think the description corresponds to your general relationship style.

	Not at all like me	1	2	3	4	5	6	Very much like me
Style A It is easy for me to become emotionally close to others. I am comfortable depending on them and having them depend on me. I don't worry about being alone or having others accept me.								
Style B I am uncomfortable getting close to others. I want emotionally close relationships, but I find it difficult to trust others completely, or to depend on them. I worry that I will be hurt if I allow myself to become too close to others.								
Style C I want to be emotionally intimate with others, but I often find that others are reluctant to get as close as I would like. I am uncomfortable being without close relationships, but I sometimes worry that others don't value me as much as I value them.								
Style D I am comfortable without close emotional relationships. It is very important to me to feel independent and self-sufficient, and I prefer not to depend on others or have others depend on me.								
Style E I think it's a mistake to trust other people. Everyone's looking out for themselves, so the sooner you learn not to expect anything from anybody else the better.								

If you had to choose only ONE of the above relationship styles to describe yourself, which one would it be? Please choose the style that best describes you or is nearest to the way you generally are in your close relationships.	Style A
	Style B
	Style C
	Style D
	Style E

Appendix E9: RSES

ROSENBERG SELF-ESTEEM SCALE

Rosenberg (1965)

Instructions: Below is a list of statements dealing with your general feelings about yourself.

Choose the option that best fits how you closely you agree with each statement.

		Strongly Disagree	Disagree	Agree	Strongly Agree
1	On the whole, I am satisfied with myself				
2	At times, I think I am no good at all				
3	I feel that I have a number of good qualities				
4	I am able to do things as well as most other people				
5	I feel I do not have much to be proud of				
6	I certainly feel useless at times				
7	I feel that I'm a person of worth, at least on an equal plane with others				
8	I wish I could have more respect for myself				
9	All in all, I am inclined to feel that I am a failure				
10	I take a positive attitude toward myself				

Appendix F1: Participant Consent Form, Study 4

The Participant Consent Form appears on the following pages.



Discipline of Psychiatry
Sydney Medical School
University of Sydney

ABN 15 211 513 464

DR LISA LAMPE MB,BS, FRANZCP

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**THE RELATIONSHIP BETWEEN AVOIDANT PERSONALITY DISORDER
AND SOCIAL PHOBIA**

PARTICIPANT CONSENT FORM: Qualitative Component

I,[PRINT NAME], give consent to
my participation in the research project

TITLE: The relationship between avoidant personality disorder and social phobia

In giving my consent I acknowledge that:

1. The procedures required for the project and the time involved have been explained to me, and any questions I have about the project have been answered to my satisfaction.
2. I have read the Participant Information Statement and have been given the opportunity to discuss the information and my involvement in the project with the researcher/s.
3. I understand that being in this study is completely voluntary – I am not under any obligation to consent.
4. I understand that my involvement is strictly confidential. I understand that any research data gathered from the results of the study may be published however no information about me will be used in any way that is identifiable.
5. I understand that I can withdraw from the study at any time, without affecting my relationship with the researcher(s), the University of Sydney or the CADE Clinic now or in the future.
6. I understand that I can stop the interview at any time if I do not wish to continue.

7. I consent to:

- | | | |
|---|------------------------------|-----------------------------|
| <input type="checkbox"/> Interview with Dr Lampe | YES <input type="checkbox"/> | NO <input type="checkbox"/> |
| <input type="checkbox"/> Audiotaping and transcription of interview | YES <input type="checkbox"/> | NO <input type="checkbox"/> |
| <input type="checkbox"/> Use of de-identified quotes in study reports | YES <input type="checkbox"/> | NO <input type="checkbox"/> |

8. I would like to receive notification of any study reports YES ☐ NO ☐

If you answered YES to receiving notification, please provide your details i.e. mailing address OR email address.

Feedback Option

Email: _____

OR

Postal Address: _____

.....
Signature

.....
Please PRINT name

.....
Date

Appendix F2: Participant Information Statement, Study 4

The Participant Information Statement appears on the following pages.



