

Demystification of the Relationship Between Psychopathy and Happiness

Guillaume Durand¹ 

Published online: 22 November 2016

© The Author(s) 2016. This article is published with open access at Springerlink.com

Abstract Recent findings have provided evidence for a negative correlation between psychopathy and happiness. In order to determine if this correlation is generalizable to all subtypes of psychopathy, participants from the community ($N = 572$) were recruited to examine happiness-related features among males and females by psychopathic subtypes. Examination of the Fearless-Dominance (PPI-I) and Impulsive-Antisociality (PPI-II) subscales of the Psychopathic Personality Inventory-Short Form provided evidence for two distinct patterns when comparing psychopathic personality traits to happiness-related features. PPI-I was positively correlated with higher durable happiness, presence of a meaning in life, personal growth and hope, and correlated negatively with fluctuating happiness. PPI-II was negatively correlated with durable happiness, presence of a meaning in life, personal growth and hope, and correlated positively with fluctuating happiness and searching for a meaning in life. Despite a few differences, both genders displayed an overall similar pattern between measures of well-being and psychopathic subtypes. Implications for psychopathy regarding the importance of performing analyses by gender and subtypes are discussed.

Keywords Psychopathy · Community · Subtypes · Happiness · Adaptive features

1 Introduction

Psychopathy is a personality disorder characterized by antisocial behavior and a wide range of deviant personality traits, including lack of empathy or remorse, callousness, aggressiveness, manipulation, egocentricity and impulsivity (Berg et al. 2013a, b; Perez

✉ Guillaume Durand
gdura061@uottawa.ca

¹ Department of Psychiatry and Neuropsychology, Maastricht University, P.O. Box 616, 6200 MD Maastricht, The Netherlands

2012). While there are no official statistics on the prevalence of psychopathy, it is estimated to be around 1% in the general population (Cooke 1998). The diagnosis is known to be much more frequent in males than females (Benning et al. 2005a, b; Gao and Raine 2010). Incarcerated psychopaths are commonly guilty of violence, drug usage, domestic abuse and assault (Camp et al. 2013; Hall et al. 2004). Furthermore, psychopathy has until recently been considered untreatable (Patrick et al. 2009). However, examination of previous studies claiming the impossibility of treating psychopaths revealed that none of these studies had a proper research design; hence weakening the notion that psychopathy is untreatable (D'Silva et al. 2004). Preliminary results of recent studies were able to further disprove the impossibility of treating clinically diagnosed psychopaths by the use of schema therapy, which consists of an intensive form of individual psychotherapy combining cognitive, behavioral, and humanistic approaches (Bernstein et al. 2012; Chakhssi et al. 2014).

Although psychopaths are commonly viewed as criminals, Cleckley (1941) introduced the controversial concept of successful psychopaths. Successful psychopaths are individuals who more easily achieve high ranking positions in the society due to their emotional anomalies, such as social charm, low neuroticism, and shallow affect (Coid et al. 2012; Patrick et al. 2009; Sadeh and Verona 2008). In line with this suggestion, empirical evidence from large scale studies (Berg et al. 2013a, b; Gervais et al. 2013; Tonnaer et al. 2013) suggests that psychopathic traits are not dichotomous but rather dimensional in nature. Examples of adaptive psychopathic traits are high pain tolerance (Hare 1965), high interest for seeking rewards (Hare and Thorvaldson 1970), lower fear of pain (Hare 1966), and higher stress immunity (Hare et al. 1978). Such traits allow psychopathic individuals to function better in stressful environments, for example, allowing them to successfully fulfill executive functions in hypercompetitive workplaces.

The difference between a non-successful psychopath and a successful psychopath could be due to the strength of their subtype's expression. Several studies have conceptualized psychopathy as consisting of two major factors: Factor 1 (i.e. primary psychopathy) which represents affective-interpersonal and adaptive features, and Factor 2 (i.e. secondary psychopathy) which represents social deviance and maladaptive features (Benning et al. 2003; Cleckley 1941; Cox et al. 2013; Harpur et al. 1989; Lykken 1995; Ray et al. 2009). Further studies examined the possibility of dividing both factors in two, creating a four-facet model (Hare and Neumann 2005; Williams et al. 2007). This four-facet model was based on the two factors of the Psychopathy Checklist-Revised (PCL-R), which has typically been used in institutionalized settings (Hare et al. 1990). Other measures of the psychopathic personality, such as the Psychopathic Personality Inventory (PPI), are divided upon a two factors model and are considered reliable to assess psychopathic personality traits within undergraduates and community samples (Lilienfeld and Andrews 1996; Patrick et al. 2009). However, while the second factor, assessing secondary psychopathy or psychopathic traits, from the PCL-R and the PPI are highly correlated to one another, evidences suggest a very low correlation between their primary factors, as they do not assess the same type of primary psychopathic traits (Poythress et al. 2010).

Considering the positive traits of successful psychopaths, along with a lack of remorse and egocentricity, one might propose that these individuals are satisfied and happy with themselves. Results of a recent study (Love and Holder 2014) suggest otherwise. In this study, undergraduate participants completed a number of questionnaires, including the Oxford Happiness Inventory (Francis et al. 1998), the Subjective Happiness Scale (Lyubomirsky 2004) the Levenson Psychopathy Self-Report Scale (Levenson et al. 1995) and the Self-Report Psychopathy Scale (Williams et al. 2007). Correlation analysis of these

questionnaires indicated a negative association between psychopathy and subjective well-being, as well as positive affect, happiness, and life satisfaction. The investigators attributed these findings to the poor interpersonal relationships linked with psychopathic traits. However, the authors did not perform separate analyses by psychopathic subtypes or gender, which may have yielded different results (Anestis et al. 2011). Such distinctions are necessary as Factor 1 is associated with low levels of fear and emotional dysregulation, while Factor 2 is associated with impulsivity, anxiety and aggressive behavior (Berg et al. 2013a, b). Individuals higher on Factor 1 are therefore more similar to successful psychopaths, and might be happier than individuals higher on Factor 2 traits.

While few studies have investigated well-being-related features in psychopathy, past findings support the notion of a negative correlation between these features and psychopathy. For instance, individuals displaying higher scores on psychopathy scales also show less expression of a meaning in life (Bartels and Pizarro 2011). A strong negative correlation was also found between the expression of callous and unemotional traits and a lack of hope in life (Berg et al. 2013a, b). While these results stem from various studies analyzing several constructs related to psychopathy, no study to our knowledge has systematically investigated measures of well-being (i.e. happiness, meaning in life, personal growth, and hope) in relation to the expression of psychopathic personality traits by subtype.

