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The Enduring Impact of Maladaptive Personality Traits on Relationship Quality and Health in Later Life

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Abstract

Over the past five years, the St. Louis Personality and Aging Network (SPAN) has been collecting data on personality in later life with an emphasis on maladaptive personality, social integration, and health outcomes in a representative sample of 1630 adults aged 55–64 living in the St. Louis area. This program has confirmed the importance of considering both the normal range of personality and in particular the role of maladaptive traits in order to understand individuals' relationships, life events, and health outcomes. In the current paper we discuss the explanatory benefits of considering maladaptive traits or traits associated with personality disorders when discussing the role of personality on social and health outcomes with an emphasis on adults in middle to later life, and integrate these findings into the greater literature.

Keywords

personality disorders; middle age; maladaptive personality traits; relationships; health

It is widely accepted that personality (Friedman, Kern, & Reynolds, 2010; Roberts, Jacqui Smith, Jackson, & Edmonds, 2009) and social integration (Brown, Nesse, Vinokur, & Smith, 2009; Uchino, 2009) are associated with both self-reported health and health outcomes such as longevity and disease progression. However, it is less clear how maladaptive personality traits, such as those associated with personality disorders, affect social and health outcomes. In the current paper we explore the literature on maladaptive personality traits or personality disorders and their unique effects on health and social relationships. First we discuss current research on maladaptive personality followed by a discussion of how maladaptive personality is typically reported and the issues associated with this reporting. We then provide an overview of the St. Louis Personality and Aging

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Network (SPAN) study which, for five years, collected data on social integration, health, and personality in a representative sample of 1630 adults on the cusp of late life (ages 55–64). The SPAN's personality assessment methods covered the full range of adaptive and maladaptive traits, and employed interviews as well as self- and informant-report measures, which has led to new insights into the links between maladaptive personality traits, health, and social relationships. We discuss these findings and argue that in order to understand the role of personality in health and social outcomes, researchers cannot ignore the tails of the personality distribution, that is, particularly maladaptive personality traits.

Maladaptive Personality

Existing research on personality and health has largely focused on the adaptive or normal range of personality characteristics (Krueger et al., 2011), typically using The Five Factor Model (FFM), which has become the predominant dimensional model of personality structure within psychology (Caspi, Roberts, & Shiner, 2005; Deary, Weiss, & Batty, 2011). The FFM has amassed considerable empirical support across a wide array of research concerns (McCrae & Costa, 2008), including behavior genetics with respect to the structure of the FFM (Yamagata et al., 2006), temporal stability across the life span (Roberts & Del Vecchio, 2000; Soto, John, Gosling, & Potter, 2011), and cross-cultural validity (McCrae & Terracciano, 2005). It is useful in predicting many important life outcomes, both positive and negative, such as subjective well-being, marital conflict, criminality, unemployment, physical health, and mortality (John, Naumann, & Soto, 2008; Lahey, 2009; Ozer & Benet-Martínez, 2006).

One limitation of the existing literature is that it has largely ignored the tails of personality distributions. As a result, previous studies may have missed important information that would help explain the association between personality and myriad outcomes including both relational and physical health outcomes. This neglect begins with a failure to measure abnormal personality: Haigler and Widiger (2001) examined content of the Revised NEO Personality Inventory (NEO-PI-R) and found that only 10% of the items used to measure extraversion, 17% of the items used to measure agreeableness, and 10% of the items used to measure conscientiousness described maladaptive personality functioning. Alternatively, clinical psychologists have long focused on maladaptive personality traits in their consideration of 10 personality disorders (PDs): paranoid, schizoid, schizotypal, borderline, histrionic, antisocial, narcissistic, avoidant, dependent, and obsessive-compulsive. The Diagnostic and Statistical Manual (APA, DSM-5), which was released in May 2013, includes consideration of a new dimensional model of PDs (listed under "emerging measures and models") that offers an alternative to the traditional categorical model of PDs. The dimensional model describes personality disorders in terms of 25 specific maladaptive traits that align closely with the FFM. Current evidence supports the argument that normal range personality traits and maladaptive variants of personality should be considered on a continuum (Krueger & Eaton, 2010) in order to improve our understanding of how personality influences important outcomes.