Discipline of Psychiatry
Sydney Medical School

ABN 15 211 513 464

DR LISA LAMPE MB,BS,
FRANZCP

Discipline of Psychiatry,
Sydney Medical School,
University of Sydney, NSW
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Email: lisa.lampe@sydney.edu.au

Web: <http://sydney.edu.au/medicine/people/academics/profiles/llampe.php>

THE RELATIONSHIP BETWEEN AVOIDANT PERSONALITY DISORDER AND SOCIAL PHOBIA

PARTICIPANT INFORMATION STATEMENT: Qualitative component

You are invited to take part in a research study exploring the nature of avoidant personality disorder (AvPD) and its relationship to social phobia (SP).

What is the study about?

The objective is to learn more about how avoidant personality disorder and social phobia relate to each other, investigate whether there are identifiable risk factors for one condition or the other, and in the process gather evidence that will contribute to understanding about whether these are two distinct conditions, or variations of social phobia.

Social phobia (also known as social anxiety disorder) is characterised by a fear of saying or doing something embarrassing, or being negatively evaluated by others. The avoidant personality style is characterised by intense fear around rejection or humiliation, a sense of not fitting in, and often a sense of inferiority to others. Social phobia is usually associated with fairly healthy self-esteem, but people with AvPD often have low self-esteem and frequently become depressed.

Currently it is most commonly thought that AvPD represents a more severe form of social phobia. As a result, there are no specific treatment programs for it. There is some research that suggests that while there may be some overlap between SP and AvPD, they may be distinct conditions. If this were the case, then specific treatment approaches might improve the outcome from treatment. Research so far suggests that there may be genetic factors in common (such as temperamental traits), but that environmental influences, such as the style of parenting the person experienced, may result in different symptoms occurring in adulthood. It has also been proposed that there may be differences in genes involved in neurotransmitter systems for emotional and social experience, such as oxytocin and dopamine.

Who is carrying out the study?

The study is being carried out by Dr Lisa Lampe, who is a psychiatrist and a senior lecturer in the Discipline of Psychiatry in the Sydney Medical School. Dr Lampe has many years of experience in working with people with social phobia and avoidant personality. This study will form the basis for the degree of Doctor of Philosophy

undertaken at The University of Sydney under the supervision of Professor Gin Malhi, Head of the Department of Psychiatry at Royal North Shore Hospital, Professor Gavin Andrews, Director of the Clinical Research Unit for Anxiety and Depression at St Vincent's Hospital and the University of New South Wales, and Associate Professor Frankie Merritt, Head of Aboriginal and Torres Strait Islander Health Programs, School of Medicine, the University of Notre Dame Australia.

What does the study involve?

The qualitative component of this study seeks to better understand the lived experience of avoidant personality traits and social anxiety, and to explore aspects of these conditions that are poorly understood by researchers and clinicians and not well captured by existing questionnaires and diagnostic criteria. Participants in the first part of this study identified a number of factors as potentially significant, and we would like to ask you about these ideas. The researchers will review the material to look for common themes.

If you agree to participate in the qualitative component of this study:

- ☐ **You will be asked to participate in an interview with Dr Lampe to talk about your experience of symptoms of avoidant personality disorder and/or social anxiety.**
 - o The interview will be conducted in person and will take place at whichever of the following venues is most convenient for you:
 - CADE Clinic at Royal North Shore Hospital, St Leonards, NSW
 - Clinical Research Unit for Anxiety and Depression at St Vincent's Hospital, Darlinghurst, NSW
- ☐ **You will be asked to allow this interview to be audio recorded and transcribed.**
- ☐ **You will be asked to allow the researchers to quote you in research reports in a way that will not reveal any material that would identify you.** The purpose of the quotes will be to illustrate aspects of these conditions authentically.

How much time will the study take?

- ☐ It is estimated that the interview will take up to 1-2 hours

Who is eligible for the study?