In addition to investigating the role of psychopathic subtypes in well-being, the role of gender was considered because gender differences have been reported in studies of both well-being and psychopathy. Males have been reported to score substantially higher than females on most psychopathic personality assessment scales (Cale and Lilienfeld 2002; Lee and Salekin 2010; Nikolova 2013). However, few of the commonly used instruments to assess psychopathy or psychopathic personality traits assess or interpret results based on gender, creating a potential gender bias (Nikolova 2013). Gender differences are also observed on variables related to psychological well-being (Dambun 2007; Emslie et al. 2002). Females tend to display higher psychological distress, lower resilience to stressful events, and higher lifetime rates of clinical depression, alongside lower general self-esteem (Dambun 2007; George et al. 1996; Kudielka and Kirschbaum 2005; Martinez and Dukes 1997). These results highlights the potential gender bias when assessing measures related to well-being in a group of participants without analyzing results by gender.

2 The Current Study

The purpose of this study is to examine alternative views between psychopathic personality traits and well-being. Since the majority of earlier studies in the field of psychopathy were performed on inmates (Berg et al. 2013a, b), a strong stigmatizing association developed between criminal offenses and psychopathy, leading to the belief that psychopathy is categorized by negative aspects (Furnham et al. 2009; Vitacco 2007). Therefore, in the present study, positive characteristics, such as happiness, were investigated in a community sample to determine the legitimacy of the relationship between lowered expression of well-being features and the expression of psychopathic personality traits. Given that psychopathy may be conceptualized on a continuum, and most individuals display psychopathic traits to different degrees, this study examined patterns between subtypes of psychopathic personality traits and well-being features as proposed by Love and Holder (2015) and Berg et al. (2013a, b).

The present study investigates the relationship between psychopathic traits and happiness-related characteristics such as durable and fluctuating happiness, meaning in life, personal growth and hope. Durable happiness includes characteristics such as contentment and inner peace. Fluctuating happiness represents sudden increase in happiness, followed by a sudden decrease. Meaning in life can be described as the presence of a meaning in life or the search for a meaning in life. Hope includes constructs such as focusing on a goal and planning for a goal. Together, these constructs form an extended range of happiness-related characteristics.

Three hypotheses have been formulated for this study. First, we seek to confirm a gender difference within the PPI-SF, and explore potential gender differences within measures of happiness-related features. Second, we expect a positive correlation between the expression of the adaptive component of the psychopathic personality and measures of happiness and well-being. Third, we expect a negative correlation between the expression of the maladaptive component of the psychopathic personality and happiness-related measures. As different patterns among subtypes and happiness-features may arise based on gender, males and females were analyzed independently.

3 Method

3.1 Participants

A total of 597 participants from the general population were recruited and instructed to anonymously fill-in an online questionnaire. Recruitment was performed via social media and websites dedicated to the promotion of psychological studies. The study was advertised with the title ‘‘Personality and Attitude Towards Life’’. Inclusion criteria were formulated to optimize the comparability of our results with previous findings (Lee and Salekin 2010; Lilienfeld et al. 2014). These criteria included an age limit, i.e. between 18 and 40 years, and post high-school education. The final population sample included 55% males ($N = 316$) and 45% females ($N = 256$). The mean age of the sample was 24.19 ($SD = 5.28$). The most common primary language was English (37.4%), followed by other (26.6%), German (16.3%), Dutch (7%), French (6.8%) and Spanish (5.1%). Considering the highest level of education achieved, participants were mainly attending college (32%), were college graduates (27.8%), other (17.3%), master graduates (14.5%) or technical school students (5.6%). Participants were predominantly single (68.7%), living with another (18.9%) or married (8.2%). Participants were mostly located in Europe (58%), the USA (14.2%), Asia/Middle East (12.2%), Africa (4.7%) and Canada (4.4%). To account for immigrants who were not native to their then-current location, participants’ ethnicity was also investigated. The majority of participants were Caucasian (74.3%), Asian (11.5%) or Hispanic (7.3%). A total of 95.1% of the participants fully completed the study.

3.2 Materials

3.2.1 Psychopathic Personality Inventory-Short Form (PPI-SF; Lilienfeld and Widows 2005)

The PPI-SF is a self-administered questionnaire of 56 items, rated on a 4-point Likert-type scale (1 = *false*, 2 = *mostly false*, 3 = *mostly true*, 4 = *true*). It gives a total score and 8

subscale scores using items such as “A lot of people in my life have tried to stab me in the back”. The subscales are composed of the 7 most highly correlated items from the Psychopathic Personality Inventory (PPI; Lilienfeld and Andrews 1996): Machiavellian Egocentricity, Social Potency, Fearlessness, Coldheartedness, Impulsive Nonconformity, Blame Externalization, Carefree Nonplanfulness and Stress Immunity. The short form of the PPI has a good correlation with the long version, the Psychopathic Personality Inventory-Revised ($r = .89$) (Lilienfeld and Widows 2005). The PPI is also considered a reliable measure for assessing psychopathic personality traits in a non-incarcerated population (Kastner et al. 2012; Lee and Salekin 2010). Although the questionnaire does not possess normative scores on its own, a previous study on undergraduate students established an average of 130.56 for males and 121.01 for females (Lee and Salekin 2010).

The PPI consists of two subtypes, namely Fearless-Dominance (PPI-I) and Impulsive-Antisociality (PPI-II) (Benning et al. 2003). PPI-I is composed of the Stress Immunity, Social Potency and Fearlessness subscales, and represents the adaptive nature of the psychopathic personality. Alternatively, PPI-II is composed of the Blame Externalization, Machiavellian Egocentricity, Carefree Nonplanfulness and Impulsive Nonconformity subscales, and represents the maladaptive side of the psychopathic personality. The Coldheartedness subscale does not fall into either of the two aforementioned subtypes. This subtype classification has been used in previous studies (Benning et al. 2005a, b; Bernardino et al. 2005; Patrick et al. 2006).

3.2.2 *Subjective Fluctuating Happiness Scale and Subjective Authentic-Durable Happiness Scale (SFHS and SA-DHS; Dambrun et al. 2012)*

The 10-item SFHS and the 13-item SA-DHS assess two components of happiness: the fluctuation of happiness traits from time to time, and the stable happiness state of an individual. Fluctuation in traits as measured with the SFHS refers to the degree of change in happiness over time and how an individual can become happy in certain situations using items such as “I have often known periods of euphoria but they are almost always followed by much less exciting periods”. Stable-state happiness, as measured with the SA-DHS, refers to the baseline level of happiness of an individual and how this happiness enables the individual to cope with life in general using items such as “In your life, what is your regular level of pleasure”. Items for the two questionnaires are rated on a 7-point Likert-type scale. Cronbach’s alpha for the SFHS ranges from .85 to .92 depending on the sample. The SA-DHS also has a high internal consistency that ranges from .87 to .95, depending on the sample. During the development of the questionnaires, means were computed for both scales, with an average of 3.78 for the SFHS and 4.33 for the SA-DHS.

