**Resilients, Overcontrollers and Undercontrollers:**

**A Systematic Review of the Utility of a Personality Typology method in Understanding Adult Mental Health Problems**

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## Abstract

The person-centred typological approach to personality makes the distinction between overcontrolled and undercontrolled personality types. This review systematically searched for research on the utility of these personality types in adult mental health. A total of 43 papers were included, which were divided broadly into cross-sectional studies, longitudinal studies and studies with clinical populations. Three personality types have been largely replicated in both normal and clinical populations: resilients, overcontrollers and undercontrollers. These types show utility in predicting long-term functioning and mental health, understanding heterogeneous personalities within clinical subgroups and have implications for treatment. Some disagreement on the number of personality types deemed replicable across samples and differing methodologies do exist, with some finding a dimensional approach to personality to have greater predictive utility. These personality types have been shown to be important in a number of mental health problems such as eating disorders, which may prove helpful in developing new psychological interventions. These studies point to the importance of overcontrolled personality types as well as undercontrolled in mental health. More research is needed with a greater range of clinical populations.

*Keywords: Personality; Overcontrolled; Undercontrolled; Impulsivity; Mental Health..*

## Introduction

Self-control is considered by many to be a socially desirable trait that is highly valued by society, whilst impulsivity and lack of control is commonly thought of as the maladaptive and undesirable opposite ([Block & Block, 2006](#_ENREF_15)). Poor impulse control is a symptom of a wide range of Axis I (e.g. ADHD) and Axis II (e.g. BPD) disorders in the Diagnostic and Statistical Manual of Mental Disorders–IV edition (DSM-IV; ([Association, 2000](#_ENREF_6)) and has been repeatedly linked to a range of problems such as substance abuse disorders ([Verdejo-Garcia, Lawrence, & Clark, 2008](#_ENREF_68)). Being overly controlled and emotionally constricted however, may in fact be equally maladaptive and as disadvantageous as being under-controlled (Block & Block, 2006; Lynch, Hempel & Clark, 2012) The role of over-control in mental health disorders however, is less well acknowledged.

One area of the literature that hasconsidered the dichotomy of over-control and under-control is that of personality typologies based on the constructs of ego-control and ego-resiliency ([Block & Block, 1980](#_ENREF_14)). Research has, in recent years, shown a renewed interest in considering personality from this typological viewpoint, thus an up to date systematic review of the current literature in this field is warranted. Before systematically reviewing the literature, this introduction will introduce Block and Block’s (1980) theory of personality functioning and summarise the initial replication of three personality types (resilient, overcontrolled and undercontrolled) in children. The systematic search strategy and scope of the literature review will then be outlined. The main review will focus on examining studies that have attempted to empirically replicate these personality typologies in normal and clinical adult populations, and that consider the utility of this approach in understanding mental health problems. The review will focus on the Block and Block typology and exclude others (e.g. the ‘Big Five; Costa & McCrea, 1992). This focus is for a number of reasons. Firstly, this typology has a unique perspective in that it theorises that over-control of emotions may be as problematic as under-control, which has significant implications for people with a number of mental health problems. Secondly, the relationship between mental health issues and personality typologies such as the Big Five have been extensively covered elsewhere (e.g. Kotov, Gamez, Schmitd & Watson, 2010), but over and under-control are not concepts covered. Thirdly, the literature stemming from the Block and Block (1980) model is extensive enough to provide a useful review.

## Block and Block’s Theory of Personality Functioning

Block and Block (1980) identified two theoretical personality parameters which they named ‘ego-control’ and ‘ego-resiliency’. These were based on the theory of ‘ego functioning’ from psychodynamic theory; a theoretical component of the mind which functions to allow the individual gratification, whilst also giving priority to threat avoidance. Block and Block theorised that common to all ego-functions is the control of impulse, for example inhibiting aggressive urges and delaying gratification.

Ego-control. Ego-control, as described by Block and Block (1980), is the degree of impulse control and modulation that an individual has. This is a dimensional concept that has over-control at one end of the continuum and under-control at the other end. It is defined as “the threshold or operating characteristic of an individual with regard to the expression or containment of impulses, feelings, or desires” (Block & Block, 1980, p. 43). Those who are ‘over-controllers’ were hypothesised to be constrained and inhibited, organised, avoidant and conforming, showing minimal emotional expression and delaying gratification unduly. Those at the ‘under-controlled’ end of the continuum however were hypothesised to be expressive, spontaneous, immediately gratifying of desires, distractible, less conforming and comfortable with ambiguity and uncertainty. The characteristics at the two extremes can be either desirable or maladaptive depending upon the situation.

Ego-resiliency. Ego-resiliency is defined as “the dynamic capacity of an individual to modify his/her modal level of ego-control, in either direction, as a function of the demand characteristics of the environmental context” (Block & Block, 1980, p. 48). Those with high levels of ego-resiliency (resilient individuals) are hypothesised to have resourceful adaptation to changing circumstances and environments and flexible problem solving strategies. Those with low ego-resiliency are described as ‘ego-brittle’ and are hypothesised to show little adaptive flexibility, fixed patterns of responding and difficulty recovering from trauma (for a full discussion on how these concepts differ from other personality variables, see Block & Block, 1980).

## Block and Block’s Study of Personality

[Block and Block (1980)](#_ENREF_14) demonstrated a reciprocal interaction between ego-control and ego-resiliency and although they theorised that both low and high ego-control would be related to low ego-resiliency, they distinguished four personality types in children which were thought to have strong implications for interpersonal functioning. For the undercontroller, high levels of ego-resiliency allowed for a reduced expression of impulse, yet retention of spontaneity and enthusiasm (resilient undercontroller), whereas low levels of ego-resiliency led to un-modulated impulse control and a disruptive hyperactive presentation (brittle undercontroller). For the overcontroller with high ego-resiliency (resilient overcontroller), a relative amount of socialisation was maintained and anxiety was reduced, however if ego-resiliency was low (brittle overcontroller), then the child was anxious and immobilised by unpredictability.

Using a person-centred approach to personality, a diverse range of studies (Asendorpf and van Aken (1999); Dubas, Gerris, Janssens & Vermulst (2002); Hart, Hofmann, Edelstein, & Keller, (1997); and Robins, John, Caspi, Moffitt, & Stouthamer Loeber (1996)) have identified three, not four, major personality types in children: Resilients, Overcontrollers and Undercontrollers These have been characterised in terms of Block and Block’s (1980) constructs of ego-resiliency and ego-control, and have been shown to demonstrate consistent patterns of the Big Five personality traits. The findings, in line with Block and Block’s (1980) theoretical assumptions, suggest that ego-resiliency has an inverted U-shaped relationship with ego-control, demonstrating one well adapted personality type and two maladaptive types. These findings have been replicated across gender, culture, race, language, differing assessors and through the use of different methodologies and assessment tools. These types also appear to be predictive of developmental outcomes with results suggesting that they are likely to constitute a core set of generalizable personality typologies that may exist into adulthood and be predictive of adult functioning.

# Aim and Scope of the Literature Review

The primary aim of this systematic review is to consider the utility of the above personality typology in understanding adult mental health problems. As such, the review aims to consider the ability of childhood personality types to predict adult mental health difficulties; to ascertain the replicability of the above three personality types in a broad range of adult populations, utilising a range of measures and methodologies, and to review the use of personality types within clinical population groups. Additionally, this review aims to identify specific gaps in the literature that may require further investigation. To date, no review has collated the adult literature on this topic and considered the clinical implications of the findings.