You are eligible to participate in the study if you:

- ☐ are over 18 years of age
- ☐ can read and speak English sufficiently well to complete an interview
- ☐ meet criteria for either AvPD or Social Phobia
- ☐ have been stable on any medication for at least 4 weeks
- ☐ do not have current alcohol or drug dependence

Can I withdraw from the study?

Being in this study is completely voluntary - you are not under any obligation to consent and if you do consent, you can withdraw at any time without affecting any current or future relationship with The University of Sydney, the Royal North Shore Hospital or the CADE Clinic.

Will anyone else know the results?

All aspects of the study, including results, will be strictly confidential and only the investigators will have access to information on participants, except as required by law. A report of the study will be submitted for publication, but individual participants will not be identifiable in such a report.

Will the study benefit me?

We can provide information of a general nature regarding avenues for treatment. However, we cannot and do not guarantee or promise that you will receive any benefits from the study.

Will the study harm me?

The interview will ask you questions about experiences in your past, such as problems with your parents, abuse or traumas. It may be distressing to you to recall these events. You will also be asked about current problems and concerns that you have, and thinking about these questions and your answers could be distressing. Help for psychological problems is available through your GP, or your local community mental health centre. In NSW you may also contact the 24-hour Mental Health Line on 1800 011 511. It is highly unlikely that the interview process of itself should cause you to feel a severe level of distress, but should this occur, or should you experience suicidal thoughts for any reason, you are advised to contact your nearest hospital emergency department or phone 000. If you become significantly distressed during the interview with Dr Lampe, she will assist in making an appropriate referral for further assessment.

Will I be paid for participating?

You will not be paid for your participation in this study. However, you can be reimbursed for travelling expenses (e.g. costs of parking, bus or train tickets) that you incur as a result of participating in this study. This will be up to a total value of \$20. Funding for reimbursement has been made available through a research grant from the Discipline of Psychiatry, University of Sydney. You will need to outline your expenses, following which you will receive a cash reimbursement at the conclusion of your interview with Dr Lampe.

Will I get treatment as part of the study?

No, this study cannot provide treatment.

Can I tell other people about the study?

You are most welcome to tell anyone about the study.

What if I require further information about the study or my involvement in it?

When you have read this information, Dr Lisa Lampe would be happy to discuss it with you further and answer any questions you may have. If you would like to know more at any stage, please feel free to contact Dr Lampe on 02 9462 9905 (Telephone) or lisa.lampe@sydney.edu.au (Email).

Any person with concerns or complaints about the conduct of a research study can contact the Deputy Manager, Human Ethics Administration, University of Sydney on +61 2 8627 8176 (Telephone); +61 2 8627 8177 (Facsimile) or ro.humanethics@sydney.edu.au (Email).

This information sheet is for you to keep.

Appendix G: Interview Script

Introduction

Thank you again for agreeing to participate in this research. In the first part of my study it became clear to me that many people could probably tell me a lot more about social anxiety and avoidant personality than the questionnaires were capturing, and hence this part of the study aims to explore your thoughts and experiences in more depth. I would like to reassure you that anything you tell me will remain confidential. I would also just like to check that it is OK for me to record the interview and have it transcribed? This is so that I don't miss any of what you and others tell me, and to assist in identifying any common themes that might emerge.

OK, let's begin.

1. Can you tell me how you first came to hear about AVPD and think that it might apply to you?
2. Can you recall what prompted you to go looking for information?
3. If you discovered my study for yourself, e.g., by browsing the internet, what was it in the information I provided that you really identified with?
4. You've been invited to be part of this study because you have been diagnosed with AVPD (or SAD, or both). What does this diagnosis mean for you?

Prompt:

Was getting a diagnosis a good thing or a bad thing? Why/why not?

5. How do you feel about your problems being referred to as a 'disorder'? As a 'personality disorder'? Is there a term you would prefer?
6. Please look at the criteria prompt sheet. It lists the features that are used to identify AVPD in the major classification system used by psychiatrists and psychologists. Can you tell me if you relate to any of those criteria?
7. What isn't captured here about your lived experience of AVPD?