Maladaptive personality variants are not specific to clinical populations; subclinical levels of these traits are found in a sizeable percentage of the general population. Nevertheless,

studies of personality pathology have largely focused on clinical samples. When investigators have focused on community samples, they have included only younger adults. The neglect of older adult populations in the study of personality disorder is likely due to the popular assumption that certain types of personality disorder fade or burn out over the lifespan. Evidence for this belief comes exclusively from *cross-sectional* comparisons of younger and older people (Cohen, Crawford, Johnson, & Kasen, 2005; Zanarini et al., 2005. A few studies have, in fact, found that certain disorders – especially borderline PD and antisocial PD – are less prevalent among older people (e.g., Engels, Duijsens, Haringsma, & van Putten, 2003; Grant et al., 2008). But other reports indicate that paranoid PD, schizoid PD, and obsessive-compulsive PD may be *more* prevalent among older people (Balsis, Gleason, Woods, & Oltmanns, 2007).

Caution must be exercised in drawing conclusions about patterns of change from cross-sectional evidence. Differences in social isolation or dependence might reflect variation in life circumstances for younger and older adults rather than true developmental changes in the prevalence of specific personality problems. We have found evidence suggesting that the maladaptive traits associated with personality disorders are present in older adult populations and that any apparent decline in personality disorder characteristics may be due to the fact that the items used to assess personality disorders were developed for use with young adults. We found that older adults still exhibit comparable levels of maladaptive traits to young adults, but that specific items in questionnaires may fail to capture accurately older adults' presentation of these disorders (Balsis, et al., 2007; Balsis, Woods, Gleason, & Oltmanns, 2007) which may in turn cause researchers to underestimate the presence and importance of maladaptive traits in the older adult population.

Personality Reporting

In addition to the understudying of maladaptive traits, particularly in older populations, work on personality and health outcomes has relied too heavily on personality interviews and/or self-report of personality. This tendency neglects the considerable incremental value associated with informant reports of personality traits. Correlations between people's self-reports and the ways in which they are described by others are modest, at best (John & Robins, 1993; Oltmanns & Turkheimer, 2006). The importance of informant reports varies as a function of the personality trait under consideration. Informants provide especially important data regarding traits that are high in observability and evaluativeness (Vazire, 2010), and many of the traits that are relevant to health and health behaviors fit these descriptions. For example, a spouse's report of their partner's personality predicts coronary artery calcification, while self-report was unrelated (Smith et al., 2008). Another study finds that informant reports of conscientiousness predict risky health behaviors above and beyond self-reports (Lodi-Smith et al., 2010). Informant reports provide a safeguard against blind spots found in self-reports, which is particularly important when considering maladaptive traits given people's tendency to self-enhance (Taylor & Brown, 1988). Additionally, items in personality surveys often involve asking individuals to make a judgment about what is normal in the population before indicating whether it is true of them (e.g. "I get angry more easily than others"), but individuals who struggle with such issues may be the least likely to

be aware of what the norm for such a behavior/emotion is (Oltmanns, Gleason, Klonsky, & Turkheimer, 2005).

Studies that have investigated the associations between informant, self, and interview report of normal and maladaptive personality have found that there is low to moderate overlap between them (Klonsky, Oltmanns, & Turkheimer, 2002), which can be improved by gathering data from more intimate informants such as spouses or partners (South, Oltmanns, Johnson, & Turkheimer, 2011). Oltmanns and Gleason (2011) found that informant and participant reports showed higher correlations when considering the normal range of personality (i.e., on FFM facets), while correlations between self, informant, and interviewer on maladaptive traits were generally smaller albeit statistically significant. Importantly, it is informant report of many maladaptive personality traits that often best predicts negative outcomes such as social impairment (Klein, 2003) and early discharge from the military (Oltmanns & Turkheimer, 2009).