# Search Strategy

In order to carry out a systematic search of the literature, the bibliographic databases Web of Science (all databases, including Medline) and PsychINFO were searched for all articles citing the Robins et al. (1996) article, as this was the first article to report on the empirical replication of the resilient, undercontrolled and overcontrolled personality types and therefore marks a start point in the development of this literature. Additionally, a systematic search using the electronic bibliographic databases PsychINFO, PsychARTICLES, Web of Knowledge, Medline and Embase was conducted. The literature on specific diagnoses was not identified with search terms in order to keep the review focussed. In the early stages of searching it was found difficult to discriminate particular diagnoses linked with this form of typology and to include all would have made the review unmanageable and lacking in focus and quality. The exception was substance abuse, as this is a behaviour that has been clearly associated with control issues. Therefore the following terms generally related to mental health and control were used rather than diagnoses, but specifically including substance abuse as a behaviour: ‘Overcontrolled’, ‘Undercontrolled’, ‘Overcontroller’, ‘Undercontroller’, ‘Mental Health’, ‘Disorder’, ‘Psychopathology’, ‘Maladaptive’, ‘Substance Abuse’, ‘Substance Misuse’, and ‘Diagnosis’. Combinations of search terms were searched across all fields (including title, abstract, and keywords). Reference lists from identified studies were searched for additional relevant articles that met the inclusion criteria. Local experts in the field also provided relevant literature. The original search was completed in 2013 as the review was submitted as part of a Doctorate in Clinical Psychology. A cited-by search was performed in April 2016 to update the review prior to publication. Specifically, all previously included papers were searched to find papers which had referenced them since 2013 which could be included in this review.

Retrieved articles were included if they were English language, peer reviewed empirical studies, from 1996 onwards, with an adult population sample, and if clinical samples related to mental health disorders as opposed to physical health, or offender populations for example. A total of 43 articles were included in the final sample. The selection process is shown in Figure 1.

The included studies fell into three main categories: longitudinal studies as predictors of adult functioning; cross-sectional studies considering personality typologies in normal population adults; and studies assessing personality subtypes within clinical samples (primarily eating disorder and post-traumatic stress disorder (PTSD) samples).

**Robins et al. (1996) citations search**

*n* = 396

**Combination of search terms**

*n* = 369

**Total articles retrieved and assessed for eligibility**

*n* = 765

**Excluded *n* = 636**

*Duplicate publication (n = 233)*

*Book chapter/dissertation (n = 100)*

*Foreign language article (n = 19)*

*Not peer reviewed (n=65)*

*Not adult population (n = 167)*

*Pre-1996 (n = 33)*

*Not an empirical study (n=19)*

**Publications meeting inclusion criteria**

*n* = 129

**Excluded *n = 66***

*(Deemed not relevant at abstract level, e.g. review article)*

**Publications read at full text level**

*n* = 75

Identified from searching reference lists

*n* = 7

Identified from local expert in the field

*n* = 1

Identified from cited-by search

*n* = 5

**Excluded *n* = 31**

*(Deemed not relevant at full text level, e.g. physical health study)*

**Publications included in the review**

*n* =43 (from 35 studies)

*Figure 1:* Flow Chart of Study Selection Process

**Personality Typologies in Adulthood**

## Longitudinal Studies

The current literature search highlighted numerous longitudinal studies which provide insight into the ability of childhood personality types to predict adult outcomes. These studies will be considered, paying particular attention to the mental health outcomes seen in adulthood, before moving on to consider the literature on the replication of person-centred typologies in adults. The study characteristics for longitudinal studies are summarised in Appendix A.

Two key longitudinal studies have provided the most literature on the utility of childhood personality typologies in predicting adult outcomes: the Munich Longitudinal Study on the Genesis of Individual Competencies (LOGIC; [Asendorpf & Denissen, 2006](#_ENREF_4); [Denissen, Asendorpf & van Aken, 2008](#_ENREF_28)) and the Dunedin Multidisciplinary Health and Development Study ([Caspi, 2000](#_ENREF_20); [Caspi et al., 2003](#_ENREF_21); [Caspi, Moffitt, Newman, & Silva, 1996](#_ENREF_22); [Newman, Caspi, Moffitt, & Silva, 1997](#_ENREF_53)).

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Findings from the LOGIC study. In the LOGIC study([Asendorpf & Denissen, 2006](#_ENREF_4); [Denissen et al., 2008](#_ENREF_28)) the long term predictive validity of personality types and personality dimensions was compared in 154 22-year olds who, at ages 4-6, had been classified by Q-sort factor analysis into resilient (54%), overcontrolled (18%) and undercontrolled (27%) personality types. The Big Five personality factors were also assessed by Q-sort indices. Personality typologies were found to predict shyness, aggressiveness, IQ, agreeableness and conscientiousness, whereas Big Five dimensions could predict aggressiveness, IQ and neuroticism ([Asendorpf & Denissen, 2006](#_ENREF_4)). Aggression was found to be highest in the undercontrollers, however the overcontrollers’ levels of aggression showed a shift from below average as children to within average ranges by age 23 ([Denissen et al., 2008](#_ENREF_28)). Starting work at an early age was found to reduce aggressive tendencies, with the timing of starting part time work mediating the relationship between childhood resiliency and changes in aggressiveness ([Denissen et al., 2008](#_ENREF_28)). However, it must be noted that the measure of aggression used only measured aggression towards peers, so these findings cannot be applied to aggressive tendencies in general. The influence of part time work on personality trajectory is also likely to be very culturally specific. Both personality types and dimensions were found to show stability, with minimal reduction in explained variance between the ages of 17 and 22, despite this being a period of immense change ([Asendorpf & Denissen, 2006](#_ENREF_4))**.** Unfortunately, the small sample size in these studies did not allow for gender differences to be explored. It must also be noted that drop-out rates were highest amongst the overcontrolled and undercontrolled types ([Denissen et al., 2008](#_ENREF_28)), therefore reducing the predictive power of these two types. The personality types showed sufficient 6-month re-test stability in adulthood, however the long-term stability was lower. The study did not look at overall mental health outcomes.