Prompt:

Unpack that lived experience for me, what about your life isn't covered by looking at the list?

8. You identify with the avoidant personality style. Do you feel that this is different to social anxiety disorder? What is it that differentiates your problems from those of social anxiety disorder?
9. Help me to understand what it's like to be you. How does AVPD manifest in your life?

Prompt:

What's it like to live with the patterns of AVPD? Unpack that for me.

How does AVPD affect your life? Describe a "bad day" (and a "good day") for you.

10. Fill in the blank: "My life would be easier if people knew that ..." What do you wish most people knew about AVPD?
11. What do you find to be the biggest misconception around AVPD (or SAD, or both)?

Prompt:

What's a damaging misconception people have about AVPD (SAD, or both)?

12. I'm going to read something that is paraphrased off a web hub for mental health (mindhealthconnect.org.au): "People with AVPD avoid other people...even though they secretly wish to have company". Does this statement resonate with you? Why/why not? Is this sentiment or type of statement common?
13. Before you received a diagnosis, probably there were thoughts, feeling or behaviours that made you wonder if something was amiss. Is that fair to say? Can you tell me more about that?

Prompt:

How early in life did you feel that?

What were the earliest signs for you?

14. Is there someone you trust, someone who you are close to? Tell me about the relationship you have with them...

If "No":

Has there ever been someone? Can you tell me about that relationship?

15. With this person, or others you're close to, can you be yourself? Can you confide in them?

Prompt:

Do you ever kind of hold yourself back?

Do ever worry that this person or others you're close to might shame or ridicule you?

16. What are you like when you meet someone for the first time?

Prompt:

What goes through your mind?

How do you act? Why?

Do you actively think about whether to see them again or how to respond if you come across them again?

17. How do your concerns change as you spend more time with the same person or group of people?

Prompt:

Are things better or worse as you spend more time with people?

Do you get more or less comfortable as you get to know people?

Do you have any sense of the pattern of your concerns over time in a new relationship or situation (e.g., like a new job)?

18. Some people talk about the idea of "fitting in" socially. What do you think about this? What does this mean to you?

19. Do you think your concerns are more about who you are deep down or more about how you come across to others?

20. Many people in this study have said that they avoid confrontation whenever possible. What are your thoughts on that?

Prompt:

Can you tell me more about that?

What does "confrontation" mean to you?

What worries you about it?

Does avoiding confrontation have a cost or cause problems?

21. A sense of inferiority is something that seems to come up for a lot of people, is this much of an issue for you? Can you tell me more about it?

22. Fear of rejection is one of the criteria we are talking about in relation to AVPD (social anxiety disorder, or both). What does "rejection" mean to you?

Prompt:

Define "rejection" for me.

23. Again, thinking of rejection, for some people this means a sort of sense that there is a social mismatch, but others seem to feel that it is saying something about their personality, or about them globally as a person. Can you comment on that?

Prompt:

Do you ever feel as if rejection would be like a judgement about you as a person?

24. How much do you worry about criticism?

Do you see any relationship between criticism and rejection?

25. How much do you worry that people will criticise or reject you to your face, while you're with them?

How much do you worry they might do it behind your back?

26. "Shame" is a term we might use in relation to avoidant personality disorder (social anxiety disorder, or both).

Where does shame fit in all this?

What does "shame" mean to you?

Prompt:

Define "shame" for me.

27. If you're comfortable enough, can you tell me a little about your family of origin?

Prompt:

Do you come from a family where personality issues are common?

Was your family “normal” and happy?

Were your parents encouraging of you?

Did your parents pay you much attention?

Were your parents very sociable?

Was there a history of trauma, abuse or neglect?

28. The ability for anybody to pin down exact causality is an issue with many disorders. Do you have any thoughts about why you have AVPD (AVPD, SAD, or both)?

Prompt:

Do you see any role for things that happened in your family?

What about at school, like being bullied?