3.2.3 *Meaning in Life Questionnaire (MLQ; Steger et al. 2006)*

The MLQ is a 10-item self-report measure that assesses the presence and search for a meaning in life. It is rated on a 7-point Likert-type scale, ranging from *Absolutely Untrue* to *Absolutely True*. The subscale of Presence is composed of five items such as “I have a good sense of what makes my life meaningful” and “I have discovered a satisfying life purpose”. The subscale of Search is also composed of five items, such as “I am looking for something that makes my life feel meaningful” and “I am searching for meaning in my life”. Both subscales show good internal consistency ($\alpha = .90$ and $\alpha = .87$). The average of the final group during the development of the questionnaire established a normative mean of 23.8 for the Presence subscale and 23.4 for the Search subscale.

3.2.4 Personal Growth Initiative Scale (PGIS; Robitschek 1998)

The PGIS is a 9-item self-report measure assessing the motivation of an individual to change and develop as a person, using items such as “I have a good sense of where I am headed in my life”. The items are rated on a 6-point Likert-type scale, ranging from *Definitely Disagree* to *Definitely Agree*. Cronbach’s alpha ranges from .78 to .90, and has proven reliable convergent and discriminant validity, along with adequate test/retest reliability (Robitschek 1998; Shorey et al. 2007). Means at 1-, 4- and 8-week test–retest during the development of the questionnaire ranged from 31.33 to 33.13.

3.2.5 Adult Hope Scale (AHS; Snyder et al. 1991)

The AHS is a 12-item self-report measure with 4 items assessing agency (e.g.: *I energetically pursue my goals*), 4 items assessing pathways (e.g.: *There are lots of ways around any problem.*), and 4 items acting as distracters (e.g.: *I feel tired most of the time.*). This questionnaire measures Snyder’s cognitive model of hope focusing on agency (directing energy towards a goal) and pathways (planning to meet goals). The responses available range from 1 = *Definitely False* to 8 = *Definitely True*. Its internal consistency range is from .74 to .84, and has been used in undergraduate samples and adult community populations (Shorey et al. 2007; Snyder et al. 1991).

3.3 Procedure

Written information about the procedure and goals of the study was given at the beginning. The participant then provided informed consent and completed the questionnaires. Upon completion, participants received a full debriefing, explaining that the personality traits researched are antisocial traits correlated with happiness related measures. At the end of the experiment, participants were informed they could register their e-mail address to participate in a lottery where they could win 100 Euros. Ethics approval was obtained from the Psychology Ethics Committee of Maastricht University, case number: 156-02-09-2015.

3.4 Statistical Analyses

In order to account for potential unreliable data, which can arise within online studies in the community, a Variable Response Inconsistency (VRIN²) procedure was implemented. This procedure identifies the 10 pairs of items from the PPI-SF with the highest correlation among them (Tellegen 1982). Twenty-five outliers with a total VRIN² ≥ 8 were identified and excluded from the study, leaving 572 participants for the main analyses. There was no missing answers within each respective questionnaire for every participants. Examination of the Skewness range (–.829 to .214) confirmed the presence of a normal distribution within all questionnaires and subscales.

The analyses were performed using the statistical package SPSS version 21.00. Analyses of variance (ANOVA) were computed in order to assess gender differences between all the questionnaires. Bivariate Pearson correlations (two-tailed) were then conducted between each dependent variable. Due to anticipated gender differences, analyses were performed separately for males and females.

4 Results

4.1 General Descriptive Results and Gender Differences

The descriptive data of all questionnaires, as well as the internal consistency reliability and effect sizes by gender, are reported in Table 1. Several significant differences were found between males and females regarding psychopathic personality traits and measures of happiness features. First, males scored higher on the PPI-SF total [$F(1, 570) = 24.75, p < .001$], on PPI-I [$F(1, 570) = 22.88, p < .001$], and several subscales: Machiavellian Egocentricity [$F(1, 570) = 7.34, p = .007$], Fearlessness [$F(1, 570) = 25.60, p < .001$], Coldheartedness [$F(1, 570) = 7.55, p = .006$], Impulsivity Nonconformity [$F(1, 570) = 8.99, p = .003$] and Stress Immunity [$F(1, 570) = 28.11, p < .001$]. Males also scored significantly higher on the Inner Peace component of the Durable Happiness Scale [$F(1, 568) = 10.77, p = .001$], while females scored higher on the general Fluctuating Happiness Scale [$F(1, 569) = 12.90, p < .001$]. One more gender difference was found in the AHS, where males scored significantly higher on the Pathway component [$F(1, 542) = 13.40, p < .001$].

4.2 Main Analysis Males

Correlations between the PPI-SF and its subscales and the happiness-related measures can be found in Table 2. Examination of the PPI-SF total score does not show any correlation between the expression of psychopathic personality traits and happiness or meaning in life. However, weak positive correlations were found on the PGIS ($r = .14$), AHS ($r = .20$), and the pathway subscale ($r = .28$). Closer examination of the PPI-SF subscales reveals two distinct tendencies. PPI-I has a weak to moderate positive correlation with all measures of durable happiness ($r = .27$ to $.36$) and a weak negative correlation with fluctuating happiness ($r = -.21$). Moderate positive correlations are also found on the MLQ presence subscale ($r = .31$), the PGIS ($r = .43$), and all measures of hope ($r = .42$ to $.49$). The opposite trend is found in PPI-II on almost all measurements. PPI-II yields weak to moderate negative correlations with all measures of durable happiness ($r = -.28$ to $-.32$) but shows a moderate positive correlation to fluctuating happiness ($r = .44$). PPI-II displays a weak negative correlation with the presence of a meaning in life ($r = -.21$) and a weak positive correlation with the search of a meaning in life ($r = .21$). PPI-II also has a weak negative correlation with the PGIS ($r = -.21$), the AHS total ($r = -.17$), and the agency subscale ($r = -.23$).