Overview of the SPAN Study

The importance of considering both the normal range of personality and maladaptive traits from multiple perspectives in order to understand individuals' relationships, life events, and health outcomes has become evident in results reported from the St. Louis Personality and Aging Network (SPAN). The SPAN study, begun in 2007, was designed to gauge the prevalence of personality pathology in a community sample of older adults and to investigate the influence of personality pathology (or maladaptive personality traits) on several important life outcomes, including self-reported health and social functioning. All participants completed an extensive baseline assessment which consisted of two parts: 1) an in-person interview with a trained research assistant and 2) a battery of questionnaires. Baseline measures included several personality assessments, information on health, life events, relationship history and quality, and basic demographics. The personality assessments measured normal personality (Five Factor Model using the NEO-PI-R, Costa & McCrae, 1992) as well as maladaptive personality using the MAPP (Multisource Assessment of Personality Pathology, Oltmanns & Turkheimer, 2006). For both of these questionnaires, we collected data from the self and from an informant. Finally, each participant completed an extensive interview schedule (Structured Interview for DSM-IV Personality (SIDP-IV), Pfohl, Blum, & Zimmerman, 1997).

Potential participants were identified and recruited through phone records resulting in a final sample consisting of 1,630 participants (55% female) living in the greater St. Louis area. All participants were between the ages of 55 and 64 when they entered the study (M = 59.6, SD = 2.7 years); 65% were Caucasian, 33% were African American, and 2% were from other groups and just under 2% identified as Hispanic. The sample's demographic characteristics approximate population breakdowns in the St. Louis area. A majority of participants (97%) identified an informant, and 91% (N = 1447) of those indentified informants completed personality assessments regarding the participant and also answered questions about themselves and their relationship with the participants. Over half of the informants were involved in a romantic relationship with the participant, 25% of the remaining informants were other family members, and the remainder were close friends of the participant. After

completing the baseline assessment, participants and informants were contacted every six months to complete follow-up surveys assessing such topics as health status, relationship status and satisfaction, depression, and whether any stressful live events had occurred. After two and half years in the study, participants returned to the lab to once again complete the full baseline assessment (see Oltmanns, Rodrigues, Weinstein, & Gleason, 2013 for a detailed breakdown of the recruitment procedure, sample characteristics, and retention rates across time).

According to the structured interview (SIDP-IV) at baseline, 164 participants (10%) met diagnostic criteria for one of the ten personality disorders identified in the DSM-IV-TR (APA, 2000) or for a diagnosis of personality disorder not otherwise specified (PDNOS). This is in line with previous estimates of the prevalence of personality disorders in the community (Lewin et al., 2005; Torgersen, 2005; Zimmerman & Mattia, 2001; Torgersen, 2005) and suggests that personality disorders are still present in later middle-age. Perhaps more importantly, viewed from a dimensional perspective, our data on symptoms indicate that substantial numbers of people exhibit at least some symptoms of personality pathology (Oltmanns et al.,, 2013). In fact, it has not been established that the arbitrary diagnostic thresholds listed in DSM-IV are valid for this age group (or perhaps for any other). Our analyses do not hinge on the identification of specific cases, narrowly defined. Findings from this sample, which we detail below, clearly indicate that the presence of features of many personality disorders, even at levels below the official cut-off for diagnosis, are associated with negative outcomes.

The Link between Maladaptive Traits and Health

The impact of personality on disease progression, longevity, health, health behaviors, and subjective perceptions of health is large and well established (Friedman et al., 2010; Roberts et al., 2009; Smith & Mackenzie, 2006). For instance, neuroticism has been linked to numerous health issues including mortality (Lahey, 2009), and disordered personality has been linked to an increased risk of developing coronary heart disease (Pietrzak, Wagner, & Petry, 2007). Two studies of younger adults and children have also specifically linked personality disorders to negative perceptions of health (Chen et al., 2009; Skodol et al., 2005). This connection between personality and health is powerful: only a half a standard deviation on a personality trait is associated with adding or subtracting years to one's lifespan–an equivalent or larger effect than the influence of socioeconomic status on mortality (Roberts et al., 2007).

Findings from the SPAN study reinforce this link between personality and health behaviors, subjective ratings of health, and the presence of specific diseases and extend it to focus on maladaptive traits in an aging community sample. For instance, perceived health is widely recognized as an important indicator of health outcomes, including healthcare utilization and mortality (Blazer, 2008). Using cross-sectional data from the SPAN baseline assessment, Powers and Oltmanns (2013b) examined whether personality pathology predicted variance in perceived health. Features of three types of personality pathology (borderline, antisocial, and schizoid) showed a negative association with self-perception of health, while controlling

for neuroticism and objective health indicators (e.g., chronic health conditions and current physical functioning).