Dunedin Multidisciplinary Health and Development study findings. In the Dunedin study ([Caspi, 2000](#_ENREF_20); [Caspi et al., 2003](#_ENREF_21); [Caspi et al., 1996](#_ENREF_22); [Newman et al., 1997](#_ENREF_53); [Slutske, Moffitt, Poulton, & Caspi, 2012](#_ENREF_62)), a large birth cohort of children from Dunedin, New Zealand, underwent behavioural observations at age three. The children were categorised by factor and cluster analysis as undercontrolled, inhibited or well-adjusted. Two further clusters: confident and reserved, were also found, however it was suggested that these may in fact be subsumed by the other three clusters, especially as they have not since been replicated in the literature. Nine hundred and sixty one participants were re-assessed at age 21 by use of a semi-structured interview based on the Diagnostic and Statistical Manual of Mental Disorders (third edition, DSM-III; [American Psychiatric Association (1980)](#_ENREF_2)). Multivariate logistic regression comparing inhibited and undercontrolled children to well-adjusted children showed that those in the first two groups were more likely than the well-adjusted children to have one or multiple psychiatric disorders, were reported to have the most mental health problems according to informant report measures ([Caspi, 2000](#_ENREF_20); [Caspi et al., 1996](#_ENREF_22)), and were found to have poorer interpersonal adjustment and higher levels of interpersonal conflict than the well-adjusted group ([Newman et al., 1997](#_ENREF_53)). The inhibited (this was the terminology used) children (who at age 3 were fearful and ‘ill-at-ease’) were most likely to be diagnosed with depression at age 21 ([Caspi et al., 1996](#_ENREF_22)), had lower levels of social support and poor conjugal relationships ([Newman et al., 1997](#_ENREF_53)), yet maintained healthy social relationships and interpersonal adjustment at work. Undercontrolled children (whom at age 3 were irritable, impulsive, and emotionally labile) showed conflicted relationships at age 21 across all social contexts ([Newman et al., 1997](#_ENREF_53)) and were found to be significantly over represented in all measures of antisocial behaviour and criminality ([Caspi et al., 1996](#_ENREF_22)). Inhibited boys were more likely than the well-adjusted group to have been convicted of a violent offence. Those boys categorised as undercontrolled at age 3 were more likely to be dependent upon alcohol, and inhibited boys also showed elevated, but not significant, rates of alcoholism compared to well-adjusted individuals ([Caspi et al., 1996](#_ENREF_22)). More suicide attempts had been made by both undercontrolled and inhibited types in comparison to the well-adjusted types, with a far higher incidence in those that were undercontrolled ([Caspi, 2000](#_ENREF_20); [Caspi et al., 1996](#_ENREF_22)). Anxiety disorders could not be predicted by childhood typology ([Caspi, 2000](#_ENREF_20)). By age 26, both self-reports and informant reports further confirmed the ability of childhood behaviour types to foretell adult personality characteristics and behaviours, by this point across three data sources ([Caspi et al., 2003](#_ENREF_21)). Additionally, those children categorised as undercontrolled at age 3 were found to be more than twice as likely to show disordered gambling habits at ages 21 and 32 than the well-adjusted children, irrespective of childhood IQ or socio-economic status ([Slutske et al., 2012](#_ENREF_62)).

These findings suggest that early emerging behavioural differences (based on a short observation of children at age 3) act as a risk factor for later problems. Although measures relating to ego-control and ego-resiliency were not used, the personality types that emerged showed very close resemblance to previous personality types. Adopting a three-factor solution to fit with previous research may however have prematurely missed interesting findings regarding the further two factors.

Findings from additional longitudinal studies. Block and Block (2006) considered the depression rates of the children from their longitudinal study at age 18. It was found that females who were depressed at age 18 had been evaluated as overcontrolled at age 7, whereas males suffering from depression were relatively undercontrolled as young children. Additionally, evidence suggested that individual differences in levels of ego-control continued to distinguish individuals at age 23.

A prospective longitudinal study by [Morizot and Le Blanc (2005](#_ENREF_52" \o "Morizot, 2005 #375)) considered whether antisocial behaviour trajectories of French speaking boys could be linked to developmental personality typologies. Four personality types categorised in adolescence, noted to show conceptual similarity to the tripartite typologies found in previous studies ([for example Robins et al., 1996](#_ENREF_57" \o "Robins, 1996 #1)), were found to differentially relate to antisocial behaviour across time. The four clusters were named Communals−Normative Maturation; Agentics−Normative Maturation; Undercontrolled−Delayed Maturation; Overcontrolled−Blocked Maturation.

 The undercontrolled group showed some improvement of their poor behavioural control with age, as well as decreasing criminal activity, but showed a more persistent antisocial trajectory than the two ‘normative maturation’ types (which showed similarities to resilient types). The overcontrolled type had the lowest antisocial behaviour rates in adolescence, however they had the most antisocial behaviour in adulthood, as well as the most substance misuse. These findings are quite striking, but cannot be generalised to females and the use of self-report data only means that social desirability biases cannot be accounted for.

[Causadias, Salvatore and Sroufe (2012)](#_ENREF_23) measured ego-control and ego-resiliency using the CCQ (Californian Child Q-Set, [Block & Block, 1980](#_ENREF_14)) in a sample of 136 children of mothers identified as ‘at-risk’ for parenting problems. High ego-resiliency in childhood was found to be a promotive factor for global adjustment as an adult (both at age 19 and 26). Global adjustment was also significantly negatively associated with internalising and externalising problems, further suggesting that patterns of self-regulation are important precursors for problems in adulthood. However this paper did not examine impacts on mental health specifically in adulthood.

[Slane, Klump, Donnellan, McGue and Iacono (2013)](#_ENREF_61) used data from the Minnesota Twin Family study which assessed participants at the ages of 17 and 25. Multiple step cluster analysis of the multidimensional personality questionnaire ([Tellegen, 2000](#_ENREF_64)) showed dysregulated, resilient and sensation-seeking clusters at both ages, and an additional inhibited cluster found only at age 17. Overall 55% of the sample stayed in the same cluster across time, with the dysregulated cluster being the most stable. Bulimia nervosa symptoms as measured by the Minnesota Eating Behaviour Survey ([von Ranson, Klump, Iacono, & McGue, 2005](#_ENREF_69)) were shown to be higher in the dysregulated cluster and lowest in the resilient cluster. The dysregulated cluster also had the highest proportion of clinical diagnoses of Bulimia Nervosa, alcohol abuse or dependence, higher scores on a measure of anxiety at both time points and depression at age 25. A limitation of the study was that, despite the strength of a longitudinal design, participants were assessed for the cohort study but not given the relevant measures at age 20. Thus there was a fairly wide gap between time points in the study.

**Summary of longitudinal findings.** Personality types derived in childhood and teenage years have been found to be predictive of adult functioning. Although a range of methodologies and measures have been used, the same patterns of findings have been shown, with those categorised in childhood as overcontrollers (inhibited) or undercontrollers (dysregulated) showing the most maladaptive functioning in adulthood, yet with differing patterns of internalising and externalising difficulties. A resilient personality type has been shown to be predictive of the most adaptive functioning in adulthood. The findings from Block and Block (2006) suggest that there may be some gender differences in the relationship between personality type and adult mental health functioning.

This review will now consider the literature which has attempted to replicate these personality typologies in adult samples, across a variety of cultures using a wide range of measures and methodologies. In understanding the replicability of such types in adult populations, the utility of this approach for understanding and treating adult mental health problems can be considered.

## Cross-sectional Studies

The current literature search demonstrated that numerous studies have attempted to replicate personality typologies, based on Block and Block’s (1980) conceptualisation, in a variety of adult samples; across age ranges, gender and culture, and using a variety of measures and statistical techniques. The study characteristics for cross-sectional studies are summarised in Appendix B.