4.3 Main Analysis Females

Correlations between the PPI-SF and its subscales to happiness-related features can be found in Table 3. The PPI-SF total shows a weak negative correlation with the SADHS total ($r = -.15$) and the contentment subscale ($r = -.17$), but displays a weak positive correlation with the SFHS ($r = .20$). The PPI-SF total is weakly negatively correlated with the presence of a meaning in life ($r = -.13$) and has a weak positive correlation with the pathway subscale of the AHS ($r = .13$). Examination of PPI-SF subtypes reveals similar results to those obtained for males. Indeed, PPI-I shows weak positive correlations with all measures of durable happiness ($r = .20$ to $.21$) and a weak negative correlation to fluctuating happiness ($r = -.15$). PPI-I is also weakly correlated with the presence of a

Table 1 Descriptive Data

	Males (<i>N</i> = 297–316)			Females (<i>N</i> = 247–256)			<i>d</i>
	Mean (<i>SD</i>)	Range	α	Mean (<i>SD</i>)	Range	α	
PPI-SF							
Total***	132.95 (12.66)	94–173	.70	127.32 (14.34)	89–191	.77	.42
PPI-I***	54.59 (7.83)	29–73	.71	51.41 (7.97)	29–73	.70	.40
PPI-II	63.66 (8.78)	40–91	.72	62.12 (10.16)	39–93	.80	.16
Mach egocentricity**	16.36 (3.63)	7–28	.65	15.52 (3.80)	7–27	.71	.23
Social potency	17.48 (3.65)	10–25	.62	17.73 (3.45)	8–25	.56	.07
Fearlessness***	18.18 (4.47)	7–28	.72	16.17 (5.03)	7–28	.76	.42
Coldheartedness**	14.70 (3.92)	8–28	.65	13.79 (3.92)	7–26	.70	.23
Impul nonconform**	17.84 (3.69)	9–28	.58	16.90 (3.78)	9–26	.60	.25
Blame externalization	14.59 (4.72)	7–28	.86	15.01 (4.95)	7–28	.88	.08
Carefree nonplan	14.86 (2.95)	8–27	.53	14.69 (2.80)	9–25	.47	.06
Stress immunity***	18.93 (3.18)	10–25	.46	17.51 (3.17)	10–25	.46	.45
SADHS							
Total	4.26 (1.14)	1–7	.95	4.11 (1.21)	1–7	.96	.13
Contentment	4.22 (1.19)	1–7	.94	4.19 (1.25)	1–7	.95	.02
Inner peace***	4.33 (1.26)	1–7	.89	3.98 (1.29)	1–7	.90	.27
SFHS							
Total***	4.28 (1.24)	1–7	.89	4.64 (1.18)	1–7	.89	.30
MLQ							
Presence	20.74 (8.04)	5–35	.90	20.44 (7.71)	5–35	.90	.04
Search	23.16 (7.81)	5–35	.90	24.09 (7.57)	5–35	.91	.12
PGIS							
Total	35.50 (8.80)	9–54	.88	35.16 (9.58)	9–54	.92	.04
AHS							
Total	45.32 (9.54)	18–54	.86	43.94 (10.38)	8–63	.90	.14
Agency	20.95 (5.97)	5–32	.82	21.07 (6.21)	4–32	.86	.02
Pathway***	24.37 (4.56)	10–32	.76	22.87 (5.02)	4–32	.82	.31

N Number of participants finishing the first questionnaire and finishing the last questionnaire, *SD* Standard deviation, α Cronbach's alpha, *d* Cohen's *d* effect size, *PPI-SF* psychopathic personality inventory–short form (Lilienfeld and Widows 2005), *Mach Ego* machiavellian egocentricity, *Impul Nonconform* impulsive nonconformity, *Carefree Nonplan* carefree nonplanfulness, *SADHS* Subjective Authentic-Durable Happiness Scale (Dambrun et al. 2012), *SFHS* Subjective Fluctuating Happiness Scale (Dambrun et al. 2012), *MLQ* Meaning in Life Questionnaire (Steger et al. 2006), *PGIS* Personal Growth Initiative Scale (Robitschek 1998); *AHS* Adult Hope Scale (Snyder et al. 1991)

** $p < .01$; *** $p < .001$ indicates a significant gender difference

meaning in life ($r = .24$) and moderately correlated with personal growth ($r = .35$), as well as with all measures of hope ($r = .35$ to $.44$). Opposite results are once again found for the PPI-II subscale. PPI-II shows a moderate negative correlation to all measures of durable happiness ($r = -.32$ to $-.42$), but is strongly correlated with fluctuating happiness ($r = .50$). It also displays a moderate negative correlation to the presence of a meaning in

Table 2 Correlations between psychopathic personality traits and happiness related features in males

Scales	PPI-SF total	PPI-I	PPI-II
SADHS total ($N = 314$)	.01	.35**	-.32**
Contentment ($N = 314$)	.02	.36**	-.32**
Inner peace ($N = 314$)	.00	.27**	-.28**
SFHS total ($N = 315$)	.06	-.21**	.44**
MLQ-presence ($N = 311$)	.04	.31**	-.21**
MLQ-search ($N = 311$)	.07	-.03	.21**
PGIS total ($N = 305$)	.14*	.43**	-.21**
AHS total ($N = 297$)	.20**	.49**	-.17**
Agency ($N = 297$)	.10	.42**	-.23**
Pathway ($N = 297$)	.28**	.47**	-.05

Pearson bivariate correlation, two-tailed, cases excluded pairwise. N number of participants who completed the respective questionnaire, *PPI-SF* psychopathic personality inventory–short form (Lilienfeld and Widows 2005), *SADHS* Subjective Authentic-Durable Happiness Scale (Dambrun et al. 2012), *SFHS* Subjective Fluctuating Happiness Scale (Dambrun et al. 2012); *MLQ* Meaning in Life Questionnaire (Steger et al. 2006), *PGIS* Personal Growth Initiative Scale (Robitschek 1998), *AHS* Adult Hope Scale (Snyder et al. 1991)

* $p < .05$; ** $p < .01$

Table 3 Correlations between psychopathic personality and happiness related features in females

Scales	PPI-SF Total	PPI-I	PPI-II
SADHS Total ($N = 256$)	-.15*	.21**	-.40**
Contentment ($N = 256$)	-.17**	.20**	-.42**
Inner Peace ($N = 256$)	-.09	.21**	-.32**
SFHS Total ($N = 256$)	.20**	-.15*	.50**
MLQ-Presence ($N = 253$)	-.13*	.24**	-.39**
MLQ-Search ($N = 253$)	.07	-.08	.27**
PGIS Total ($N = 249$)	-.02	.35**	-.33**
AHS Total ($N = 247$)	.05	.42**	-.29**
Agency ($N = 247$)	-.02	.35**	-.33**
Pathway ($N = 247$)	.13*	.44**	-.20**

Pearson bivariate correlation, two-tailed, cases excluded pairwise. N number of participants who completed the respective questionnaire, *PPI-SF* psychopathic personality inventory–short form (Lilienfeld and Widows 2005), *SADHS* Subjective Authentic-Durable Happiness Scale (Dambrun et al. 2012), *SFHS* Subjective Fluctuating Happiness Scale (Dambrun et al. 2012), *MLQ* Meaning in Life Questionnaire (Steger et al. 2006), *PGIS* Personal Growth Initiative Scale (Robitschek 1998), *AHS* Adult Hope Scale (Snyder et al. 1991)

* $p < .05$; ** $p < .01$

life ($r = -.39$) and a weak positive correlation to the search subscale of the MLQ ($r = .27$). PPI-II shows a moderate negative correlation with personal growth ($r = -.33$), and weak to moderate negative correlations with all measures of hope ($r = -.20$ to $-.33$).