Using longitudinal data from the SPAN study, these findings were extended to examine the impact of PD features on aspects of physical functioning (e.g., fatigue, pain) and use of medical resources (e.g., doctor visits, hospital visits) six months after baseline. Features of personality pathology predicted worse physical functioning, greater healthcare utilization, and greater medication use at follow-up, even when baseline levels of functioning, the presence of illness, and depression were controlled. Further, there is evidence that the links between maladaptive personality and health problems are due at least in part to obesity. Powers and Oltmanns (2013a) found that the association between features of borderline personality pathology and medical disorders (i.e., heart disease and diabetes) was mediated by obesity such that those with BPD traits are more likely to be obese and the variance in medical disorders explained by BPD traits is partly due to their link with obesity.

Alcohol dependence, which is associated with increases in several negative health problems, is more frequent among those high in maladaptive personality traits, particularly those traits associated with antisocial PD (Frankenburg & Zanarini, 2006). The SPAN study confirms this link and expands the association to histrionic, borderline, and narcissistic PDs, all PDs which are in part defined by a lack of impulse control and/or emotional volatility. Individuals with traits associated with these PDs were more likely to report alcohol dependence both in the past 12 months and over their lifetime. It is important to note again, that this increase in the likelihood of reporting alcohol dependence occurs at sub-clinical levels--few individuals in our sample would actually receive a diagnosis of antisocial, borderline, histrionic, or narcissistic PD. Conversely, obsessive-compulsive and schizoid PD traits, characterized by intense controlling behaviors and social avoidance respectively, were associated with a decreased risk for alcohol dependence (Agrawal, Narayanan, & Oltmanns, 2013).

These SPAN study findings provide strong evidence for the importance of including maladaptive traits, outside of what is measured using typical FFM assessments (e.g., the NEO-PI-R) to understand the link between health and personality. We have found that dimensional scores for maladaptive traits explain significant levels of variance in numerous health and social outcomes even while accounting for the variance explained by normal range FFM measures. The results from a series of regression analyses examining how much of the variance across several health outcomes is explained by maladaptive and normal personality are presented in Table 1.[1] The first column indicates the total proportion of variance explained by the combination of all personality measures in the SPAN study: self and informant NEO-PI-R, self and informant MAPP, and the SIDP-IV interview. Here we are not trying to locate specific features or types of personality associated with the various outcomes, but rather the total variability associated with personality. Notice that the proportion of variance explained by personality variables is substantial. In the second and

[1]The number of participants in each analysis varies due to whether an informant was contacted, whether complete information was obtained from both informants and participants, and which follow-up assessed the measure. The maximum possible participants in this analysis was *N*=1447 which corresponds to the number of participants for whom we were able to successfully recruit an informant.

third columns, we separate the proportion of variance uniquely associated with normal range personality traits (combining self and informant NEO-PI-R scores) so that it can be compared to the proportion of variance uniquely associated with maladaptive variants of personality (combining self and informant MAPP and SIDP-IV scores). In almost every instance, measures of maladaptive traits account for more variance than measures of normal range personality traits. These findings, along with those discussed before, argue strongly for the importance of considering maladaptive traits, even when at sub-clinical levels, when investigating the role of personality in health outcomes.

Maladaptive Traits and the Quality of Social Relationships

It is widely accepted that personality influences peoples' interpersonal experiences. For instance, a meta-analysis of the association between the FFM and relationship satisfaction found that personality was indeed related to relationship satisfaction, in particular those who were agreeable, extroverted, conscientious, and low in neuroticism were generally more satisfied with their relationship (Malouff, et al., 2010). Maladaptive personality traits are also, not surprisingly, associated with relationship satisfaction. We found that relationship satisfaction as measured by the Dyadic Adjustment Scale (Spanier, 1976) was significantly negatively correlated with maladaptive personality traits (Oltmanns & Gleason, 2011). This was true regardless of who was reporting on personality (self, informant, or interviewer) and whether it was the informant's or the participant's relationship satisfaction that was being assessed.