Cross-cultural replication of personality types. [Asendorpf, Borkenau, Ostendorf and Van Aken (2001)](#_ENREF_3) initiated the research on replicating personality prototypes in adulthood, by clustering adults using the NEO-Five Factor Inventory ([NEO-FFI; Costa & McCrae, 1992](#_ENREF_27)). Using a two-step clustering procedure, three samples of German adults demonstrated that they could be clustered according to three replicable personality types which the authors identified as resilient, overcontrolled and undercontrolled. These types were found to be replicable within samples using a split half procedure and were found to be consistent across samples despite differing informants and methodologies. The resilient type was found to be the largest group. In general, the expected pattern of Big Five dimensions was found in each type (resilients were well adjusted, overcontrollers are introverted and neurotic and undercontrollers are neither conscientious or agreeable), however some slight differences were noted in levels of Agreeableness and Openness to Experience in comparison to descriptions seen in the childhood literature. The expected quadratic relationship between resiliency and over and under control was confirmed. The three personality types showed some stability over a 6-month period, however the authors concluded that the borders between personality types are “fuzzy”, as opposed to discrete categories finding a unimodal rather than bimodal distribution of overcontrolled and undercontrolled personalities ([Asendorpf et al., 2001](#_ENREF_3)). This resulted in small variations in personality changing group membership. The authors highlighted that it is more difficult to type individuals who sit on the borders of each group, explaining why in most studies, not all participants can be accurately typed. This is a limitation of clustering procedures in general.

Using the same two step clustering procedure, these three personality types were replicated using the NEO-PI in a Spanish student sample ([but not a Spanish general population sample; Boehm, Asendorpf, & Avia, 2002](#_ENREF_16)) and in three further German samples, using a German version of the NEO-PI-R ([Rammstedt, Riemann, Angleitner, & Borkenau, 2004](#_ENREF_56); [Schnabel, Asendorpf, & Ostendorf, 2002](#_ENREF_60)) and NEO-FFI ([Schnabel et al., 2002](#_ENREF_60)). Despite the apparent replication, the trait of Agreeableness was found to be higher in Spanish resilients, and lower in Spanish overcontrollers, than was found in the comparable German sample ([Schnabel et al., 2002](#_ENREF_60)). Additionally, [Schnabel et al. (2002)](#_ENREF_60) found that using the NEO-PI-R, the resilient type had an acceptable two factor subtype – labelled well-adjusted (65%) and assertive (35%), which showed similarity to the additional clusters of confident and reserved in the Dunedin Longitudinal studies ([Newman et al., 1997](#_ENREF_53)).

In an Italian sample of 421 young adults ([Barbaranelli, 2002](#_ENREF_8)), three personality types were derived from an Italian translation of the NEO-PI (resilient, overcontrolled/undesirable and undercontrolled). External replication with Spanish and German samples found the three clusters to be replicable, however some slight differences in Big Five scale characteristics compared to previous studies were found.

Internal validation using the split half method and a bootstrapping method (see Barbaranelli, 2002 for details of using this method for internal replication of cluster analysis) found a 4-cluster solution to also be replicable, which was noted to separate out the overcontrolled and undesirable types. This study highlights the importance of using differing replication methods and suggests that a four factor solution should not be so readily dismissed ([Barbaranelli, 2002](#_ENREF_8)). The differences observed could be due to differing personality styles across cultures, however the study by Barbaranelli (2002) could also suggest that the Big Five is a culturally specific measure that does not readily fit with some European cultures.

Not all methods have found such clear replication of the three personality types. When [Rammstedt et al., (2004](#_ENREF_56)) used peer report measures as opposed to self-report, only a resilient cluster and a second ‘non-desirable’ cluster (representing an opposite pattern of traits) emerged. When peers rate personality characteristics, their responses may be based simply on how likable they find the person ([Rammstedt et al., 2004](#_ENREF_56)). In four diverse samples of American adults, [Costa, Herbst, McCrae, Samuels and Ozer (2002)](#_ENREF_26) used the NEO-PI-R and the two step clustering procedure of [Asendorpf et al., (2001](#_ENREF_3)). Using an internal replicability criterion of a Cohen’s kappa value ≥ .60, only one out of four samples showed clear replication of the types, suggesting only a weak tendency for cases to cluster in the three hypothesised regions of the five factor model. Type membership was however found to be significantly associated with ego-control and ego-resiliency. When, again, the same clustering procedure was replicated in a Filipino sample of college students ([Avdeyeva & Church, 2005](#_ENREF_7)), using an adapted version of the NEO-PI alongside more indigenous and culture specific measures, three clusters were found in two separate samples of college students, however they only yielded internal replication kappa values of .42 for men and .46 for women. However, across the two samples, in combination, these types comprised the four quadrants presented by Block and Block (1980): Resilient Overcontrollers, Resilient Undercontrollers, Brittle Undercontrollers and Brittle Overcontrollers, all with the expected associated Big Five traits and corresponding external behaviours and attitudes. The authors therefore suggested an orthogonal relationship between ego-control and ego-resiliency, not a quadratic one. [Gramzow et al. (2004)](#_ENREF_37) found the same four clusters in a sample of American psychology students using Californian Adult Q-sort scores correlated with prototypical templates of ego-control and ego-resiliency. These findings were not however replicated in a large sample of American men, despite using the same CAQ (Californian Adult Q-Set; Block, 1961) sort method ([McCrae, Terracciano, Costa, & Ozer, 2006](#_ENREF_45)). In fact, in American males, only two replicable factors were found - one named self-esteem (which resembled the resilient type) and the other which was a continuum of nice/weak versus undesirable/strong, which had only moderate similarity to over versus under control ([McCrae et al., 2006](#_ENREF_45)). Although this study was based on self-report, the two groups show striking similarity to the clusters based on peer reports in the study by [Rammstedt et al., (2004](#_ENREF_56)).

Representative general population studies. Many of the above cross-sectional findings are based on relatively small samples (ranging from 199 to 5036 with a mean of 1446) that are not representative of the general population. [Boehm et al. (2002)](#_ENREF_16) suggested that personality types were sample specific and could not be replicated in the general population. Two further studies have conducted analyses on large, representative samples of the general population. One using a German adaptation of the NEO-FFI in a German sample ([Herzberg & Roth, 2006](#_ENREF_39)), and the other in a large Romanian sample ([Sava & Popa 2011](#_ENREF_59)) using a Romanian version of the five factor model. The German study used a wide range of internal fit measures, bootstrapping methodology and subsample comparisons to determine the most replicable cluster solution - all of which provided support for a five cluster solution. The first three clusters resembled the resilient, overcontrolled and undercontrolled types, followed by two further clusters: a ‘confident’ and a ‘reserved’ cluster. These five clusters show similarities to the findings of the Dunedin longitudinal study ([Caspi, 2000)](#_ENREF_20) which was also population based, and to the two resilient subtypes in the study by [Schnabel et al., (2002](#_ENREF_60)). The Romanian study ([Sava & Popa, 2011](#_ENREF_59)) used a more liberal Cohens kappa cut off of .50, and found stability in both a three cluster (“resilient”, “strain” and “passive-overcontrolled” type) and five cluster solution (“resilient”, “undercontrolled”, “strain”, “overcontrolled” and “passive” type). These findings suggest that in large heterogeneous samples, five clusters should be considered.

Additionally, [Eaton, Krueger, South, Simms and Clark (2011)](#_ENREF_30) aggregated 24 studies utilising the Schedule for Non-adaptive and Adaptive Personality ([Clark, 1993](#_ENREF_25)) and across 8,690 participants, a seven-cluster solution was found. However this model was not replicable in any of the four subgroups of participants (clinical, student, community and military) suggesting that personality prototypes may be sample dependent. [Herzberg and Roth (2006)](#_ENREF_39) propose that cluster results based on representative population-based sample data can be used to create algorithms as classification criteria for smaller samples, not dissimilar to the way in which questionnaires are based on representative sample norms. This alternative approach to assigning individuals to prototypes will be culturally specific and allows for greater comparison of samples.