5 Discussion

The present study sought to confirm the gender differences within the PPI-SF and happiness-related features, and also to determine if the expression of psychopathic personality traits is negatively correlated to measures of well-being and happiness. Gender differences were found on the PPI-SF total score, on multiple PPI-SF subscales, and on various measures of well-being. Furthermore, as expected, PPI-I was positively correlated to all measures with the exception of fluctuating happiness, with which PPI-I showed a negative correlation, and searching for a meaning in life, with which PPI-I showed no correlation. PPI-II displayed the opposite pattern, where all measures but two were negatively correlated to this subtype, with the exception of a positive correlation with fluctuating happiness and a search for a meaning in life. Indeed, beside an absence of correlation between the pathway subscale and PPI-II within males, both genders displayed similar correlations with regards to PPI-I and PPI-II. However, examination of the PPI-SF total score revealed a few differences between genders in relation to correlations with happiness-related features. Males did not display any correlation between the PPI-SF and happiness features, except personal growth, hope, and planning to meet goals. Females displayed negative correlations between the PPI-SF and durable happiness, contentment, and presence of a meaning in life, as well as a positive correlation with fluctuating happiness and planning to meet goals. The findings of this community-based study hence emphasize the importance of conducting analyses in the field of psychopathy by subtypes and gender.

Consistent with previous findings, males scored higher than females on the PPI-SF and several of its subscales (Cale and Lilienfeld 2002; Hicks et al. 2012; Lee and Salekin 2010). The reason behind the difference of psychopathic personality trait scores is not well established, although several hypotheses have been promoted. Several questionnaires assessing psychopathy and/or psychopathic personality traits focus on physical aggression and physical activities, which might be more typical of males, rather than indirect aggression and less physical activities, which may be more typical of females (Grann 2000; Vitale et al. 2002). Indeed, items of the PPI-SF such as ‘‘If I were a fire-fighter, I think I might actually enjoy the excitement of trying to rescue someone from the top floor of a burning building’’ explores a situation involving high-risk physical action, which may create a bias towards males scores. Alternatively, these differences might be caused from unknown genetic or environmental gender influences (Berg et al. 2013a, b).

Gender differences were also observed on three scales related to well-being. Males scored significantly higher than females on the inner peace subscale of the SADHS and pathway component of the AHS, while females displayed higher levels of fluctuating happiness than males. Previous studies have found a higher level of psychological distress, anxiety and stress in females than males (Dambrun 2007; Emslie et al. 2002). Males’ lower scores in the fluctuating happiness scale might indicate that they have better emotional control than females. A meta-analytic review on emotional expression in children concluded that, while males tend to express more externalizing emotions (such as anger) than females at a young age, in adolescence this pattern changes so that females express more externalizing emotions than males (Chaplin and Aldao 2013). It is possible that this difference in the emotional profiles of males and females remains during adulthood, explaining the higher fluctuation in happiness and lower inner peace and goal planning within females.

While the strength of the correlations between the PPI-SF subtypes and happiness features differed slightly by gender, both males and females displayed a very similar

pattern in psychopathic traits subtypes and well-being measurements. The correlations between PPI-I and happiness features supports the notion of successful psychopathy. Indeed, PPI-I's positive correlation with durable happiness and negative correlation with fluctuating happiness supports the alleged emotional control of Factor 1 psychopathic individuals (Berg et al. 2013a, b; Patrick et al. 2009; Witt et al. 2009). Furthermore, the correlation between PPI-I and the presence of a meaning in life, personal growth, hope, and goal-related behaviours further emphasize the benefits of Factor 1 psychopathic traits. It is possible that the psychopathic traits related to Factor 1 of the PPI-SF, such as social potency and extroversion, contribute to a higher degree of self-esteem and hence, well-being (Lilienfeld et al. 2012). The nature of attachment among those with elevated psychopathic traits may also play a role. A previous community-based investigation assessing the relationship between attachment anxiety and happiness in adults supports a negative correlation ($r = -.39$) between the two constructs (Wei et al. 2011). While psychopathic individuals might display a more superficial type of attachment, the primary psychopathy traits related to lower anxiety and higher social potency might be due to a general notion of reduced attachment anxiety, which is consistent with higher degrees of happiness and well-being.

While the aforementioned results are not consistent with the previously reported negative association between psychopathic personality traits and well-being, the results from PPI-II and measures of well-being support the negative correlations reported in psychopathic individuals (Love and Holder 2014). The negative correlation of PPI-II with durable happiness and positive correlation with fluctuating happiness is consistent with the notion of emotional instability reported in secondary psychopathy (Douglas et al. 2012; Patrick et al. 2009). Furthermore, while the lack of a meaning in life can reflect an overall lower sense of well-being, the search for a meaning in life is unexpected. Secondary psychopathy has been linked to several maladaptive constructs such as reactive aggression, impulsiveness and temperamentality (Benning et al. 2005a, b; Berg et al. 2013a, b). The search for a meaning in life can indicate that individuals with high levels of PPI-II traits desire to seek more happiness in life. Once again, while females showed a negative correlation between PPI-II and the pathway component that males did not, results of both genders show the same negative pattern between PPI-II and measures of happiness, meaning in life, personal growth and hope.

6 Conclusion

This study comprehensively investigated constructs of happiness and related emotions in regards to gender and psychopathic traits. These findings emphasize the importance of performing separate analyses by gender and by psychopathy subtypes in order to fully comprehend the different emotional trends related to the expression of psychopathic traits. These findings support the importance of considering psychopathy a dimensional construct as opposed to a categorical one. The results demonstrate that a higher expression of PPI-I related traits correlate with several adaptive features in terms of happiness-related emotional constructs, whereas a higher expression of PPI-II related traits correlate with several maladaptive characteristics.

This study was designed to include previous recommendations in the field of psychopathy and happiness, most notably by performing analyses by gender and psychopathic subtype on individuals from the community (Love and Holder 2014, 2015). Despite these

improvements, this study was nevertheless limited in a few respects. First, an online self-report questionnaire was used. While self-report measurements are commonly used, clinical and experimental evaluation might give better results. Also, only one method for evaluating the psychopathic personality was used. While the PPI-SF is a widely used instrument, other questionnaires for assessing psychopathic traits, such as the Levenson Self-Report Psychopathy Scale, the Triarchic Psychopathy Measure, and the Short-Dark Triad could provide further information with regards to the correlation between psychopathy and happiness (Jones and Paulhus 2014; Levenson et al. 1995; Patrick 2010). Finally, the present study does not examine psychopathy itself, but the expression of psychopathic personality traits. Replicating this study on clinically diagnosed psychopaths, by the use of the PCL-R, could allow a better understanding of the relationship between psychopathy and happiness.