29. What do you dislike (or even hate) most about your disorder?

30. What is it you like about having the disorder?

31. At times, can you separate yourself from the disorder, and just “be”? Tell me about that...

Prompt:

I guess some would talk of a time (or incident) when they felt OK about themselves; where they felt confident in a new situation, or when meeting someone new. Is there anything like that you could tell me about?

32. What treatments are you using? How are they helping?

Prompt:

Are they helping with your relationships? Are the treatments helping with your anxiety, with your symptoms, with your thoughts and behaviours?

33. What treatment do you think helps (or has helped) you most? {if haven't had treatment: Is there any treatment that you think would be most helpful for you?} What treatment or intervention (or support initiative) do you wish got more funding? Why?

34. I asked you towards the start of the interview how you felt about the term “disorder”. I've used some other medical words, and terms that are specific to mental health in this interview. I'd like to know how you feel about some of those terms that I did use [ask about each word or term and get the participant's take on it].

What do you think of the term “mentally ill”?

What do you think of the word “diagnosis”?

What do you think of the word “normal”?

35. Before we finish, is there anything else you'd like to mention?

36. And finally, do you have any advice for others who may be experiencing similar issues?

Thank you again. Your contribution will greatly help my research.

Appendix H: Excluded words (“stop words”) for word frequency analysis/word clouds

00 a about above absolutely across actually after again against all almost also always am an and any anything are aren't aren't around as at away back be became because been before being below better between bit blah both but by came can can't cannot can't chanting city come comes coming could couldn't couldn't criteria daresay day did didn't didn't do does doesn't doesn't doing don't done don't down during each eight else end enough even every exactly example few fine first for four from further get getting going good got guess had hadn't hadn't has hasn't hasn't have haven't haven't having he he'd he'll he's he'd he'll her here here's here's hers herself he's him himself his home how how's how's i i'd i'll i'm i've i'd if i'll i'm in into is isn't isn't it it's its it's itself i've just kind knew know last laughs let let's let's like look lot made make makes making many may maybe me mean means might mmhm mmm more most much mustn't mustn't my myself necessarily no nor not now of off okay on once one only or other others ought our ours ourselves out over own part pause pay point probably put quite really right said same say saying says see shall shan't shan't she she'd she'll she's she'd she'll she's should shouldn't shouldn't since six so some somebody someone something sometimes sort sounds start still stuff style such suppose temple tend term terms than thank that that's that's the their theirs them themselves then there there's there's these they they'd they'll they're they've they'd they'll they're they've thing things think this those though thought through time times to told too two under until up upon us used using usually very was wasn't wasn't way we we'd we'll we're we've we'd well we'll went were we're weren't weren't we've what what's whatever what's when when's when's where where's where's whether which while who who's whom who's whose why why's why's will with won't won't word would wouldn't wouldn't yeah year yep yes you you'd you'll you're you've you'd you'll your you're yours yourself yourselves you've

Appendix I: Social Concerns Questionnaire

Checklist of Concerns

Below are a number of statements which reflect beliefs, feelings and behaviour.
Please read the statements and choose the option that best matches how each statement applies to you.

		Not at all like me or I never feel this way	Only a little like me or I occasionally feel this way	Somewhat like me or I often feel this way	Very much like me or I usually feel this way	Exactly like me or I always feel this way
1	I am much more easily hurt by criticism than most people					
2	I have no-one whom I can confide in					
3	I get anxious when there is any change to my routine, even when it does not involve interacting with others					
4	I am not anxious about meeting new people					
5	Close relationships with others is something I want in my life					
6	I worry that I will be boring when I talk to others					
7	I believe that being anxious when mixing with others is a sign of inferiority					
8	I can make a mistake without others rejecting me					
9	I enjoy getting to know people					
10	I worry about appearing anxious					
11	I do not fear rejection from others					
12	I feel I have never really fitted in					
13	I feel that I don't quite measure up to other people					
14	Others deliberately try to hurt or upset me					
15	I do not like myself very much					
16	The world is a dangerous place					
17	I am confident in myself					
18	I enjoy mixing with others					
19	I talk freely when I am with others					
20	I feel as though I am often criticised					
21	I worry that those I care about will reject me					
22	I believe that if I am not skilful in social interactions others will consider me to be worthless as a person					
23	I am unwilling to get involved with someone unless I know that they like me					
24	I do not worry about saying anything foolish					

Checklist of Concerns

Below are a number of statements which reflect beliefs, feelings and behaviour.
Please read the statements and choose the option that best matches how each statement applies to you.