This negative association was particularly strong for borderline PD, which is associated with both impulsivity, a tendency to view other individuals as all good or all bad, and affective instability, including inappropriate, intense anger. This is a particularly noxious combination of traits that have been implicated repeatedly as being associated with negative relationship outcomes (Whisman & Schonbrun, 2009) including relationship dissolution. In the SPAN study, individuals who exhibit more borderline characteristics reported higher numbers of previous marriages, but were less likely to be in a relationship at the time of the study than those who were lower in BDP traits (Oltmanns & Gleason, 2011). This speaks to work on relationship trajectories: individuals who fall passionately in love and get married quickly are more likely to get divorced within two years (Huston, 2009). It seems entirely possible that individuals with borderline tendencies may be likely to follow such a path resulting in many relationship commitments over the years without any successful long-term relationships. Additionally, adults who reported symptoms of borderline personality disorder, regardless of their level of neuroticism and depressed mood, were more likely to use aggressive conflict tactics in their close relationships (Weinstein, Gleason, & Oltmanns, 2012), another potential explanation for why their relationships routinely fail.

Individuals high in borderline characteristics are also more likely to report and experience stressful life events, particularly those of an interpersonal nature (Gleason, Powers, & Oltmanns, 2012; Powers, Gleason, & Oltmanns, 2013). We examined the association between personality at baseline and major life events measured 6 months later using a self-report questionnaire (Gleason et al., 2012). A telephone interview was employed if the participant reported any events. This process is an extremely important aspect of a study

investigating life events because of problems with over-reporting when using checklists to identify major life events (Monroe, 2008). In the SPAN study, participants who indicated they had experienced a major life event in the past six months were called by a trained interviewer who asked questions about the event to verify that it actually occurred, that it occurred in the specified time period (the preceding 6 months), and that it was a major and distinct event. Generally individuals tended to check more events than the telephone interviewers were able to confirm. However, neuroticism and symptoms of borderline personality pathology predicted increased reports of negative life events, using not only self-report, but also interviewer-adjusted reports of negative life events. Further, the self-reports of those with borderline traits were corrected at a higher rate (i.e., borderline traits were associated with a more exaggerated rate of self-report inflation).

Conversely, maladaptive traits such as those associated with avoidant personality disorder and paranoid and schizoid personality disorders are associated with relationship and life event outcomes in the opposite direction. Specifically, avoidant and paranoid PDs are associated with less relationship turmoil such as divorce (e.g. Disney, Weinstein, & Oltmanns, 2012; Gleason et al., 2012) and fewer stressful life events. Given that the traits associated with these disorders include avoiding interpersonal situations and a lack of trust in others, it is unclear that this lack of relationship turmoil and stressful life events can be characterized as positive outcomes. It is more likely that these traits are related to social isolation and a lack of social support, both of which are widely associated with negative health outcomes (Uchino, 2009). Referring back to Table 1, we find that, indeed, maladaptive traits are related to social isolation, loneliness, and lower levels of social support, but at this time we have not separated out the maladaptive traits to investigate how the various types of negative traits differentially affect all of these outcomes. It seems likely that traits associated with certain disorders, such as avoidant PD, will be more strongly associated with loneliness and social isolation.

Maladaptive Personality Traits as Explanatory Mechanisms

Links between health, relationships and personality are well established in the literature, however there are still many gaps in our understanding and areas that have received little attention. In particular, personality traits that do not fall under “normal” traits are neglected by nearly all researchers with the exception of clinical researchers who tend to focus on diagnosable personality disorders. Substantial evidence suggests that personality disorders are extremely important in terms of their impact on people’s lives. They disrupt interpersonal relationships (Whisman, Tolejko, & Chatav, 2007), interfere with the treatment of other types of mental disorder (Fournier et al., 2008), and contribute to a variety of physical health problems (Frankenburg & Zanarini, 2006). We argue that the maladaptive personality traits associated with PDs should be considered more broadly (i.e. from a dimensional perspective) given that substantial numbers of people in the community exhibit at least some symptoms of personality pathology (Cohen et al., 2005; Oltmanns & Gleason, 2012) and even low levels of the maladaptive traits associated with PDs are associated with negative health and relationship outcomes.