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Summary of findings from cross-sectional studies. In summary, the three personality typologies that were replicated in developmental literature have been shown to be commonly found in a range of cross-cultural adult samples, however not all adult samples, with replicable cluster solutions ranging from two to five. The three cluster solution seems to be most commonly found in studies using self-report measures, while representative population samples suggest that a larger number of replicable clusters may exist. It appears that there is some variability in the profiles of Big Five dimensions within each of the three common prototypes. The apparent homogeneity of these clusters may be an artefact of authors naming clusters to conform to the well-known labels ([Herzberg & Roth, 2006](#_ENREF_39)). Additionally, the Big Five personality characteristics may be less applicable to some cultures ([Boehm et al., 2002](#_ENREF_16)), however population-based algorithms may be able to overcome this ([Herzberg & Roth, 2006](#_ENREF_39)). The identification of subtypes within personality types ([Schnabel et al. 2002)](#_ENREF_60" \o "Schnabel, 2002 #383) requires replication with much larger samples, potentially requiring a larger number of personality variables to look for more discrete differences. A further consideration is that most studies use a cut-off criteria for cluster selection based on a Cohen’s kappa internal replication index of ≥ .60, however some see this as too conservative and not sufficient (Herzberg & Roth, 2006).

Finally, [Roth & Herzberg (2007](#_ENREF_58)) have usefully noted that the socially desirable profile of the NEO dimensions clearly reflects the pattern of NEO dimensions of the resilient prototype. However, findings showed that although the Big Five-based typologies were influenced by social desirability bias, this was not to a greater degree than the influence of social desirability bias on the NEO-dimensions upon which the types are based. Although this provides evidence that the resilient prototype is not simply an artefact of social desirability, the study does demonstrate the influence of social desirability on studies using self-report measures, highlighting the importance of using a range of objective personality measures.

# Personality Typologies in Clinical Populations

In addition to searching for personality typologies that are replicable across a wide range of samples and methods, research has turned to looking for personality types within clinical samples of patients with particular mental health disorders. The current literature search demonstrated that, to date, this work has focussed on populations of people with eating disorders and PTSD. The study characteristics of studies with clinical populations are summarised in Appendix C.

## Personality Typologies in Eating Disordered Populations

Research has shown that subtyping eating disorders according to eating disorder symptomology (e.g. anorexia nervosa-restricting type) has only limited utility in informing treatment ([see Peat, Mitchell, Hoek, & Wonderlich (2009) for a review](#_ENREF_54)). Some studies have therefore turned to categorising patients according to personality type.

Classification of personality types. Of the studies extracted from the current literature search that assessed personality types in patients with eating disorders, the majority reported three clusters: one that suggested an overcontrolled or constricted personality type, one characterised by undercontrol and dysregulation, and one high functioning/mild pathology group ([Claes et al., 2006](#_ENREF_24); [Eddy, Novotny, & Westen, 2004](#_ENREF_31); [Espelage, Mazzeo, Sherman, & Thompson, 2002](#_ENREF_33); [Ghaderi & Scott, 2000](#_ENREF_34); [Goldner, Srikameswaran, Schroeder, Livesley, & Birmingham, 1999](#_ENREF_36); [Lavender et al., 2013](#_ENREF_42); [Perkins, Slane, & Klump, 2013](#_ENREF_55); [Thompson-Brenner & Westen, 2005](#_ENREF_65); [Turner et al., 2014](#_ENREF_66); [Westen & Harnden-Fischer, 2001](#_ENREF_70); [Wildes et al., 2011](#_ENREF_71)). These were measured by a range of tools (see table C) with different measures used for eight of the 11 studies, and three studies all using the Dimensional Assessment of Personality Pathology – Basic Questionnaire.

These types suggest a high degree of similarity to the typologies found in non-clinical samples, and were found across a range of American and European samples, despite the use of differing measures and methodologies. There was however no consensus as to the prevalence of eating disorder patients falling into each group: The proportion falling into a rigid/overcontrolled group across the seven studies which specified this information ranged from 8.5% to 42.9% with a mean of 27.9%. The proportion for under-controlled/dysregulated ranged from 30.8% to 49.1% with a mean of 40.7%. Not all studies found labelled a third cluster as resilient so the estimates of overall proportions falling into this group are not known.

A prospective study using a general population sample found that those with a lifetime history of an eating disorder (that is, any eating disorder) had a Big Five personality pattern which matched that of an undercontrolled personality type, as did those who went on to develop an eating disorder. This suggested that high Openness to Experience alongside low Emotional Stability and low Agreeableness may be a risk factor for the development of an eating disorder ([Ghaderi & Scott, 2000](#_ENREF_34)). Unfortunately the sample size was not large enough to describe eating disorder subtypes.

Eating disorder symptomology within personality types. The eating disorder symptomology across these personality types has shown varying results. In an American female outpatient sample, no significant differences were found in eating disorder classification across clusters ([Espelage et al., 2002](#_ENREF_33)), however in a Canadian sample of female outpatients, [Goldner et al. (1999)](#_ENREF_36) found that those with Anorexia Nervosa were most likely to be of the overcontrolled personality type (however it was noted that a large number of patients with bulimia nervosa also fell into this personality classification). In a Dutch sample, [Claes et al. (2006)](#_ENREF_24) found 65% of overcontrollers to be diagnosed with Anorexia Nervosa and over 50% of the undercontrollers to be diagnosed with Bulimia Nervosa, whereas [Westen and Harnden-Fischer (2001](#_ENREF_70)) found the majority of the constricted/overcontrolled types to have an Anorexia Nervosa diagnosis and 100% of the undercontrolled type to have symptoms of bulimia nervosa. [Wildes et al. (2011)](#_ENREF_71) also found that amongst patients with Anorexia Nervosa, those with the binge-purge subtype were most highly represented in the undercontrolled cluster.

Using hierarchical multiple regression, [Westen and Harnden-Fischer (2001)](#_ENREF_70) showed personality type to have incremental validity in predicting eating symptoms beyond categorical axis I diagnoses of eating disorder type. The vast majority of those in the “constricted” group had symptoms of anorexia, whereas in the “undercontrolled” group, 100% had bulimic symptoms and none had a diagnosis of anorexia-nervosa restrictive type.

[Turner et al. (2014)](#_ENREF_66) found that eating disordered inpatients who were in the undercontrolled cluster had more symptoms of bulimia, whereas those with restricting Anorexia Nervosa were most often in the overcontrolled/inhibited group. [Lavender et al. (2013)](#_ENREF_42) showed higher eating disorder symptoms in females with full or subthreshold Anorexia Nervosa for the under regulated group, with higher rates of binge-eating. In students with subclinical eating pathology, [Perkins et al. (2013)](#_ENREF_55) found similar results and showed that eating disorder symptoms were highest for the dysregulated cluster, especially for bulimia.

In a cross-sectional study in the general population, [Boone, Claes and Luyten (2014)](#_ENREF_17) found that over-controlled personality (‘pure perfectionism’) had more symptoms of restraint and eating concern than under-controlled personality (impulsivity), though those with elements of both over and under controlled personality (combined perfectionism/impulsivity) had the highest overall symptomatology.