		Not at all like me or I never feel this way	Only a little like me or I occasionally feel this way	Somewhat like me or I often feel this way	Very much like me or I usually feel this way	Exactly like me or I always feel this way
25	I believe that even if I show anxiety when mixing with others, they will still respect me					
26	I express my personal opinions and do not worry that others will disapprove					
27	I often feel so anxious that I cannot say much at all					
28	I will often go along with others even if I don't really agree just to avoid confrontation					
29	I feel as though others are talking about me in a negative way					
30	I will do anything to keep the peace					
31	I believe that it is acceptable to make genuine mistakes					
32	I fear the disapproval of others					
33	I need to excel at something to be accepted					
34	If I do not appear comfortable socially I will be rejected by others					
35	I am most comfortable with those that do not know me well					
36	I worry about being criticised or rejected in social situations					
37	I worry that once people see what I am really like they will reject me					
38	I avoid jobs or assignments that involve having to deal with a lot of people					
39	I find it hard to be "open" even with people I'm close to					
40	I'm afraid to try new things, even if they don't involve other people					

Appendix J1: Initial Reliability Analysis for items that were identified as showing between group differences

Reliability Statistics

Cronbach's Alpha	N of Items
.764	10

Item-Total Statistics

Item		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
2	I have no-one in whom I can confide	32.2388	32.185	.455	.741
8	I can make a mistake without others rejecting me (reverse scored)	31.5373	35.828	.240	.766
9	I enjoy getting to know people (reverse scored)	32.0896	33.446	.361	.753
11	I do not fear rejection from others (reverse scored)	30.7612	36.730	.118	.781
12	I feel I have never really fitted in	31.1194	31.864	.517	.733
13	I feel that I don't quite measure up to other people	31.2985	31.697	.477	.738
14	Others deliberately try to hurt or upset me	33.0597	32.572	.400	.749
15	I do not like myself very much	31.6269	29.025	.598	.717
34	If I do not appear comfortable socially I will be rejected by others	31.3731	32.025	.503	.735
37	I worry that once people see what I am really like they will reject me	31.2388	30.124	.575	.723

Appendix J2: Reliability Analysis for 8 item version of the Social Concerns Questionnaire

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.789	.788	8

Item-Total Statistics

Item No.		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
2	I have no-one in whom I can confide	24.24	27.427	.436	.775
9	I enjoy getting to know people (reverse scored)	24.09	28.174	.380	.783
12	I feel I have never really fitted in	23.12	26.834	.527	.762
13	I feel that I don't quite measure up to other people	23.30	26.728	.481	.768
14	Others deliberately try to hurt or upset me	25.06	27.269	.428	.777
15	I do not like myself very much	23.63	24.147	.614	.745
34	If I do not appear comfortable socially I will be rejected by others	23.37	27.086	.503	.765
37	I worry that once people see what I am really like they will reject me	23.24	25.185	.589	.750