Analyses from the SPAN study do not hinge on the identification of specific cases of PDs, narrowly defined. Rather, we find that the power of maladaptive traits exists when the levels of those traits fall substantially below diagnostic thresholds. This is perhaps most evident when considering borderline PD--a personality disorder routinely considered unimportant in older adult samples as it is supposed to fade with age. As expected, few individuals in our sample met diagnostic criteria for BPD. However, our findings indicate that symptoms of borderline PD are important in predicting a wide variety of problems, including those associated with physical health (Powers & Oltmanns, 2012), other mental disorders (Agrawal et al., 2013; Galione & Oltmanns, 2013), marital relationships (Weinstein et al., 2012), and the onset of stressful life events (Gleason et al., 2012). Considering maladaptive traits, that is negative traits that are currently neglected in typical FFM measures (Krueger, et al., 2011), has the potential to greatly increase our understanding of the links between personality and many important outcomes. There is evidence of a shift in thinking about maladaptive personality traits in the clinical literature as evidenced by the inclusion of new dimensional model of personality disorders in the DSM-5 (APA, 2013) mentioned above, suggesting that clinicians and researchers alike are starting to think of PDs as occurring along a continuum. The more attention such dimensional models receive, the more we will learn about the importance of maladaptive traits, even sub-diagnostic threshold, in understanding health and social functioning.

Conclusion

In order to investigate the role of maladaptive personality traits on health and relationship outcomes, it is imperative that researchers study a population that is likely to experience important changes in the variables of interest. Participants in the SPAN study, a representative sample of middle-aged adults living in St. Louis, provide a unique opportunity to investigate the role of maladaptive traits in these change processes. As outlined above, the SPAN study has documented that personality, both normal and maladaptive, is closely linked to relationship and health outcomes. In the future we plan to investigate possible mechanistic associations between these three categories of measurement. The conclusion of the current wave of data collection in this study will allow us to investigate whether the effects of personality on health are indeed mediated by psychosocial mechanisms such as relationship status, social integration, and social support. Further, potential future waves of the SPAN study will collect biological indicators of health which will hopefully further elucidate these questions.

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Table 1

The variance explained by normal and maladaptive personality on a series of health and social outcomes.

	Total % of variance explained by normal and maladaptive personality combined	% of variance explained by normal range traits	% of variance explained by maladaptive variants	% shared variance	N
Physical Health/Health Behavior					
Heart disease*	7	<1	5	<1	1395[a]
Diabetes*	8	3	5	<1	1395[a]
Cancer*	5	<1	4	<1	1395[a]
Arthritis*	4	<1	3	<1	1395[a]
Obesity (BMI)	10	3	4	3	909[a]
Smoking	6	1	4	1	1286[c]
Alcohol consumption	4	1	3	<1	1291[c]
Subjective Health (HSI)					
General Health Perceptions	27	6	10	11	1276[b]
Physical Functioning	20	3	10	7	1233[b]
Pain	18	3	7	8	1270[b]
Energy/Fatigue	34	9	4	21	1245[b]
Sleep Problems	21	5	8	8	617[d]
Mental Health (lifetime diagnosis)					
Major Depression*	13	5	3	5	1395[a]
Alcohol Dependence	10	1	6	3	1396[a]
Stressful Experiences					
Major events (on-going) LTE-Q	11	2	5	4	1125[c]
Trauma (past) TLEQ	22	3	14	5	614[d]
Social Integration					

	Total % of variance explained by normal and maladaptive personality combined	% of variance explained by normal range traits	% of variance explained by maladaptive variants	% shared variance	N
Social activity level	44	3	11	29	1281[b]
Social support	28	4	11	13	616[d]
Loneliness (UCLA scale)	47	6	12	29	883[a]
Social network size	20	5	8	7	618[d]
Volunteering	10	3	4	3	1384[a]

[*] Binary variables analyzed using logistic regression, pseudo R-squared estimated by McFadden method;

[a] Source: baseline assessment;

[b] Source: Baseline assessment and first follow-up assessment;

[c] Source: first follow-up assessment;

[d] Source: fifth follow-up assessment