 Further type-specific symptomology. All reviewed studies that measured personality disorder (PD) diagnoses were in agreement regarding the personality disorder distributions amongst the personality types. Cluster C personality disorders (anxious and fearful disorders, e.g. obsessive-compulsive PD, avoidant PD) were commonly found in the overcontrolled types, and Cluster B personality disorders (dramatic, emotional or erratic disorders, e.g. borderline PD, antisocial PD) were more commonly diagnosed in the undercontrolled types ([Claes et al., 2006](#_ENREF_24); [Goldner et al., 1999](#_ENREF_36); [Thompson-Brenner & Westen, 2005](#_ENREF_65); [Turner et al., 2014](#_ENREF_66); [Westen & Harnden-Fischer, 2001](#_ENREF_70)). Most studies found the high functioning cluster to have low personality disorder pathology, with one study finding obsessive-compulsive PD in this group ([Westen & Harnden-Fischer, 2001](#_ENREF_70)). Despite this, it should be noted that the high functioning groups were found to be more distressed and less resilient than the typical resilient personality type seen in the general population ([Westen & Harnden-Fischer, 2001](#_ENREF_70)).

Undercontrollers were found to be more likely to have histories of abuse, hospitalisation and substance abuse ([Thompson-Brenner & Westen, 2005](#_ENREF_65); [Westen & Harnden-Fischer, 2001](#_ENREF_70); [Wildes et al., 2011](#_ENREF_71)). Finally, [Eddy et al. (2004)](#_ENREF_31) found clear links between sexuality and personality types in eating disorder patients. Overcontrolled patients showed a more restricted sexual style, whereas undercontrolled patients (who had more binge-purge behaviours) were found to have a similar impulsive and self-destructive, sexual patterns of behaviour. Personality style accounted for more variance in sexual attitudes than did eating disorder symptoms ([Eddy et al., 2004](#_ENREF_31)).

**Treatment outcomes across personality types.** When considering outcomes, a prospective study of patients with anorexia nervosa enrolled on an intensive treatment programme ([Wildes et al., 2011](#_ENREF_71)) found that when seven univariate predictors of poor outcomes were controlled for in a hierarchical multiple regression (i.e. age, body mass index at admission, restricting anorexia vs bingeing / purging anorexia, days in intensive treatment, duration of anorexic symptoms, discharge against medical advice, and repeated hospitalisations for eating disorders), undercontrollers showed poorer outcomes than both overcontrollers and the low pathological group. Undercontrollers were also significantly more likely than overcontrollers to discharge themselves from treatment against medical advice and were at higher risk of readmission post discharge. Overcontrollers were identified through a latent profile analysis, which yielded clusters of scores from a set of behavioural and diagnostic measures. The identified characteristics were impulsivity, aggression, self-harm, and emotion regulation. The authors conclude that personality subtypes were predictive of recovery from eating disorders, undercontrollers having a poorer response to initial treatment relative to over-controllers, independent of the restrictive vs binge / purge diagnosis. This pattern held for other outcomes. In an different study making use of a practice network approach where clinicians completed measures on their most recently terminated female patient with symptoms of bulimia ([Thompson-Brenner & Westen, 2005](#_ENREF_65)), hierarchical multiple regression found that adding personality type as a second step substantially improved prediction of global outcome and eating outcome, above predictions using frequency of bulimia behaviours and axis I comorbidity. Additionally, the authors found the high functioning group to have the shortest treatment length with the undercontrolled/dysregulated group spending the longest amount of time in treatment. Strikingly, a strong correlation was found between dysregulation and the use of psychodynamic interventions by CBT-spectrum clinicians, suggesting that the more dysregulated a patient was, the more CBT clinicians turned to using techniques which addressed personality diatheses ([Thompson-Brenner & Westen, 2005](#_ENREF_65)). Additionally, psychodynamic therapists reported that they became more cognitive-behavioural in their approach when working with constricted patients.

## Personality Typologies in Post Traumatic Stress Disordered Populations

The current literature search highlighted that personality clusters closely resembling the resilient, overcontrolled and undercontrolled types have also been replicated amongst persons suffering from PTSD. Cluster analysis, using a brief form of the MPQ and using the MMPI-2, identified three personality clusters in male military veterans with PTSD: a low pathology group, an externalising group and an internalising group ([Miller, Greif, & Smith, 2003](#_ENREF_48);  [Miller, Kaloupek, Dillon, & Keane, 2004](#_ENREF_49)). The low pathology group had the highest adaptive functioning scores and the lowest rates of comorbid depression and alcohol disorders. The internalisers/overcontrollers had the highest levels of depression, panic disorder and social introversion, were most likely to have attempted suicide, and showed the highest PTSD symptom severity ([Miller et al., 2004](#_ENREF_49)). In comparison, the externalisers/undercontrollers showed higher levels of anger, anti-social practices and had the lowest social responsibility, with higher levels of substance and alcohol-related disorders and anti-social personality disorder ([Miller et al., 2004](#_ENREF_49)).

Further replication of these personality types has been found in female sexual assault survivors ([Miller & Resick, 2007](#_ENREF_50)) who demonstrated similar behavioural and personality disorder correlates to the military veterans. Additionally, female sexual assault survivors who clustered into the internalising group were 50% more likely to have a history of childhood sexual abuse (CSA) than the other two personality types ([Miller & Resick, 2007](#_ENREF_50)). Replication of these three types in PTSD sufferers using the NEO-PI and a hierarchical clustering procedure commonly utilised in this field has demonstrated that the PTSD personality types (internalizing, externalising and low pathology) show a similar pattern of Big Five characteristics to the resilient, overcontrolled and undercontrolled personality types replicated across childhood and adult samples. For example, the externalising group scored highly on neuroticism and extraversion, but lower on agreeableness and conscientiousness ([McDevitt-Murphy et al., 2012](#_ENREF_46)). However, these were not replicated using a k-means clustering procedure (a method of classifying items in a data set into pre-chosen number of groups (*k),*by minimising the sum of squared distances between items and the corresponding data point at the centre of a cluster). Cluster assignment was not found to be stable over a 6-month period, in comparison to dimensional scores on the SNAP, which did remain stable ([McDevitt-Murphy et al., 2012](#_ENREF_46)). Despite this, the authors suggest that cluster profiles may be useful in distinguishing simple PTSD (low pathological group) from complex PTSD (externalisers and internalisers; [Miller and Resick, 2007](#_ENREF_50)).

## Personality Typologies in Additional Clinical Populations

 The current literature search highlighted two additional studies which considered personality typologies within clinical populations. Latent class analysis using the NEO-FFI found a five class solution in a large prospective study of individuals with anxiety and depression ([Spinhoven, de Rooij, Heiser, Smit, & Penninx, 2012](#_ENREF_63)). These were interpreted as three levels of overcontrollers (high, medium and low) and two levels of resilient types (medium and high), based on the degree of Neuroticism and Extraversion present. No group representative of the undercontrolled personality type was found which, given the internalising nature of anxiety and depressive disorders, is perhaps not surprising. High overcontrollers had the highest prevalence of comorbid disorders. At a 2-year follow-up, latent personality class was found to be a significant predictor of transition from a more severe to a less severe class of comorbidity, however was not found to be more predictive than the dimensions of Neuroticism and Conscientiousness.