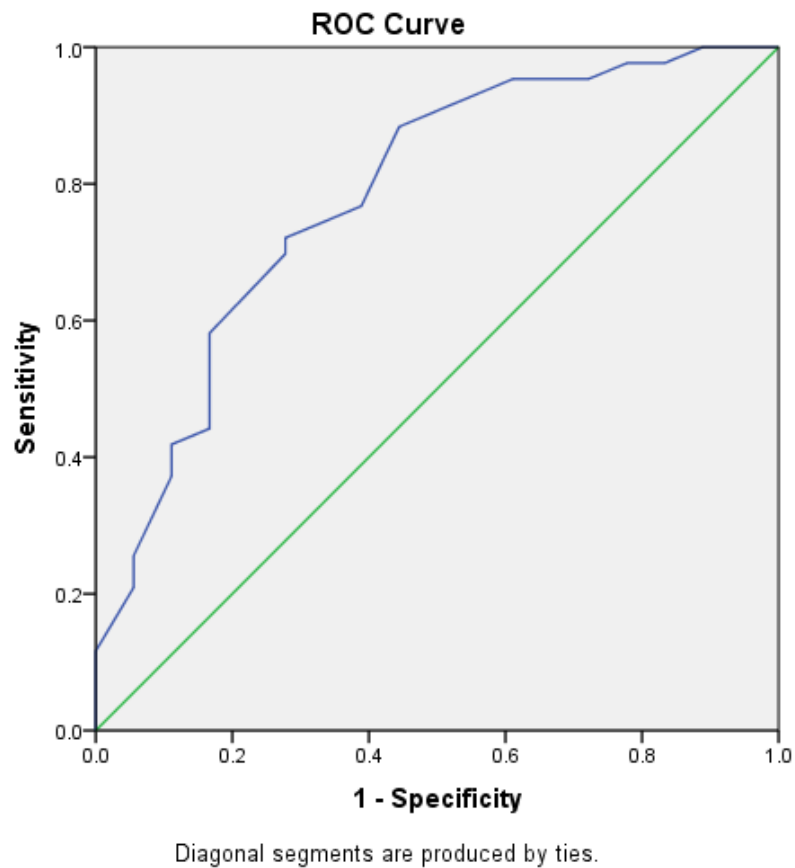
Appendix J3: ROC and Classification Analyses of initial 8-item version of the scale

ROC analysis of 8-item version

Coordinates of the Curve**Test Result Variable(s): Total_SCQsubset8**

Positive if Greater Than or Equal To ^a	Sensitivity	1 - Specificity
11.0000	1.000	1.000
13.0000	1.000	.944
15.5000	1.000	.889
17.5000	.977	.833
18.5000	.977	.778
19.5000	.953	.722
20.5000	.953	.667
21.5000	.953	.611
22.5000	.907	.500
23.5000	.884	.444
24.5000	.767	.389
25.5000	.721	.278
26.5000	.698	.278
27.5000	.581	.167
28.5000	.488	.167
29.5000	.442	.167
30.5000	.419	.111
31.5000	.372	.111
32.5000	.256	.056
33.5000	.209	.056
34.5000	.116	.000
35.5000	.093	.000
36.5000	.023	.000
38.0000	.000	.000

ROC curve for 8-item version



Performance of 8-item version of scale

Diagnostic category compared to IPDE			
Cut-off	True +	True -	Accuracy
≥ 19.0	95% (41/43)	28% (5/18)	75% (46/61)
≥ 20.0	95% (41/43)	33% (6/18)	77% (47/61)
≥ 21.0	91% (39/43)	50% (9/18)	79% (48/61)
≥ 22.0	91% (39/43)	61% (11/18)	82% (50/61)

Appendix J4: Coordinates of the curve for final 6-item version

Coordinates of the Curve

Positive if Greater Than or Equal To ^a	Sensitivity	1 - Specificity
8.0000	1.000	1.000
10.0000	1.000	.944
11.5000	1.000	.889
12.5000	.977	.889
13.5000	.977	.833
14.5000	.953	.833
15.5000	.953	.778
16.5000	.953	.722
17.5000	.953	.611
18.5000	.930	.444
19.5000	.907	.389
20.5000	.721	.389
21.5000	.651	.333
22.5000	.628	.222
23.5000	.465	.167
24.5000	.395	.167
25.5000	.326	.056
26.5000	.233	.056
27.5000	.163	.056
28.5000	.093	.000
29.5000	.023	.000
31.0000	.000	.000

Notes to table:

There is at least one tie between the positive actual state group and the negative actual state group.

The smallest cutoff value is the minimum observed test value minus 1, and the largest cutoff value is the maximum observed test value plus 1. All the other cutoff values are the averages of two consecutive ordered observed test values.