Although these results are promising, they need to be replicated in an experimental setting in order to assess their validity. Nevertheless, this study presents the first attempt to investigate happiness, hope, personal growth, and meaning in life by both gender and psychopathic factors. Examination of the results clearly shows that levels of happiness vary greatly between individuals. Fortunately, improving one's happiness is within everyone's reach and can be done in multiple ways, such as improving health-related behavior, engaging in physical activities, and increasing socialization (Veenhoven 2008).

Acknowledgements I would like to thank the two anonymous reviewers for their constructive comments on the previous drafts of this paper.

Compliance with Ethical Standards

Conflict of interest The author declares that he has no conflict of interest.

Open Access This article is distributed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license, and indicate if changes were made.

References

- Anestis, J. C., Caron, K. M., & Carbonell, J. L. (2011). Examining the impact of gender on the factor structure of the Psychopathic Personality Inventory-Revised. *Assessment, 18*(3), 340–349. doi:10.1177/1073191111403243.
- Bartels, D. M., & Pizarro, D. A. (2011). The mismeasure of morals: Antisocial personality traits predict utilitarian responses to moral dilemmas. *Cognition, 121*(1), 154–161. doi:10.1016/j.cognition.2011.05.010.
- Benning, S. D., Patrick, C. J., Blonigen, D. M., Hicks, B. M., & Iacono, W. G. (2005a). Estimating facets of psychopathy from normal personality traits: A step toward community epidemiological investigations. *Assessment, 12*(1), 3–18. doi:10.1177/1073191104271223.
- Benning, S. D., Patrick, C. J., Hicks, B. M., Blonigen, D. M., & Krueger, R. F. (2003). Factor structure of the psychopathic personality inventory: Validity and implications for clinical assessment. *Psychological Assessment, 15*(3), 340–350. doi:10.1037/1040-3590.15.3.340.
- Benning, S. D., Patrick, C. J., Salekin, R. T., & Leistico, A.-M. R. (2005b). Convergent and discriminant validity of psychopathy factors assessed via self-report: A comparison of three instruments. *Assessment, 12*(3), 270–289. doi:10.1177/1073191105277110.
- Berardino, S. D., Meloy, J. R., Sherman, M., & Jacobs, D. (2005). Validation of the psychopathic personality inventory on a female inmate sample. *Behavioral Sciences and the Law, 23*(6), 819–836. doi:10.1002/bsl.666.

- Berg, J. M., Lilienfeld, S. O., Reddy, S. D., Litzman, R. D., Roose, A., Craighead, L. W., et al. (2013a). The inventory of callous and unemotional traits: A construct-validation analysis in an at-risk sample. *Assessment*, 20(5), 532–544. doi:[10.1177/1073191112474338](https://doi.org/10.1177/1073191112474338).
- Berg, J. M., Smith, S. F., Watts, A. L., Ammirati, R., Green, S. E., & Lilienfeld, S. O. (2013b). Misconceptions regarding psychopathic personality: Implications for clinical practice and research. *Neuropsychiatry*, 3, 63–74. doi:[10.2217/npv.12.69](https://doi.org/10.2217/npv.12.69).
- Bernstein, D. P., Nijman, H. L. I., Karos, K., Keulen-de Vos, M., de Vogel, V., & Lucker, T. P. (2012). Schema therapy for forensic patients with personality disorders: Design and preliminary findings of a multicenter randomized clinical trial in the Netherlands. *International Journal of Forensic Mental Health*, 11, 312–324. doi:[10.1080/14999013.2012.746757](https://doi.org/10.1080/14999013.2012.746757).
- Cale, E. M., & Lilienfeld, S. O. (2002). Sex differences in psychopathy and antisocial personality disorder: A review and integration. *Clinical Psychology Review*, 22(8), 1179–1207. doi:[10.1016/S0272-7358\(01\)00125-8](https://doi.org/10.1016/S0272-7358(01)00125-8).
- Camp, J. P., Skeem, J. L., Barchard, K., Lilienfeld, S. O., & Poythress, N. G. (2013). Psychopathic predators? Getting specific about the relation between psychopathy and violence. *Journal of Consulting and Clinical Psychology*, 81(3), 467–480. doi:[10.1037/a0031349](https://doi.org/10.1037/a0031349).
- Chakhssi, F., Kersten, T., de Ruiter, C., & Bernstein, D. P. (2014). Treating the untreatable: A single case study of a psychopathic inpatient treated with Schema Therapy. *Psychotherapy*, 51(3), 447–461. doi:[10.1037/a0035773](https://doi.org/10.1037/a0035773).
- Chaplin, T. M., & Aldao, A. (2013). Gender differences in emotion expression in children: a meta-analytic review. *Psychological Bulletin*, 139(4), 735–765. doi:[10.1037/a0030737](https://doi.org/10.1037/a0030737).
- Cleckley, H. (1941). The mask of sanity; an attempt to reinterpret the so-called psychopathic personality. *JAMA*, 117(6), 493. doi:[10.1001/jama.1941.02820320085028](https://doi.org/10.1001/jama.1941.02820320085028).
- Coid, J., Freestone, M., & Ullrich, S. (2012). Subtypes of psychopathy in the British household population: Findings from the national household survey of psychiatric morbidity. *Social Psychiatry and Psychiatric Epidemiology*, 47(6), 879–891. doi:[10.1007/s00127-011-0395-3](https://doi.org/10.1007/s00127-011-0395-3).
- Cooke, D. J. (1998). *Cross-cultural aspects of psychopathy* (pp. 260–276). Psychopathy: Antisocial, criminal, and violent behavior.
- Cox, J., Edens, J. F., Magyar, M. S., Lilienfeld, S. O., Douglas, K. S., & Poythress, N. G. (2013). Using the Psychopathic Personality Inventory to identify subtypes of antisocial personality disorder. *Journal of Criminal Justice*, 41(2), 125–134. doi:[10.1016/j.jcrimjus.2012.12.001](https://doi.org/10.1016/j.jcrimjus.2012.12.001).
- D’Silva, K., Duggan, C., & McCarthy, L. (2004). Does treatment really make psychopaths worse? A review of the evidence. *Journal of Personality Disorders*, 18(2), 163–177. doi:[10.1521/pedi.18.2.163.32775](https://doi.org/10.1521/pedi.18.2.163.32775).
- Dambrun, M. (2007). Gender differences in mental health: The mediating role of perceived personal discrimination. *Journal of Applied Social Psychology*, 37(5), 1118–1129. doi:[10.1111/j.1559-1816.2007.00202.x](https://doi.org/10.1111/j.1559-1816.2007.00202.x).
- Dambrun, M., Ricard, M., Després, G., Drelon, E., Gibelin, E., Gibelin, M., et al. (2012). Measuring happiness: From fluctuating happiness to authentic–durable happiness. *Frontiers in Psychology*, 3(16). doi:[10.3389/fpsyg.2012.00016](https://doi.org/10.3389/fpsyg.2012.00016).
- Douglas, H., Bore, M., & Munro, D. (2012). Distinguishing the dark triad: Evidence from the five-factor model and the hogan development survey. *Psychology*, 03(03), 237–242. doi:[10.4236/psych.2012.33033](https://doi.org/10.4236/psych.2012.33033).
- Emslie, C., Fuhrer, R., Hunt, K., MacIntyre, S., Shipley, M., & Stansfeld, S. (2002). Gender differences in mental health: Evidence from three organisations. *Social Science and Medicine*, 54(4), 621–624. doi:[10.1016/S0277-9536\(01\)00056-9](https://doi.org/10.1016/S0277-9536(01)00056-9).
- Francis, L. J., Brown, L. B., Lester, D., & Philipchalk, R. (1998). Happiness as stable extraversion: A cross-cultural examination of the reliability and validity of the Oxford Happiness Inventory among students in the U.K., U.S.A., Australia, and Canada. *Personality and Individual Differences*, 24(2), 167–171. doi:[10.1016/S0191-8869\(97\)00170-0](https://doi.org/10.1016/S0191-8869(97)00170-0).
- Furnham, A., Daoud, Y., & Swami, V. (2009). How to spot a psychopath. *Social Psychiatry and Psychiatric Epidemiology*, 44(6), 464–472. doi:[10.1007/s00127-008-0459-1](https://doi.org/10.1007/s00127-008-0459-1).
- Gao, Y., & Raine, A. (2010). Successful and unsuccessful psychopaths: A neurobiological model. *Behavioral Sciences & the Law*, 28, 194–210. doi:[10.1002/bsl.924](https://doi.org/10.1002/bsl.924).
- George, M. S., Ketter, T. A., Parekh, P. I., Herscovitch, P., & Post, R. M. (1996). Gender differences in regional cerebral blood flow during transient self-induced sadness or happiness. *Biological Psychiatry*, 40(9), 859–871. doi:[10.1016/0006-3223\(95\)00572-2](https://doi.org/10.1016/0006-3223(95)00572-2).
- Gervais, M. M., Kline, M. A., Ludmer, M., George, R., & Manson, J. H. (2013). The strategy of psychopathy: primary psychopathic traits predict defection on low-value relationships. *Proceedings of the Royal Society—Biological Sciences*, 280(February), 20122773. doi:[10.1098/rspb.2012.2773](https://doi.org/10.1098/rspb.2012.2773).