Finally, [Bradley, Heim and Westen (2005)](#_ENREF_18) identified the common personality patterns in women with Childhood Sexual Abuse (CSA). Q-factor analysis using the SWAP-200 demonstrated a four-cluster solution which included an internalising dysregulated cluster (characterised by intense distress, poor affect regulation, intrusive memories and dissociative symptoms); an externalising dysregulated cluster (characterised by anger at others and external blame); a high functioning cluster (characterised by strengths such as the ability to form relationships and achieve goals despite negative affect); and a dependent cluster (characterised by idealisation of others and dependant and histrionic PD features). These groupings were found to be clinically and theoretically coherent, predicting dimensional ratings of Axis-I disorders, global assessment of functioning scores, and ratings of family backgrounds including the characteristics of the abuse. The findings show that a single aetiological variable such as CSA may be associated with differing and distinct personality configurations, and as such, grouping those with a history of CSA together for the purposes of research or treatment may impact upon research findings given the heterogeneity within the group. However, the small sample size (*n=74)* and the fact that all data was based on clinician ratings mean that the results require substantial replication before firm conclusions can be drawn.

## **Summary of Clinical Population Findings**

The degree of convergence among cluster-analytic classifications in individuals with eating disorders and those with PTSD is high. A three factor typology appears to be robust and shows resemblance to the personality typologies originally described by Block and Block (1980). However, in those suffering from anxiety and depression, an undercontrolled personality type did not emerge, and in women who had suffered CSA a fourth ‘dependant’ cluster emerged. All findings do however suggest that there is significant heterogeneity across clinical samples in terms of personality types, irrespective of clinical diagnosis and that these may have significant clinical utility. There does appear to be an emerging pattern of those with overcontrolled personality types demonstrating more anorexic symptomology, while those in the undercontrolled/dysregulated personality types tend to show more bulimic symptomology. However, as yet there is no clear consensus on the frequency of eating disorder types within eating disordered personality types and this may in fact demonstrate the heterogeneity of personality types across eating disorder classifications.

These studies did however suffer from a range of limitations. A large majority of the participants in the eating disorder studies were both female and Caucasian. Although eating disorders have been commonly associated with white females in westernised countries, there is increasing recognition of these disorders among men, and within those from diverse ethnic, racial and cultural backgrounds (e.g. [Hudson, Hiripi, Pope, & Kessler, 2007](#_ENREF_40); [Miller & Pumariega, 2001)](#_ENREF_47). The generalisability of these results is therefore narrow. Additionally, the reliance on clinician ratings and, at times, un-validated questionnaires (e.g. [Ghaderi & Scott, 2000](#_ENREF_34)) suggests the need for replication with a range of validated measures across more than one rater. The sample sizes are low in some studies, therefore findings require replication across larger, more representative samples. The PTSD literature at present comes from a small group of researchers, using very specific subsamples of PTSD sufferers, therefore the results cannot be generalised to other samples. Finally, the cross-sectional methods commonly used mean that inferences cannot be made about the extent to which subtypes represent premorbid personality or the subsequent alteration of personality as a consequence of the trauma experienced ([Miller & Resick, 2007](#_ENREF_50)).

# Limitations of the Literature

 The current literature review has demonstrated that the three personality prototypes replicated in developmental literature, based on the concepts of ego-control and ego-resiliency (Block & Block, 1980), are largely replicable within adult populations and show utility for predicting and understanding adult mental health problems, as well as in guiding treatment to better suit the needs of the individual. However, the findings are not quite this clear cut, and as with any literature there are limitations which require consideration. The limitations of individual studies have been discussed throughout the review, however a summary of the major overarching limitations will be presented.

Firstly, although there is agreement that personality prototypes have fuzzy, rather than discrete borders ([Asendorpf et al., 2001](#_ENREF_3)) varying standards have been used in the literature to determine how to assign participants to clusters. When using factor analysis, studies utilising stricter criteria of how an individual must load onto a factor to be typed leave many participants un-clustered, which suggests that the clusters used may not be accurately capturing the breadth of personality functioning. Additionally, in studies utilising cluster analysis, an internal replicability of Cohens kappa ≥ .60 was used by many to confirm replicable clusters (e.g., [Asendorpf et al., 2001](#_ENREF_3); [Rammstedt et al., 2004](#_ENREF_56)), however some studies used more liberal cut-offs ([Sava & Popa, 2011](#_ENREF_59)). Most studies utilised just one method of assessing replicability, whereas numerous methods exist that can be used in combination to ensure that the most internally and externally replicable cluster solution is accepted. [Barbaranelli (2002](#_ENREF_8)) suggests that cluster solutions beyond the three typical factors should not be so readily dismissed.

In line with this, there is a theme in the literature of authors choosing to name their three clusters according to the well-known resilient, overcontrolled and undercontrolled personality types which they are hoping to replicate, despite considerable variation across studies in how these prototypes differ on dimensions of the Big Five. This can be misleading when making comparisons between studies and means that interesting variations across cultures may be missed. Future research should carefully consider the constellation of personality dimensions within each cluster before determining how well they replicate previous findings. Better self-report measures are also required in order to effectively measure the construct of over-control. The Ego-undercontrol scale may be seen to merely measure a lack of under-control in order to infer over-control. Although the scale is designed to measure both favourable and unfavourable characteristics of under and over control, it appears that statements indicative of over-control are more likely to be phrased as favourable characteristics which could lend itself to reporter bias.

Further research is also required to address the common methodological flaws of small sample sizes and unvaried data report sources, and needs to assess more heterogeneous populations regarding sex, gender, race and ethnicity. This is especially true in the clinical population literature which is currently sparse. Biases can exist in both clinician report data, with the validity of the clinical judgements often not known, and also in self-report data where individuals may be susceptible to social desirability bias, for example. A combination of sources, which can be cross-compared is therefore likely to give a more reliable and valid measure from which to form conclusions. Additionally, for the PTSD literature in particular, a small group of authors are currently dominating the research in this area. Author biases in interpretation are inherent in research and participants will also likely come from a similar geographical area. Therefore, it is crucial that additional research groups replicate or challenge such findings.

An important limitation of the current literature reviewed is the small number of clinical populations in which research into personality types has been conducted. Given the likely implications for treatment, it is essential that research expands to a wider range of people, especially socially excluded populations such as prison and homeless populations. Such populations often get missed in the research literature, yet the development of successful treatment approaches which address underlying personality pathology, which may underlay numerous comorbid mental health problems or maladaptive behaviours, is crucial to successful outcomes for these individuals and for society.

Finally, in considering the limitations of the search strategy itself, the search terms were very specific, which did not allow for comparison between different theoretical approaches to personality typologies or to self-control. A number of relevant terms such as anorexia were not included which may have limited the results; however the study nonetheless covered a range of difficulties although it was not practical to include all diagnostic categories. The review is limited by having only covered one theory. However, the aim of the review was to consider the utility of the conceptualisation of personality types originally based on Block and Block’s construct of ego-control and ego-resiliency, and the focussed review has allowed for a detailed discussion of this rather than a broad consideration of other related concepts such as attachment. Additionally it points towards the need for a comparison of theories of self-control.

**Implications of the Literature Review**

 The current literature review has highlighted many implications for both clinical practice and for research. Firstly, by understanding the long-term outcomes of childhood personality types, it is possible that preventative work can be more appropriately tailored to the individual based upon their personality typology. For example, in children showing signs of maladaptive functioning, preventative strategies may be angled towards early symptoms of depression in those identified as overcontrolled, or towards potential antisocial behaviour in undercontrollers. Additionally, improving ego-resiliency, which has been shown to be a factor which promotes global adjustment as an adult ([Causadias et al., 2012](#_ENREF_23)), could prove to be beneficial to those children found to be low in emotional flexibility.