Appendix J5: Performance of various cut-off scores of 6 item version of SCQ

Performance of various cut-off scores on screening scale against IPDE diagnosis

	Diagnostic category compared to IPDE		
Cut-off	True +	True -	Accuracy
≥ 17.0	95% (41/43)	27.8% (5/18)	75% (46/61)
≥ 18.0	95% (41/43)	39% (7/18)	79% (48/61)
≥ 19.0	93% (40/43)	56% (10/18)	82% (50/61)
≥ 20.0	91% (39/43)	61% (11/18)	82% (50/61)

Appendix K: Data for Participants who chose “None of the above”

Results on demographic and symptom variables for the three participants who indicated that none of the nominated social concerns in the MPQ applied to them.

Variable	Case 1	Case 2	Case 3
Diagnostic category	SP-only	SP+AVPD	
AVPD dimensional score	1	11	9
<i>Median for diagnostic group</i>	4	10	
Age in years	65	32	54
<i>Mean age in years for diagnostic group (SD)</i>	28 (12.6)	35 (12.0)	
Gender	Female	Female	Female
<i>% female in diagnostic group</i>	55.5	54.3	
Relationship status	Partnered (past or present)	Partnered (past or present)	Never partnered
<i>% Never partnered in diagnostic group</i>	33	63	
WHO-DAS	19	17	17
<i>Median for diagnostic group</i>	14.6	31.2	
K6	missing	18	19
<i>Median for diagnostic group</i>	17	19	
Depression (DASS dep)	missing	10	12
<i>Median for diagnostic group</i>		20	
Anxiety (DASS anx)	missing	24	0
<i>Median for diagnostic group</i>		12	
Stress (DASS stress)	missing	16	10
<i>Median for diagnostic group</i>		18	
Shyness (RCBS)	missing	44	42
<i>Median for diagnostic group</i>		50	
Self-esteem (RSES)	missing	25	22
<i>Median for diagnostic group</i>		20	

Variable	Case 1	Case 2	Case 3
Diagnostic category	SP-only	SP+AVPD	
Childhood trauma (CATS total)	missing	1.26	1.5
<i>Median for diagnostic group</i>		1.21	
Neuroticism (NEO N)	missing	28	40
<i>Median for diagnostic group</i>		35	
Extraversion (NEO E)	missing	29	21
<i>Median for diagnostic group</i>		15	
Openness (NEO O)	missing	41	37
<i>Median for diagnostic group</i>		30	
Agreeableness (NEO A)	missing	36	35
<i>Median for diagnostic group</i>		34	
Conscientiousness (NEO C)	missing	23	22
<i>Median for diagnostic group</i>		26	
Behavioural inhibition (BIS)	missing	25	28
<i>Median for diagnostic group</i>		26	
Behavioural activation (BAS total)	missing	36	37
<i>Median for diagnostic group</i>		33	
Attachment style (RQ)	missing	Fearful	Fearful
<i>% Fearful in diagnostic group</i>	41	80	
SCQ	11	20	21
<i>Median for diagnostic group</i>	18	23	

Appendix L: Parameter Estimates for Dichotomous Diagnostic Model

Parameter estimates for multinomial logistic regression model SCQ and MPQ (dichotomous categories) Chapter 8

Diagnostic group ^a		B	Std. Error	Wald	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
AVPD-only	Intercept	-3.635	2.924	1.545	.214			
	SCQ	.164	.123	1.774	.183	1.179	.925	1.501
	MPQ 'mild'	-1.987	1.238	2.575	.109	.137	.012	1.552
	MPQ 'severe'	0 ^b	.	.	.	.	.	.
SP+AVPD	Intercept	-1.676	1.988	.711	.399			
	SCQ	.140	.086	2.648	.104	1.151	.972	1.363
	MPQ 'mild'	-1.824	.763	5.709	.017	.161	.036	.721
	MPQ 'severe'	0 ^b	.	.	.	.	.	.