- Grann, M. (2000). The PCL-R and gender. *European Journal of Psychological Assessment, 16*(3), 147–149. doi:10.1027//1015-5759.16.3.147.
- Hall, J., Benning, S. D., & Patrick, C. J. (2004). Criterion-related validity of the three-factor model of psychopathy: Personality, behavior, and adaptive functioning. *Assessment, 11*(1), 4–16. doi:10.1177/1073191103261466.
- Hare, R. D. (1965). Psychopathy, fear arousal and anticipated pain. *Psychological Reports, 16*, 499–502. doi:10.2466/pr0.1965.16.2.499.
- Hare, R. D. (1966). Psychopathy and choice of immediate versus delayed punishment. *Journal of Abnormal Psychology, 71*(1), 25–29. doi:10.1037/h0022909.
- Hare, R. D., Frazelle, J., & Cox, D. N. (1978). Psychopathy and physiological responses to threat of an aversive stimulus. *Psychophysiology, 15*(2), 165–172. doi:10.1111/j.1469-8986.1978.tb01356.x.
- Hare, R. D., Harpur, T. J., Hakstian, A. R., Forth, A. E., et al. (1990). The revised psychopathy checklist: Reliability and factor structure. *Psychological Assessment, 2*(3). doi:10.1037/1040-3590.2.3.338.
- Hare, R. D., & Neumann, C. S. (2005). Structural models of psychopathy. *Current Psychiatry Reports, 7*(1), 57–64. doi:10.1007/s11920-005-0026-3.
- Hare, R. D., & Thorvaldson, S. A. (1970). Psychopathy and response to electrical stimulation. *Journal of Abnormal Psychology, 76*(1), 370–374. doi:10.1037/h0030276.
- Harpur, T. J., Hare, R. D., & Hakstian, A. R. (1989). Two-factor conceptualization of psychopathy: Construct validity and assessment implications. *Psychological Assessment, 1*(1), 6–17. doi:10.1037//1040-3590.1.1.6.
- Hicks, B. M., Carlson, M. D., Blonigen, D. M., Patrick, C. J., Iacono, W. G., & MGue, M. (2012). Psychopathic personality traits and environmental contexts: Differential correlates, gender differences, and genetic mediation. *Personality Disorders: Theory, Research, and Treatment, 3*(3), 209–227. doi:10.1037/a0025084.
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the short dark triad (SD3): A brief measure of dark personality traits. *Assessment, 21*(1), 28–41. doi:10.1177/1073191113514105.
- Kastner, R. M., Sellbom, M., & Lilienfeld, S. O. (2012). A comparison of the psychometric properties of the psychopathic personality inventory full-length and short-form versions. *Psychological Assessment, 24*(1), 261–267. doi:10.1037/a0025832.
- Kudielka, B. M., & Kirschbaum, C. (2005). Sex differences in HPA axis responses to stress: A review. *Biological Psychology, 69*(1), 113–132. doi:10.1016/j.biopsycho.2004.11.009.
- Lee, Z., & Salekin, R. T. (2010). Psychopathy in a noninstitutional sample: Differences in primary and secondary subtypes. *Personality Disorders: Theory, Research, and Treatment, 1*(3), 153–169. doi:10.1037/a0019269.
- Levenson, M. R., Kiehl, K. A., & Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a non-institutionalized population. *Journal of Personality and Social Psychology, 68*(1), 151–158. doi:10.1037/0022-3514.68.1.151.
- Lilienfeld, S. O., & Andrews, B. P. (1996). Development and preliminary validation of a self-report measure of psychopathic personality traits in noncriminal populations. *Journal of Personality Assessment, 66*(3), 488–524. doi:10.1207/s15327752jpa6603_3.
- Lilienfeld, S., Lutzman, R. D., Watts, A. L., Smith, S. F., & Dutton, K. (2014). Correlates of psychopathic personality traits in everyday life: Results from a large community survey. *Frontiers in Psychology, 5*, 1–11. doi:10.3389/fpsyg.2014.00740.
- Lilienfeld, S. O., Waldman, I. D., Landfield, K., Watts, A. L., Rubenzer, S., & Faschingbauer, T. R. (2012). Fearless dominance and the U.S. presidency: Implications of psychopathic personality traits for successful and unsuccessful political leadership. *Journal of Personality and Social Psychology, 103*(3), 489–505. doi:10.1037/a0029392.
- Lilienfeld, S., & Widows, M. (2005). *Psychopathic personality inventory—revised: Professional manual*. Lutz, FL: Psychological Assessment Resources.
- Love, A. B., & Holder, M. D. (2014). Psychopathy and subjective well-being. *Personality and Individual Differences, 66*, 112–117. doi:10.1016/j.paid.2014.03.033.
- Love, A. B., & Holder, M. D. (2015). Can romantic relationship quality mediate the relation between psychopathy and subjective well-being? *Journal of Happiness Studies*. doi:10.1007/s10902-015-9700-2.
- Lykken, D. (1995). *The antisocial personalities*. Routledge: Psychology Press.
- Lyubomirsky, S. (2004). Subjective Happiness Scale (SHS). Retrieved from <http://ppc.sas.upenn.edu/resources/questionnaires-researchers/subjective-happiness-scale>.
- Martinez, R. O., & Dukes, R. L. (1997). The effects of ethnic identity, ethnicity, and gender on adolescent well-being. *Journal of Youth and Adolescence, 26*(5), 503–516. doi:10.1023/A:1024525821078.