The second implication is that of communication. There is some disagreement in the literature with regard to the utility of type approaches, however, when it comes to communication of personality structure, there is agreement that using typologies has clinical utility. Summarising personality information under one label may be a good compromise between information overload and simplification. This is likely to be especially important when sharing information with policy makers, with clients and when planning treatment. A description of a category allows for a fairly complex mental image that includes those features described by the variables given, but also many more than can be assumed from the typology ([Schnabel et al., 2002](#_ENREF_60" \o "Schnabel, 2002 #383)). Additionally, personality type appears to predispose an individual to certain behaviours, however by making this explicit to patients, they can be helped to make choices about the behaviours in which they engage.

Thirdly, the findings presented in this review have implications for assessing and treating heterogeneous clinical populations with common mental health diagnoses. Classification of patients based on personality type may have more clinical utility than approaches to subtyping disorders such as eating disorders by Axis I subtype alone ([Wildes et al., 2011](#_ENREF_71)). Taking into account underlying personality type when treating Axis I disorders is likely to be crucial to both treatment outcome and to the development of new treatments. As has been demonstrated in the PTSD literature, treatment approaches often focus on the psychopathology of one personality subtype only, with patients assumed to be homogeneous within this classification, whereas they may in fact show the exact opposite pattern of personality ([Miller et al., 2004](#_ENREF_49)). Populations that may be commonly assumed to be very emotionally undercontrolled (for example, the homeless population) may in fact show heterogeneity in personality type that, without assessment, would be missed in the development of treatment interventions. Treating presenting symptomology alone, e.g. disordered eating behaviours and cognitions, may be adequate in the high functioning types, however for those in the over and undercontrolled clusters, opine that symptom focussed treatment may fail to address the personality structure that gives rise to the underlying context of the symptoms. Additionally, comorbid mental health problems could be addressed by treatments that target underlying personality processes. This not only has implications for treatment approaches, but also for the classification of mental disorders. Westen and Harnden-Fischer (2001) suggested that subtypes of personality functioning should be built into Axis I classifications. The new DSM-5 of course negates consideration of multiaxial diagnosis, but the alternative clustering of personality disorder diagnoses (APA, 2013) may be useful. This proposes that issues of emotional undercontrol are more characteristic of cluster B (borderline, narcissistic, histrionic and antisocial), whereas those characteristic of overcontrol are more characteristic of clusters A (schizotypal, paranoid and schizoid) and C (dependent, avoidant, obsessive-compulsive and passive-aggressive). Westen and Harnden-Fischer’s construction does however, indicate a specific view of typologies as underlying structures. This is just one theoretical view, which stresses the importance of treating those structures. However other theoretical models may not require the acknowledgement and treatment of such structures, but may focus on the modification of skills, coping, internal experience etc.

Whatever diagnostic clustering is used, it may be that any attempt to relate categorical groupings to personality subtypes will result in patients being labelled, as opposed to described in terms of typical variation within normal personality functioning. Indeed, attempts to categorise mental health issues are inherently limiting in terms of continuum arguments (e.g. van Os, et al, 2009). We may be limiting ourselves in terms of both research and clinical work if we regard such categories as over and under control as ‘things’ which define people. They are obviously useful in terms of guiding thinking and treatment, but perhaps should be used as guides rather than governing frameworks.

For personality type to be considered in treatment planning, clinicians must be able to measure such personality characteristics. One suggestion has been that cluster analysis based on representative population samples can be used to create algorithms to allow individuals to be assigned to a prototype based on the population in which they are present ([Herzberg & Roth, 2006](#_ENREF_39)). Although this approach may allow for more culturally specific comparison data to be available, it is not necessarily a realistic solution for the clinician, who may benefit more from self-report or clinician-rated measures to assess the degree of ego-control and ego-resiliency of an individual. Two self-report measures do exist – the Ego-Resiliency scale (ER; [Block & Kremen, 1996](#_ENREF_13)) and the Ego-Undercontrol scale (UC; [Letzring, Block, & Funder, 2005)](#_ENREF_43), however, to date these have been rarely used amongst clinical populations.

Furthermore, the presence of such heterogeneity within clinical groups has implications for the validity of research findings. If research is conducted upon samples categorised only by anxiety, depression, trauma etc., which are assumed to be somewhat homogeneous, differing personality styles which have been shown to have differing associations with treatment outcome (e.g. [Thompson-Brenner & Westen, 2005](#_ENREF_65); [Wildes et al., 2011](#_ENREF_71)), are likely to impact upon research outcomes.

Considering implications for treatment is of importance. Treatment approaches that address underlying personality pathology are currently aimed mainly at those who would fall into the undercontrolled personality type, for example Dialectical Behaviour Therapy (DBT; Linehan, 1993). However, the literature presented implies that overcontrolled personality types may require quite different treatment approaches, and these may be lacking. Lynch and Cheavens (2008) suggest that currently, therapies for chronic depression have been ineffective in some because they fail to target the underlying personality features that are present, particularly the emotionally constricted personality types. A large multi-site clinical trial (Lynch et al, 2015) is currently being written up, extending the principles of DBT to refractory depression for people with overcontrolled personality styles. The outcomes of this trial will be helpful in leading the way for the development of further treatment approaches for those with overcontrolled patients, presenting with a variety of pathological symptomology. A number of treatment papers detailing ‘radically open DBT’ have been published or are in press (e.g. Lynch, Hempel & Clark, 2012).

# Conclusions and Future Directions

This review has drawn together the literature which has developed as a result of the personality prototypes first conceptualised by Block and Block in 1980, based on their theoretical conceptualisation of the constructs of ego-control and ego-resiliency. The findings have demonstrated that these personality types are largely replicable across a range of cultures and populations, and that they provide clinical utility in predicting and understanding adult functioning and mental health. Not only does understanding individuals in terms of constellations of personality traits help to predict long term functioning, it also aids in the understanding of the heterogeneity within clinical subgroups commonly assumed to be homogeneous based on their clinical symptomology, and aids in the prediction of treatment success. Full agreement has not been reached on the ‘correct’ number of personality typologies that are replicable and theoretically coherent, and a range of limitations need addressing to allow for more accurate comparison across studies for greater generalisability of results. However, the findings have allowed for a range of useful implications to be considered, specifically assisting communication between clinicians, patients and researchers, and considerations for assessment, disorder classification and treatment approaches.

In addition to overcoming the limitations in the current literature as discussed above, a variety of future directions exist for this area of research. In order to allow for the routine measurement of self-control amongst people with mental health difficulties, the development of measures to accurately assess this construct is crucial. Two measures do exist which require further validation within clinical populations (Block & Kremen, 1996; Letzring et al., 2005). Additionally, further prospective studies are required to understand the premorbid personality characteristics of clinical populations and to allow for more preventative treatment programmes to be developed. Finally, treatment approaches need to be considered which address the maladaptive functioning associated with an emotionally constricted personality style. The notion that too much self-control can be as maladaptive as a lack of control requires continued attention in the research literature to allow clinical populations to benefit from a greater understanding and awareness of overcontrolled personality types.

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**Conflict of Interest Statement**

The authors have no conflict of interest to declare.

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