- Nikolova, N. L. (2013). *The psychopathic personality inventory-revised : Evaluation of its psychometric properties, incremental validity, and moderating effects of gender in a correctional sample*. Burnaby: Simon Fraser University.
- Patrick, C. (2010). Triarchic psychopathy measure (TriPM). *PhenX Toolkit Online Assessment Catalog*.
- Patrick, C. J., Edens, J. F., Poythress, N. G., Lilienfeld, S. O., & Benning, S. D. (2006). Construct validity of the psychopathic personality inventory two-factor model with offenders. *Psychological Assessment, 18*(2), 204–208. doi:[10.1037/1040-3590.18.2.204](https://doi.org/10.1037/1040-3590.18.2.204).
- Patrick, C. J., Fowles, D. C., & Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: Developmental origins of disinhibition, boldness, and meanness. *Development and Psychopathology, 21*(3), 913–938. doi:[10.1017/S0954579409000492](https://doi.org/10.1017/S0954579409000492).
- Perez, P. R. (2012). The etiology of psychopathy: A neuropsychological perspective. *Aggression and Violent Behavior, 17*(6), 519–522. doi:[10.1016/j.avb.2012.07.006](https://doi.org/10.1016/j.avb.2012.07.006).
- Poythress, N. G., Lilienfeld, S. O., Skeem, J. L., Douglas, K. S., Edens, J. F., Epstein, M., et al. (2010). Using the PCL-R to help estimate the validity of two self-report measures of psychopathy with offenders. *Assessment, 17*(2), 206–219. doi:[10.1177/1073191109351715](https://doi.org/10.1177/1073191109351715).
- Ray, J. V., Poythress, N. G., Weir, J. M., & Rickelm, A. (2009). Relationships between psychopathy and impulsivity in the domain of self-reported personality features. *Personality and Individual Differences, 46*(2), 83–87. doi:[10.1016/j.paid.2008.09.005](https://doi.org/10.1016/j.paid.2008.09.005).
- Robitschek, C. (1998). Personal growth initiative: The construct and its measure. *Measurement & Evaluation in Counseling & Development, 30*(4), 183.
- Sadeh, N., & Verona, E. (2008). Psychopathic personality traits associated with abnormal selective attention and impaired cognitive control. *Neuropsychology, 22*(5), 669–680. doi:[10.1037/a0012692](https://doi.org/10.1037/a0012692).
- Shorey, H. S., Little, T. D., Snyder, C. R., Kluck, B., & Robitschek, C. (2007). Hope and personal growth initiative: A comparison of positive, future-oriented constructs. *Personality and Individual Differences, 43*(7), 1917–1926. doi:[10.1016/j.paid.2007.06.011](https://doi.org/10.1016/j.paid.2007.06.011).
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., et al. (1991). The will and the ways: development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology, 60*(4), 570–585. doi:[10.1037/0022-3514.60.4.570](https://doi.org/10.1037/0022-3514.60.4.570).
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*(1), 80–93. doi:[10.1037/0022-0167.53.1.80](https://doi.org/10.1037/0022-0167.53.1.80).
- Tellegen, A. (1982). Brief Manual for the Differential Personality Questionnaire. *Unpublished Manuscript*, 1010–1031.
- Tonnaer, F., Cima, M., Sijtsma, K., Uzieblo, K., & Lilienfeld, S. O. (2013). Screening for psychopathy: Validation of the psychopathic personality inventory-short form with reference scores. *Journal of Psychopathology and Behavioral Assessment, 35*(2), 153–161. doi:[10.1007/s10862-012-9333-2](https://doi.org/10.1007/s10862-012-9333-2).
- Veenhoven, R. (2008). Healthy happiness: Effects of happiness on physical health and the consequences for preventive health care. *Journal of Happiness Studies, 9*(3), 449–469. doi:[10.1007/s10902-006-9042-1](https://doi.org/10.1007/s10902-006-9042-1).
- Vitacco, M. J. (2007). Handbook of psychopathy. *Psychiatric Services, 58*(3), 416–423. doi:[10.1176/appi.ps.58.3.417-a](https://doi.org/10.1176/appi.ps.58.3.417-a).
- Vitale, J. E., Smith, S. S., Brinkley, C. A., & Newman, J. P. (2002). The reliability and validity of the psychopathy checklist-revised in a sample of female offenders. *Criminal Justice and Behavior, 29*(2), 202–231. doi:[10.1177/0093854802029002005](https://doi.org/10.1177/0093854802029002005).
- Wei, M., Liao, K. Y. H., Ku, T. Y., & Shaffer, P. A. (2011). Attachment, self-compassion, empathy, and subjective well-being among college students and community adults. *Journal of Personality, 79*(1), 191–221. doi:[10.1111/j.1467-6494.2010.00677.x](https://doi.org/10.1111/j.1467-6494.2010.00677.x).
- Williams, K. M., Paulhus, D. L., & Hare, R. D. (2007). Capturing the four-factor structure of psychopathy in college students via self-report. *Journal of Personality Assessment, 88*(2), 205–219. doi:[10.1080/00223890701268074](https://doi.org/10.1080/00223890701268074).
- Witt, E. A., Donnellan, M. B., Blonigen, D. M., Krueger, R. F., & Conger, R. D. (2009). Assessment of fearless dominance and impulsive antisociality via normal personality measures: Convergent validity, criterion validity, and developmental change. *Journal of Personality Assessment, 91*(3), 265–276. doi:[10.1080/00223890902794317](https://doi.org/10.1080/00223890902794317).